B.A. - (OPTIONAL - Tourism and Travel Management)

Detailed Curriculum - (2004-2005)

(SEMESTER SCHEME)

3 years – 6 Semesters

SEMESTER I
PAPER I – TOURISM – FOUNDATION AND HISTORY

SEMESTER II
PAPER II – TOURISM PRODUCT

SEMESTER III
Paper III – TRAVEL AGENCY AND TOUR OPERATOR ORGANISATIONS

SEMESTER IV
Paper IV – TOURISM MANAGEMENT

SEMESTER V
Paper V – TOURISM POLICY
Paper VI – TOURISM IN INDIA

SEMESTER VI
PAPER VII – ENTREPRENEURSHIP DEVELOPMENT PROGRAM
PAPER VIII – EMERGING CONCEPTS FOR EFFECTIVE TOURISM DEVELOPMENT

Mohini Patel
28-06-2008

PAPER I

TOURISM – FOUNDATION AND HISTORY

1. **INTRODUCTION TO TOURISM AS AN INDUSTRY**
   Definition, Meaning, Scope, Nature, Importance, Components, Typology, Motivating factors, Classification.

2. **ORIGINS OF TOURISM**
   Tourism in ancient times. Forerunners of Modern Tourists – Peregrines – Traders by land and sea-pilgrims – Trips sprives to cure ailments. Influence of the French Revolution on Tourism.

3. **ASCENT OF TOURISM**
   Beginnings of Tourism to 1849 – Tourism upto the First World War (the age of Coal and Steam) – origin of conducted Tourists Services of Thomas Cook - Tourism 1914-1935, Effects of the World Economic Depression on Tourism. Political Aspects of Tourism during Second World War, Impact of Second World War on Tourism. Growth and development of tourism as an industry in India since independence

4. **THE INTERNATIONAL TOURIST ORGANIZATIONS**
   The International Union of Official Travel Organisation (IUOTO), International Union of National Tourist Propaganda (INUTPO), The World Tourism Organization (WTO), UFTAA, IATA, WTTC, PATA, ASTA.

BOOKS FOR REFERENCE:

29. Dennis L Foster - An Introduction to Travel and Tourism
30. Christopher J.Holloway - The Business of Tourism : Macconald and Evans, 1983.
31. Stephan J Page - Tourism Management
32. Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
33. A.K.Bhatia - Tourism Development, Principles and Practices :Sterling publishers (p) Ltd New Delhi.
34. Anand M.M - Tourism and Hotel Industry in India : Sterling publishers (p) Ltd New Delhi.
35. Kaul.R.H - Dynamics of Tourism : A trilogy Sterling Publishers (p) Ltd New Delhi.
36. IITTM - Growth of Modern Tourism –menograph :IITM, New Delhi, 1989.
37. IITTM - Tourism as an industry-monograph :IITM, New Delhi, 1989.
38. Burhat and Medlick - Tourism –Past, present and future
39. Wahab, S.E - Tourism Management, Tourism International Press, London 1986.
40. Brymer, Robert A - Introduction to Hotel and Restaurant Management : Hub publication, Co.,Lowa, 1984.
41. Riccline J.R.Brent - Travel and Tourism Hospitality Research, London, 1982.
42. Surinder Aggarwat - Travel agency.
43. A.K Bhatia - Introduction to Tourism, New Delhi, 2002

PAPER II

TOURISM PRODUCT

1. **RESOURCES: NATURAL AND MOUNTAIN**
   Tourist Resources – Definition and Differentiation, Natural Tourist Resources – Rich Diversity in Landform, Landscape, Outstanding Geographical features, Climate, Water Bodies, Flora, Fauna. Mountain Tourist Resource – with special reference to the Himalayas and other Hill Stations across India

2. **RESOURCES: ISLANDS, BEACHES AND DESERTS**

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Islands and Beaches – with special reference to Andaman and Nicobar Islands, Goa, Lakshwadweep and other potential destinations. Coastal Areas, Desert Resources in India – Geological structure, existing facilities, Safaris.

3. **SOCIO CULTURAL RESOURCES I**
Performing Arts of India, Classical Dances and Dance Styles, Centre of Learning and Performances. Indian Folk Dances. Music and Musical Instruments – Schools of Indian Music. Handicrafts of India as potential Tourist Resources.

4. **SOCIO CULTURAL RESOURCES II**
Fairs and Festivals – Social, Religious, and Commercial, Tourist Promotional Fairs – Kite Festival, White Water Festival, Snake Boat Race, etc. Indian Folk Culture, Indian Folk Culture – Custom and Costumes, Settlement Patterns, Religious Observation, Folk-lore and Legends

5. **HISTORICAL RESOURCES**
Architectural Heritage of India – India's Architectural Styles adopted over the ages. Historic Monuments of Tourist significance, ancient medieval and modern their spatial and religious dimensions. Important Historic / Archaeological sites, Museums, Art Galleries, Libraries their location, assets and characteristics. Religious Shrines / Centres – Hindu, Buddhist, Jain, Sikh, Muslim, Christian, and Others. Centres - Ayurveda, Yoga, Meditation.

Note: A tour of local places of interest should be arranged

BOOKS FOR REFERENCE:

14. Percy Brown - Indian Architecture Hindu and Buddhist period.
15. Dennis L Foster - An Introduction to Travel and Tourism
16. Tapan K Panda and Sitikantha Mishra –Tourism Industry in India
17. Harle .J.C - The Art and Architecture of Indian Sub Continent.
18. Stephan J Page - Tourism Management
19. Bhartiya Vidya Bhawan - Imperial Unity
20. Bhartiya Vidya Bhawan - Classical age.
21. Acharya Ram - Tourism and Cultural Heritage of India: ROSA Publication (Jaipur,1986)
22. Basham.A.L - The Wonder that was India: Rupa and Com Delhi-1988.
23. The Gazette Of India - History and Culture, Vol.2, publication division, Ministry of Information and Broadcasting, Government of India,1988.
24. Hussain.A.K - The National Culture of India, national Beek Trust, New Delhi-1987.
25. Mukerjee.R.K - The Culture and art of India-George Allen Unwin Ltd, London 1959.

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Paper III --
TRAVEL AGENCY AND TOUR OPERATOR ORGANISATIONS

1. **TRAVEL AGENCY AN INTRODUCTION**
Definition, Functions, Organizational Structure of Travel Agencies and Tour Operators.

2. **TYPES OF TRAVEL AGENCIES, DUTIES, AND SERVICES**
Types of Travel Agencies and Tour Operators. Procedures to become a Travel Agency or Tour Operator in India, Duties and Responsibilities of Staff and Managers, Services and Products offered by Travel Agencies and Tour Operators. Revenue or Income of the Travel Agents and Tour Operators.

3. **AIRLINE TICKETING**
Introduction to Airline Ticketing, Airline Geography, Domestic Air Ticketing and Fare Calculation, Airfare Calculation

4. **RAILWAYS AND AIRLINES**
Indian Railways, Brief Study of International Railways, Indian Airlines, Private Airlines in India, The Cruise Industry

5. **INTERNATIONAL TRAVEL REGULATIONS**
Inbound and Outbound Regulations, Passports, Visa, Permits, Economic Regulations, Customs, Airport Tax, Currency Regulations, Health Regulations.

BOOKS FOR REFERENCE:

23. Mohinder Chand - Travel Agency Management An Introductory Text.
24. Dennis L Foster - An Introduction to Travel and Tourism
25. Stephan J Page - Tourism Management
26. Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
27. Merissen Jome.W - Travel Agents and Tourism.
28. David H.Howel - Principal and Methods of scheduling reservations(national publishers) 1987.
29. Agarwal, Surinder - Travel Agency Management (Communication India 1983)
30. Geo, Chack - Professional Travel agency management: Prentice Hall London,1990.
31. Bhatia A.K - Tourism Development-principles and policies sterling publishers, 1991 New Delhi.
32. Iliam Confye - Travel in India.
33. National Publishers - The World of Travel, National Publishers Delhi 1979.

Paper IV

TOURISM MANAGEMENT

1. **CHARACTER OF MODERN TOURISM**
   Prevailing types of tourism, Changes in the facilities, trade unions and tourism. Means of accommodation (hostel, dormitory, prices etc.)

2. **TOURISM MARKETING**
   Service dimension and characteristics of tourism product, Marketing functions in tourism, promotion of tourism, Customer Relation Management (CRM), Public Relations and Communication for Tourism Managers

3. **TOURISM ACCOMMODATION**
   Essentials of Tourist accommodation and catering unit, Primary and Secondary forms of Accommodation, Hotels, Motels, Resorts, Floatels, Classification of Hotels. Basis for Classification. Room Rates, Types, Reservation and Billing Procedures etc.

4. **TRANSPORTATION**
   Importance and its impact on Tourism – modes of Transport (Railways, roads, shipping and Airways) journey-type of ticket and principles of ticketing. Travel agency (advisory bureau, customs office, passport office, leading travel agencies).

5. **MARKETING STRATEGIES AND LINKAGES**
   Developing Marketing Strategies for Service Firms. Linkage of Marketing in Tourist components – Travel Agency, Tour Operators, Hotels and other forms of Accommodation, Catering, Food and Nutrition.

Note: The students shall have institutional training for 3 weeks at leading Tourist offices, customs office, tourist hotels and agencies.

BOOKS FOR REFERENCE:

27. P C Sinha - Tourism Marketing
28. Dennis L. Foster - An Introduction to Travel and Tourism
29. Stephan J Page -Tourism Management
30. Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
31. Kotler Philips - Marketing Management, PHI, New Delhi.
32. Maccarthy D.K.J, Basic Marketing-A Management Approach.
33. Douglas Foster - Travel and Tourism Management.
34. Negi.M.S - Tourism and Hetoliering.
35. Wahab.S.Grampter -Tourism Marketing, Tourism International Press, London 1976.
36. Stephan.F.Witt - Tourism Marketing and Management Handbook, prentice Hall, New York, 1985.
37. Renal A. Nykiel L - Marketing in Hospitality Industry (2nd ED.) Van Nestrand Reinhold,1986.
38. Maclean, Hunter - Marketing Management (Tourism in your business), Canadian Hotel and Restaurant Ltd, 1984.
39. Kenneth E.Clow and David L.Kurtz - Services Marketing, Biztantra Publications.

Paper-V

TOURISM POLICY

1. **TOURISM POLICY**

Management Strategies, Tourism Policy Analysis, Tourism Legislation Beginnings of statistical measurement in Tourism Statistics of Domestic Tourism – Holiday Surveys (accommodation and passenger surveys) – Statistics of International surveys.)

2. **TOURISM PLANNING**

Features of Tourism planning, Policy of Tourism – Leisure and Resources – Geographical pattern. Infrastructure and facilities – Planning in Urban and Rural area – Conservation and Management of places of Tourist attraction.

3. **ECONOMICS OF TOURISM**

Impact of tourism on national and international economic activity, Tourism and international trade and balance of payments

4. **IMPACTS AND WORLD HERITAGE CENTERS**

- Impacts of Tourism - Economical, Social, Physical, and Environmental
- World Heritage Tourist Centres, Concept and list

BOOKS FOR REFERENCE:

21. Ratandeep Singh - National Eco-Tourism and Wildlife Tourism
22. Prabhas Chandra - International Eco-Tourism
23. Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
24. Stephen J Page - Tourism Management
25. Praveen Sethi - Handbook on Sustainable Tourism
26. Reports of World Tourism Organization.
27. State Tourism Policy of Karnataka, Andhra Pradesh, Tamilnadu, Kerala, Rajasthan, Assam

Paper-VI

TOURISM IN INDIA

1. **HISTORY OF TOURISM IN INDIA**
   Tourism during the golden era and the great civilisations, Impact of invasions and foreign rule in India, Development of tourism in India since 1947

2. **INDIA AS A TOURIST DESTINATION**
   India – A Land for all reasons and all seasons. Tourism resources of India – Richness and diversity of tourism resources of India, Branding of India and Indian states, Promotion of tourism in India

3. **TOURIST FACILITIES IN INDIA**
   Sargent Committee Report 1945, Indian Constitution and Tourism, Tourist Organisation, National Tourist Organisation, Creation of the Directorate General of Tourism. Regional Offices Indian Tourism Development Corporation. Accommodation industry-Hotel standards and rate structure committee 1957, shortage of hotel accommodation.

4. **FOREIGN TOURISTS AND INDIAN VALUE SYSTEM**
   Indian Airways. Indian Railways, Defects in Indian Tourism. Unsatisfactory transportation levels of Tourist organisation, National/Regional.

   Note: A tour of about three weeks to important places of Art and Architecture, Sea shores and places of historic importance shall be arranged for the students.

BOOKS FOR REFERENCE:

1. Percy Brown - Indian Architecture Hindu and Buddhist period.
2. Dennis L Foster - An Introduction to Travel and Tourism
3. Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
4. Harle .J.C - The Art and Architecture of Indian Sub Continent.
5. Stephan J Page - Tourism Management
6. Bhartiya Vidya Bhawan - Imperial Unity.
7. Bharitya Vidya Bhawan - Classical age.
8. Acharya Ram - Tourism and Cultural Heritage of India: ROSA Publication (Jaipur,1986)
9. Basham.A.L - The Wonder that was India: Rupa and Com Delhi-1988.
10. The Gazette Of India - History and Culture, Vol.2, publication division, Ministry of Information and Broadcasting, Government of India, 1988.
11. Hussain.A.K - The National Culture of India, national Beek Trust, New Delhi-1987.
12. Mukerjee.R.K - The Culture and art of India-George Allen Unwin Ltd, London 1959.

PAPER VII

ENTREPRENEURSHIP DEVELOPMENT PROGRAM

1. **ENTREPRENEURSHIP**
   Introduction to Entrepreneur, Entrepreneurship and Enterprise - Importance and relevance of the entrepreneur - Factors influencing entrepreneurship - Pros and Cons of being an entrepreneur - Women entrepreneurs, problems and promotion - Types of Entrepreneurs - Characteristics of a successful entrepreneur - Competency requirement for entrepreneurs - Awareness of self competency and its development

2. **SMALL SCALE INDUSTRIES**
Small scale industries/ Tiny industries/Ancillary industries/ Cottage Industries – definition, meaning, product range, capital investment, ownership patterns - Importance and role played by SSI in the development of the Indian economy - Problems faced by SSI's and the steps taken to solve the problems - Policies governing SSI's.

3. **STARTING A SMALL INDUSTRY**
To understand what constitutes a business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. - An overview of the steps involved in starting a business venture – location, clearances and permits required, formalities, licensing and registration procedures - Assessment of the market for the proposed project - To understand the importance of financial, technical and social feasibility of the project.

4. **PREPARING THE BUSINESS PLAN (BP)**
What is a BP? Why is it important? Who prepares it?
Typical BP format
   a. Financial aspects of the BP
   b. Marketing aspects of the BP
   c. Human Resource aspects of the BP
   d. Technical aspects of the BP
   e. Social aspects of the BP

Preparation of BP - Common pitfalls to be avoided in preparation of a BP

5. **IMPLEMENTATION OF THE PROJECT**
Financial assistance through SFC's , SIDBI, Commercial Banks, KSIDC, KSSIC, IFCI, - Non financial assistance from DIC, SISI, EDI, SIDO, AWAKE, TCO, TECKSOK, KVIC - Financial incentives for SSI's , and Tax Concessions - Assistance for obtaining raw material , machinery, land and building and technical assistance - Industrial estates – role and types

6. **SICKNESS IN SSI'S**
Meaning and definition of a sick industry - Causes of industrial sickness
Preventive and remedial measures for sick industries

BOOKS FOR REFERENCE:

41. Mark. J. Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
42. Udai Pareek and T.V. Rao, Developing Entrepreneurship
43. S.V.S. Sharma, Developing Entreprencurship, Issues and Problems
44. Srivastava, A Practical Guide to Industrial Entrepreneurs
45. Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
46. Bharusali, Entrepreneur Development
47. Vasanth Desai, Management of Small Scale Industry
48. Vasanth Desai, Problems and Prospects of Small Scale Industry
49. CSV Murthy, Entrepreneurial Development
50. Entreprenurial Developement - Dr.Anil Kumar, S.C.Poornima, Minni K.Abraham, Jayashree K.

PAPER VIII

EMERGING CONCEPTS FOR EFFECTIVE TOURISM DEVELOPMENT

1. RELEVANT CONCEPTS AND APPROACHES FOR EFFECTIVE TOURISM DEVELOPMENT

- National Development Council Report on Tourism Development
- National Action Plan 1992 Onwards
- Policies on Tourism and Civil Aviation
- Tourist Traffic and its improvision
- Destination Development

2. SUSTAINABLE AND ECO-TOURISM

- Sustainable Tourism and Eco-Tourism – Definition, Functions, Objectives
- National and State Level Eco-Tourism Guidelines

3. WILDLIFE

- National Wildlife Tourism – India
- National and International Guidelines for Wildlife Tourism

4. TOURISM POLICY

- Management Strategies, Tourism Policy Analysis, Tourism Legislation

5. CRM, PR AND COMMUNICATION FOR TOURISM MANAGERS

- Customer Relation Management – Fundamentals
- Importance of Public Relation and Communication Skill in Tourism

BOOKS FOR REFERENCE:

- Ratandeep Singh - National Eco-Tourism and Wildlife Tourism
- Prabhas Chandra - International Eco-Tourism
- Tapan K Panda and Sitikantha Mishra - Tourism Industry in India
- Stephan J Page - Tourism Management
- Praveen Sethi - Handbook on Sustainable Tourism
- National Development Council Report.
- National Action Plan, 1992.
- Reports of World Tourism Organization.
- Report-Workshop on Tourism Legislation-August 10-11, 1987. IITTM, New Delhi.
- Report-Workshop on Tourism Legislation-February 23-23, 1988

CBCS , UG Economcis Syllabus – 2014
Bangalore University

FIRST SEMESTER					
I		Business Economics			
SECOND SEMESTER					
II		Managerial Economics			
THIRD SEMESTER					
III		a) Economics of Infrastructure **or**			
III		b) Monetary Economics			
FOURTH SEMESTER					
IV		a) International Business Environment **or**			
		b) Public Economics			
FIFTH SEMESTER					
V		Corporate Economics (Compulsory)			
		Electives			
		a) Mathematics for Economists			
		b) Rural Development & Cooperation			
		c) Economics of Tourism			
SIXTH SEMESTER					
VI		Human Resource Management (Compulsory)			
		Electives			
		a) Statistics for Economists			
		b) Karnataka Economy			
		c) Hospitality Economics			

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I SEMESTER

Business Economics

Module – 1

Introduction to Business Economics – Definition – Objectives – Features of Business Economics – Decision Making & Forward Planning – Role and Responsibilities of Business Economist.

Module -2

Demand Analysis – Meaning and Law of Demand – Exception to Law – Determinants of Demand – Extension & Contraction of Demand, Increase and Decrease in Demand – Elasticity of Demand – Types of Elasticity – Meaning of Price, Cross and Income A Types Prices elasticity of demand, Measurement – Total Outlay Method – Point Method, Arc Method, Problems on Total Outlay – Skill Development – Factors determining elasticity of demand and its practical importance.

Module – 3

Demand forecasting – Meaning, Objectives, Types of demand forecasting – Survey method and Statistical method. Importance of Demand forecasting.

Module – 4

Supply & Cost Analysis – Meaning – Law of Supply, Elasticity of Supply, Short Run & Long run cost and cost curves, Fixed Cost, Variables cost, Marginal cost & Average cost, Opportunity cost and Economics of scale – Types of Internal and external economics, diseconomies, Total Cost - Total Fixed Cost - Total Variable Cost - Average Cost Average Variable Cost – Short run - Long Run Average Cost - Opportunity Cost - Money Cost - Real Cost.

Module – 5

Production Function – Producer's Equilibrium – Isoquant and Isocost curves – Laws of production – Short Run and Long run.

Reference:

1. **Business Economics – Sankaran**
2. **Business Economics – Mithani**
3. **Business Economics – M.M.Guptha**
4. **Business Economics - Dhingra**

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II SEMESTER

Managerial Economics

Module – 1

Nature & Scope of Managerial Economics, Features & Objectives of the Firm, Profit Theories - Profit Planning – Profit Policies – Break Even Analysis – Meaning – Assumption & Uses. Determination of BEP in terms of Physical units and monetary term – BEP Chart.

Module – 2

Price determination under different markets – Perfect Competition – Monopoly – Price – Price discrimination – dumping - Monopolistic & Oligopoly

Module – 3

Pricing Policy – Meaning – Objectives – factors & General considerations involved in pricing policy – Methods of pricing – Marginal and full cost pricing – Cost plus, rate of return method, administered price.

Module – 4

Business Cycles : Nature & Phases of a business cycle. Theories of Business Cycle – Haw trey's Theory – Keynesian Theory.

Reference Books :

1. **Managerial Economics – Dean Joel**
2. **Managerial Economics - Varshray and Maheshwari**
3. **Managerial Economics – Chopra.G.P**
4. **Managerial Economics Keat**
5. **Managerial Economics Peterson**

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III SEMESTER

ECONOMICS OF INFRASTRUCTURE(A)

Module 1: Introduction

Infrastructure and economic development - Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak-load, Off Load Problem, Dual Principle Controversy; Economies of scale of Joint supply; Marginal Cost Pricing vs. other methods of pricing in public utilities; Cross-subsidization - free prices, equality and efficiency.

Module 2: Transport Economics

The structure of Transport Costs and Location of Economic Activities. Demand for transport. Models of Freight and Passenger Demand. Model Choice; Cost Functions in the Transport Sector. Principle of Pricing. Special Problems of Individuals Modes of Transport; Inter-modal condition in the Indian Situation.

Module 3: Communications

Rate-making in Telephone Utilities. Principles of Decreasing Costs in Telephone Industry. Characteristics of Postal Services. Criteria for Fixation of Postal Rates. Measurement of Standards of Service in Telephone and Postal Utilities.

Module 4: Energy Economics

Primacy of Energy in the Process of Economic Development. Factors Determining Demand for Energy; Effects of Energy Shortages. Energy Conservation. Renewable and Non-conventional Sources of Energy. Energy Modelling. The Search for an Optimal Energy Policy in the Indian Context.

BASIC READING LIST(Common to III and IV semester

1. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.

2. Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure, Vol. VI, New Delhi.

3. National Council of Applied Economic Research (NCAER) (1996), Indian Infrastructure Report Policy Implications for Growth and Welfare, NCAER, New Delhi.

4. Parikh, K.S. (Ed.) (1997), India Development Report 1997, Oxford, New Delhi.

5. Parikh, k.S. (Ed.) (1999), India Development Report - 1999-2000, Oxford, New Delhi.

6. Turvey, R. (Ed.) (1968), Public Enterprises, Penguin, Harmondsworth.

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III SEMESTER

Monetary Economics (B)

Module-1: Nature and functions of money

Meaning-forms of money-functions of money-Gresham's law- Role of money in modern economy.

Module-2: Demand and Supply for money

Factors determining supply and demand for money-Quantity theory;-Fisher's equation- Cambridge version-Keynesian income and expenditure theory
Inflation: types-causes-effects-remedies-Phillip curve-deflation and stagflation,
Index numbers: uses-limitations- construction of index numbers in India.

Module -3: Commercial Banking

Role of commercial banks in a developing economy- structure of banking system-functions of commercial bank-balance Sheet-credit creation-portfolio management-Banking practices and services: Cheques-drafts-bills-passbook-ATM-E-banking-KYC-RTGS-debit and credit cards-Electronic fund transfer-MICR-IFSC- Money market: Composition- characteristics-working of Indian money market-capital market.

Module -4: Central Banking and policy

Functions-credit control-Monetary policy-objectives-instruments of monetary policy-uses of monetary policy-limitations-monetary policy lags-effectiveness of monetary policy in India.

Reference books

1. Monetary economics : M.L Seth
2. Micro and Macro economics : M.C Vaish
3. Managerial economics : Varshiney and Maheshwari
4. Macro economic theory : M.C Vaish
5. Indian Economy : KPM Sundaram
6. Indian Economy : I.C Dhingra
7. Money Theory and public policy : Kurihara K.K
8. Monetary Economics : Sethi.T.T
9. Monetary Economics : Netra Jain
10. Monetary economics : Suraj B Gupta

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IV SEMESTER
International Business Environment(A)

Module – 1

Meaning and Definition – Concepts – Significance and nature of business environment – elements of environment – Global environment – Merits and Demerits.

Module – 2

Economic Environment of Business. Significance and elements of economic environment – economic systems and business environment – economics planning in India – Government policies – Industrial policies – Monetary and Fiscal Policies, Public Sector and economic development.

Module – 3

International and Technological environment, multinational corporations – Foreign Collaboration in Indian Busienss –Foreign direct investment – Merits and Demerits with special reference to India. FIIs – International economic institutions, IMF, IBRD WTO, TRIPS, TRIMS, Dispute settlement in WTO regime, WTO and its impact on Indian Economy.

Module – 4

Economic Reforms – Need for Economic Reforms – Main features of reforms – structural changes – privatization, globalization and liberalization.

Module – 5

Foreign Trade of India – Features, Trade Policy, EXIM Bank, Indian Balance of Payments, disequilibrium – Methods to connect disequilibrium in the BOP.

Reference :

1. **Adhikary.M – Economic Environment of Business**
2. **Ghosh, Biswanathan, Economic Environment of Business**
3. **Raj Agarwal and Parag Diwan, Business Environment**
4. **Senguptha.N.K., Government and Business in India**
5. **Danierls, International Business Environment and Operations**
6. **Michael V.P. Business Policy and Environment**

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IV SEMESTER
Public Economics(B)

Module – 1

Nature & Scope of Public Economics

Meaning – scope – importance – failures of market economy – externalities – public goods vs private goods – merit goods V/s non merit goods – impure public goods – Role of government in a mixed economy and in the changing economic environment – principle of maximum social advantage.

Module – 2
Public Revenue

Sources of public revenue (Centre, State & Local), Taxation and non taxation, direct and indirect taxes: - Merits and demerits – Cannons of taxation – incidence of taxation – taxable capacity – optimal taxation 0Laffer curve) recent tax reforms (VAT & GST – Kelker Committee recommendation)

Module – 3
Public Expenditure

Meaning – Classification of public expenditure plan and non plan development – development and non development – Wagner law, Role and effects of public expenditure in economic development –causes for increasing public expenditure in recent years in India – recent reforms to control public expenditure.

Module – 4
Public Debt

Meaning - need for public debt – sources of public borrowing – classification of public debt – effects of growth of public debt – causes for growth of public debt – debt burden and future generation - methods of redemption of debt – debt controversy,

<u>Reference Books :</u>
Public Finance(2006) – Bhatia.H.L
Public Finance(2009) – B.P.Tyagi
Modern Public Finance – Musgrave
Public Finance(2009) - Lekhi

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V SEMESTER
CORPORATE ECONOMICS

(Compulsory paper)

Module -1: Introduction to Corporate Economics

Introduction-meaning-Nature and characteristics of corporate economics- scope of corporate management and administration-principles of corporate management-importance of corporate business houses in economic development of a country.

Module-2: Corporate Planning

Introduction- corporate planning- meaning and definitions -nature-objectives-types of corporate plans-importance of corporate planning-need for corporate planning-corporate budget allocation- government rules and regulations pertaining to corporate sector.

Module-3: Human Resource Management, Recruitment and Risk management

Introduction-meaning of HRM-objectives of HRM-functions of HRM-HR manager; duties and responsibilities-Risk management-labour and management relationship-environmental accidents-government, courts and media-Stake holders-priorities of stake holder-importance of human resource planning-benefits of human resource planning-methods of recruitment of human resource-problems involved in placement-motivation and leadership style.

Module-4: Corporate Business and Globalization

Introduction- Globalization and market forces: meaning and definition-Multinational corporations;-Nature and significance of MNCs-working of MNCs-WTO and corporate sector- Indian corporate houses:-growth, contribution and problems-TATA,

RELIANCE, INFOSIS, WIPRO, KINGFISHER, BIO EON-Future of corporate sector in India- Acquisitions and Mergers.

Module -5: Corporate Social Responsibility

Introduction –meaning of CSR-approaches-ethical consumerism-Ethics training-Social awareness and education- laws and regulations- management psychology-criticisms and concerns-Recent social security measures under corporate world.

Skill Development

* Prepare charts on corporate houses in India and abroad
* Visit both and small corporate houses
* Present seminar on success stories of corporate houses
* Prepare charts on corporate houses in India and abroad
* Prepare a paper on failure of big corporate houses
* Present a chart on disaster management
* Visit to a corporate house

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V SEMESTER

MATHEMATICS FOR ECONOMISTS

(Optional paper)

Module-1: Review of Elementary mathematics

Number system: Equations (linear and quadratic) simultaneous equations-functions, linear-quadratic-cubic-exponential and logarithmic functions-graph-slopes and intercepts of a function-Simple applications of functions in economics: Derivation of linear demand and supply functions-calculation of market equilibrium- price and quantity ,interest compounding and national income calculation-application of linear function in macroeconomic models-Matrices: types- algebra of matrices(operation with matrices)-determinants and use of Cramer's rule in solving simultaneous equations.

Module-2: Differential calculus

Simple rules of differentiation and partial differentiation-Application of differentiation in economics-calculation of marginal cost, average cost, marginal revenue ,and average revenue from their respective total cost and revenue functions-Elasticity theorems: types of elasticity-calculation of price- income- cost elasticity and cross(partial) elasticity of demand-substitutes and compliments-Relationship between AR,MR, and price elasticity of demand.

Module-3: Maxima and Minima of functions

Necessary and sufficient conditions for maxima and minima in single and multivariable functions: Market equilibrium -effect of specific tax- advaleorem tax and specific subsidy on market equilibrium -Walrasian and Marshallian static stability condition-Homogeneous functions: Cobb-Douglas production function and laws of returns- calculation of marginal productivity of labour and capital.

Module-4: Unconstrained and constrained optimization problems

Un constrained optimization: output-revenue and profit maximization under perfect competition-profit maximization under monopoly- oligopoly and duopoly markets.

Constrained optimization: Necessary and sufficient condition for consumer equilibrium-Numerical problems of utility maximization and production maximization.

Module -5: Integral Calculus,

Meaning-simple rules of integration-calculation of total revenue and total cost from their respective MR and MC functions-Calculation of consumer's surplus and producer's surplus.

Skill Development

1. Student s to choose a product, price quantity demand quantity supply and derive the1, Student is to choose a product, price quantity demand quantity supply and derive the demand and supply equations in real situation.
2. Calculate market equilibrium price and quantity for any product
3. Distinguish simple and compound rate of interest, collect data about principal amount, rate interest from any bank and calculate amount, work simple and compound rate of interest in real situation
4. Student to choose product price and quality demand and supply price elasticity in real situation

Reference Books

Mathematics and Statistics for Economists	G.S Monga
Quantitative methods for Economists	R.Veerachamy
Mathematical Analysis for Economists	RGD Allen
Theory and Problems of introduction to mathematical economics	Edward T Dowling
An introduction to mathematical economics	D.Bose

Department of Economics
CBCS Syllabus 2014-15

V SEMESTER
RURAL DEVELOPMENT AND CO-OPERATION

(OPTIONAL PAPER)

Module-1: Introduction to Rural Development

Meaning- nature -scope and importance-need for rural development-problems of rural sector: rural poverty-causes-poverty alleviation programmes: i)social welfare programmes. ii) Community development programmes. iii) Employment guarantee schemes: MGNREGAS iv) Health schemes. v) National Rural water Supply schemes vi) Rural sanitation schemes.

Module-2: Issues in Rural development

Agriculture: productivity-yield gap in major crops across the countries-land reforms-national agriculture policy-water resource management-social forestry and forest preservation-rural industrialization-need for rural industrialization-small scale industries –cottage industries-PURA-food security in rural areas(PDS).

Module-3: Financing Rural development

Credit needs of rural population: NABARD and rural development-types of credit-district union of farmers service societies-Decentralized credit planning: district credit plans-block level planning-20 point programme and rural development-role of voluntary agencies-training for rural people-role of Gram Panchayat in rural development-future of rural development-Gram sabha-Grameena banks-micro finance: SHGs case study.

Module -4: Co-operation

Meaning-significance-principles-classification-co operation and economic development-partial vie of co operation movement in UK, Germany-origin and

development of co operative movement in India with special reference to Karnataka, problems of co operative movement.

Module-5: Agricultural and Non Agricultural co operatives

Co operative v/s collective farming- service co operatives- Co operative agricultural marketing- Co operative marketing- Co operative processing of agricultural produce-consumer- co operatives-co operative housing-urban financial co operative societies-Dairy co operatives-mixed co operative credit (primary, district, state)- co operative education and training.

Skill Development

1.A chart on various poverty alleviation and employment guarantee programmes in India.
2. A report on water resource management
3. A chart on rural finance
4. The efficacy of gram Sabah and micro finance
5. Are report on India's co operative movement
6. A report on co operative education and training.

Reference Books

Rural development : Vasant Desai
Co operation : T.N Hajela
Agricultural Economics : B.P Tygi
Indian Economy : Ruddar Dutt
Indian Economy : I.C Dhingra
Indian Economy : K P M Sundaram
Indian Economy : A.N Agaral
Karnataka Economic Survey, Economic journals pertaining to Karnataka Economy
Annual Budget documents, Kurukshetra, yojana, etc,

Department of Economics
CBCS Syllabus 2014-15

V SEMESTER
ECONOMICS OF TOURISM

(OPTIONAL PAPER)

Module –1: Introduction to Tourism Economics:

Tourism: definition- meaning- nature and scope of tourism-Fundamental concepts: Tourist, travelers, visitor, transit visitor and excursionist - Leisure, recreation and tourism and their Interrelationship-Tourism Development and National economy: contribution to GDP-importance of tourism industry in India and Karnataka-Historical dimensions of tourism: Early travels-emergence of modern tourism-factors influencing growth and development of international and national tourism-Impact of industrialization and technological advancement on tourism industry.

Module –2: Demand and Supply aspects of Tourism

Nature of demand: Factor influencing tourism demand- trends in tourism demand. Tourism supply: Market Structure and Tourism supply- Supply trends in tourism-Economic impacts of Tourism: Income and Employment-Balance of payments -Foreign exchange, Socio-cultural impacts of tourism-cultural exchange among nations and international understandings-Impacts of tourism on ecology and environment.

Module –3: Infrastructure and Forms of Tourist transportation

Tourism Infrastructure: Types, Forms and Significance - Accommodation: Forms and types - Tourist transportation: Air- Surface- Rail and Water-Karnataka Tourism: Growth and Development of Tourism in Karnataka-Contribution of tourism to state GDP-Role of KSTDC and private agencies.

Module-4: Tourism Marketing

Core concepts in Marketing: products market-tourism forecasting-Product life cycle: New product development-customer satisfaction and related strategies-marketing airlines-hotel-resort-home stay-travel agencies and other tourism related services- challenges and strategies.

Module-5: Tourism Policy and Planning

Role government-public and private sectors-role of international multinationals-state and local tourism organizations-tourism policy 1982 and 2002-investment opportunities and government policy (hotel and tourism industry) –sources of funding.

Reference Books

*. Vanhove, N. The Economics of Tourism Destinations, Oxford: Elsevier Butter worth
Kotler, Philip : Marketing Management & Hospitality and Tourism Marketing
Sinha, P.C : Tourism marketing
Vearne,: Hospitality marketing
Kotler, Philip and Armstrong Philip: Principle of Marketing, ,
Crough, Marketing Research for Managers.
Singh Raghubir, Marketing and Consumer Behaviour.
Patel, S.G., Modern Market Research, Himalaya Publishing..
Bhatia, A.K., - International Tourism
Seth, P.N., Successful Tourism Management
Bhatia, A.K Tourism development, principles and practices
Pran Nath Seth , Tourism Practices
Yashodhra Jain, Tourism development

Department of Economics
CBCS Syllabus 2014-15

VI SEMESTER

ECONOMICS OF HUMAN RESOURCE MANAGEMENT
(COMPULSORY PAPER)

Module -1: Introduction

Meaning-Scope and importance of Human Resource Management-definition-responsibilities and objectives of Human Resource Management -Functions-Evolution of Human Resource Management- Quality of a good manager-Globalization of Human Resource Management -principles and core concepts of Total Quality Management- Human Resource Management and Total Quality Management.

Module-2: Human Resource planning and Job analysis

Meaning- definition –Importance- need for Human Resource Planning-Objectives of Human Resource planning-Human Resource planning system-Components and process of Human Resource planning-Job analysis: job description- job specification- job evaluation- job evaluation method –job design.

Module-3: Recruitment and Human Resource Management

Sources of recruitment: Selection process-Test types-Interview types-Career planning v/s Man power planning- Succession planning-Career planning process- Career development-Placement and Induction-Performance appraisal and its methods-Transfer-Promotion and Reward policy.

Module -4: Training of Human Resource

Methods- Distinction between training and development training objectives –Investment and Training-Identification of training needs-Principles of training and development-On the job training method-Off the job training method-Wage and Salary Administration: wage board and pay commission- wage incentive-

Fringe benefits-employee welfare- safety and health measures-grievance procedures-redressel of grievances.

Module -5: Human Rights and Human Resource Management

Definition–nature-content-Historical development of Human Resource-Human rights Declaration-Human Rights and UNO- Human rights;-children rights-women's rights-Dalit's rights-Minority rights-International Human Rights-National Human Rights Commission-Karnataka Human Rights Commission-contemporary issues in Human Rights,

Department of Economics
CBCS Syllabus 2014-15

VI SEMESTER

STATISTICS FOR ECONOMISTS

(Optional Paper)

Module -1: Concept of statistics, collection, classification, tabulation and presentation of data

Meaning- uses and limitations of statistics- collection of primary and secondary data-methods- -framing a questionnaire-sources of secondary data - Samples-meaning-methods of sampling: random(probability) and non random (non probability) sampling methods-Classification of data: types of classification-statistical series-individual discrete and continuous series-frequency table for discrete and continuous series concept of cumulative frequency-Tabulation data: Diagrammatic representation-types of diagrams- Graphical representation-histogram ,frequency curve, frequency polygon-ogives (cumulative frequency curve).

Module -2: Measures of central tendency

Meaning and characteristics of a good average-Types of statistical averages-mean, median and mode- Mean-arithmetic mean-simple and weighted- Arithmetic mean-harmonic mean-geometric mean- relationship between arithmetic -harmonic and geometric mean-relationship between mean median and mode.

Module-3: Measures of dispersion

Meaning and measures of dispersion-Range- quartile –derivation- mean derivation- standard derivation and Lorenz curve –coefficient of variation- the variance -Skewness and kurtosis (concepts)Correlation and regression:- correlation –meaning and types measurement of correlation-karl pearsons

coefficient, Regression-Meaning-regression lines- regression equations of X or Y and Y or X-relationship between correlation and regression analysis.

Module -4: Time Series analysis and Index Numbers

Time Series analysis: meaning- components and significance of time series-Methods of estimating trend value-semi average –moving average and least square method-Index numbers: meaning uses and types of index numbers-concept of price relative-Methods of constructing index numbers: un weighted index numbers –simple aggregate method and average of price relative method-weighted index numbers-Laspeyers method- paasche method and fisher's Idurl index numbers-Tests of index number formula-time reversal test and factor reversal test.

Module-5: Statistical Inference

Estimation: meaning and types of statistical estimation-properties of good estimates-Hypothesis testing-meaning of hypothesis null and alternative hypothesis-type 1 and type ii errors –level of significance-confidence interval-Hypothesis testing methods-Z test- I test -F test and X2 (chi-square) test (concepts only).

Reference books

1. Mathematics and Statistics for Economists : G. S Monga
2. Quantitative methods for economists : R.Veerachamy
3. Quantitative techniques : DR, S Sachdeva
4. Business Statistics : Wilson
5. Statistics : Gupta

Department of Economics
CBCS Syllabus 2014-15

VI SEMESTER
KARNATAKA ECONOMY

(Optional paper)

MODULE- 1: Introduction

Total geographical area-land use pattern-HDI in Karnataka-Features of Karnataka economy- Demographic profile of Karnataka : Trends in population growth-growth rate-density –age- sex and size composition –population policy-rural urban migration-changes in occupational structure-Karnataka as knowledge capital of India -Karnataka as FDI destination.

MODULE -4: Poverty and Unemployment in Karnataka

Poverty: Rural and Urban poverty-causes-incidence-Relevance of Tendulkar and C. Rangarajan poverty indices-Unemployment: Types-Causes-Employment generation and poverty alleviation programs-i) self employment program ii) wage employment program-iii) Habitat development program--Recent special programs initiated by government of Karnataka- Regional imbalances in Karnataka:-causes. Dr.M.Nanjudappa committee report-Issues related to Hyderabad Karnataka: need for special status - Self Help Group-women empowerment.

MODULE- 3: Agriculture

Trends in agricultural production: Causes for low Agriculture productivity-dry land farming- cropping pattern -water shed management in Karnataka - irrigation- 2nd green revolution- agriculture marketing- agriculture finance-institutional and non institutional sources-cooperative credit-Role of micro finance in agriculture-interstate water disputes.

MODULE-4: Industry and Tertiary Sector

Recent industrial policy of government of Karnataka-small scale industries-importance, growth and problems- Sources of industrial finance-Information technology and economic growth of Karnataka-Energy sector-growth and problems-Transport and Communication: growth and development- with reference to KSRTC-BMTC- BMRCL

Recent roads development projects-Status of exports and imports of Karnataka-Karnataka's trade policy-Health and nutrition in Karnataka.

MODULE-5: Public Finance

Sources of revenue: Tax and Non Tax-Devolution of resources: Tax sharing- grants in aid-public barrowings-problems of Karnataka's tax system-Growth of public expenditure-Karnataka budget: Budget deficit-fiscal deficit in Karnataka-state finance commission-Debt management in Karnataka-E-governance in Karnataka.

Reference Books

Government of Karnataka : Economic Survey
Karnataka Economy : O.D Heggade
Karnataka Economy : Dr.Prasanna and Dr. Shivananda
Karnataka Economy : Planning Commission Report
Indian Economy : A.N Agaral
Karnataka Economic Survey : Economic journals pertaining to Karnataka Economy
Annual Budget documents, Kurukshetra, yojana, etc,.

Department of Economics
CBCS Syllabus 2014-15

VI SEMESTER
HOSPITALITY ECONOMICS

(Optional paper)

Module -1: Introduction to Hotel economics

Meaning- definition- scope and importance of Hotel Economics-ownership structure: pavement hotels- Sole-proprietorship- partnership- Franchisees-Management Contract – their advantages and disadvantages.-ITDC-KSTDC-Hotel management: managerial skills and rolls –managerial ethics and organizational culture-Organization: concept of organizing hotel industry-organizational structure and design- line and staff-authority and responsibility-span of control- delegation-decentralization.

Module-2: Growth and Development of Hotel Industry

Development of hotel industry over the ages-Indian hotel industry in comparison with international hospitality-Front office: Layout - sections - and Qualities of Front Office staff. -House keeping: concept- importance and scope – marketing of hotel products: Marketing Strategies- Marketing Mix- Planning-Marketing Department Organization- food and beverages: Introduction- types-Organization of F&B Services in different types of Hotels-Factors involved in hotel industry: catering -Classification - commercial and non commercial - engineering and maintenance-Finance and accounting;-accounting concepts-classification of accounts- rules of debit and credit-classification of hotel departments: revenue and non-revenue-inter and intra departmental linkages and co ordination.

Module-3: Hotel industry and tourism

Link between tourism and hospitality industry-trends in hospitality industry in India and Karnataka-emerging trends of hospitality industry-issues and challenges-prospects-Quality aspects in hotel industry-health and hygiene.

Module -4: Demand and Supply of hotel industry

Nature of demand: determinants of demand-nature of tourism demand-supply of hospitality –determinants of tourism and hospitality supply-changes in supply and demand since 1991-Strategies in hotel management: profit measurement and profit planning-cost benefit analysis-determinants of investment decision in tourism and hospitality.

Module-5: Policy and Planning

Government policy towards hotel industry –controls-regulations and initiatives towards growth and development of tourism and hotel industry in India and Karnataka- problems of hotel industry - measures (monetary and non monetary)-employment of child labour –Social Security in hotels -Hotel Security: concept**-** importance- Type- Organization structure-Application of security in Hotels- scope and trends.

Reference Books

Hotels for Tourism Development : Dr. Jagmohan Negi
Principles of grading and classification of hotels,
Tourism restaurant &resorts - : Dr. J. Negi
Management Theory & Practice : C.B.Gupta,
Introduction to Hospitality Industry : Bagri SC &Dahiya Ashish,
Introduction to Hospitality, : Walker John R. Prentice Hall of India.
Hospitality Today : W.Lattin Attn. Rocco; Andrew Vladimir,
Tourism and the hospitalities : Joseph D. Fridgen
Hospitality Mgt. : Kevin Baker, Jeremy Hayton
Text book of Food & Beverage Service : S.N. Bagchi & Anita Sharma –
Food & Beverage Service : Anil sagar & Deepak Gaur- A.

BANGALORE UNIVERSITY

DEPARTMENT OF HISTORY

REVISED SYLLABUS FOR THE BA/BA(HONS)

CREDIT BASED SEMESTER SCHEME

WITH EFFECT FROM THE ACADEMIC YEAR 2014-15

DEPARTMENT OF HISTORY, BANGLAORE UNIVERSITY

Proceedings of the meeting of B. O. S. (U G) held on 17th June 2014 in the Chambers of the Chairperson, Department of History, Bangalore University, Bangalore at 11.00 A.M.

MEMBERS :

- Dr. M. Jamuna, Professor & Chairperson , Dept. of History, BUB
- Prof. Ramegowda K N, Dept. of History, V V Puram College of Arts & Commerce, Bangalore-560004
- Prof. Sabiha Masrur, Dept. of History, Shah Dargah Compound OTC Road Cross, Cubbonpet, Bangalore-2
- Dr. Pandukumar B, Dept. of History, Vivekananda College, Bagepalli-561267.
- Prof. Bharathi K S, Dept. of History, S Gopalraju Govt. First Grade College, Anekal -562106
- Dr. Munirajappa, Dept. of History, Rural College, Kanakapura-562117
- Prof. H N Renukamba, Dept. of History M E S College, Malleswaram, Bangalore-560003

MEMBERS ABSENT

- Sri. Venkatashamy Reddy, Dept. of History, Govt Arts College, Bangalore-560001
- Sri. Riaz Ahmed, Dept. of History, Govt First Grade College for Women, Kolar-563101
- Dr. Ashwathanarayana, Professor, Dept. of History, University of Mysore, Mysore
- Dr. Chinnaswamy Sosale, Professor, Dept. of History, Kannada Vishvavidyalaya, Hampi.

The Chairperson welcomed the members and introduced the agenda.

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After a lengthy discussion the Board of Studies (UG) updated the Syllabus of 08 Papers of which two are offered as optional in the V & VI Semesters for the BA/BA(Hons) Credit Based Semester Scheme in History 2014-15.

The Board also prepared the question paper pattern and scheme of Internal Assessment. The meeting came to a close with the members thanking the Chairperson.

CHAIRPERSON, BOS in History (UG)-2014

PREAMBLE :

The BA/BA (Hons) in History Course is a Credit Based Semester Scheme spread over Six Semesters for BA and BA (Hons). The course seeks to familiarize students with the major debates in Indian History and gives an overview of the important aspects of Indian History from ancient to contemporary times. Due importance is also given to the study of the West, Middle East and South Asia especially in the context of Post-Colonialism. The county is presently confronted with several challenges -communalism, caste conflicts, gender related issues, impact of globalization which are threatening the social fabric of the plural society of India. Ecological and environmental concerns at the national and international levels are taken into cognizance. In view of the co-relation between education and changing society it is imperative to enhance academic standards especially in times when the relevance of study of history is seriously questioned. It is essential to understand that we as a generation are in heritors of the great accomplishments of our forefathers. In strengthening the bond between the past and the future, social scientists, more so, students of history have a great role to play in connecting with the present. The focus of the curriculum has been mainly on socio-economic and cultural aspects though it is not divested of political or dynastic histories. With changing trends and latest developments in research updating of the curriculum is a necessary exercise. The intention is not a survey of the history of various periods but an indepth study of the problems and different perspectives. The aim is also to equip students for careers in teaching, research and civil services as well as strengthening analytical skills.

BA/BA(HONS) CREDIT BASED SEMESTER SCHEME SYLLABUS
HISTORY w e f 2014-15

Sl No	SEMESTERS	TITLE OF PAPER	Page No
1	**I SEMESTER** PAPER - I	**HISTORY OF INDIA-I**	1-2
2	**II SEMESTER** PAPER - II	**HISTORY OF INDIA -II**	3-4
3	**III SEMESTER** PAPER - III	**KARNATAKA – SOCIETY ECONOMY AND CULTURE.**	5-6
4	**IV SEMESTER** PAPER - IV	**HISTORY AND TOURISM IN INDIA**	7-8
5	**V SEMESTER** PAPER -V	**HISTORY OF MODERN INDIA**	9-10
6	PAPER - V (A) V (B)	**HISTORY OF EUROPE 1500 -1945** **OR** **HISTORY OF CHINA AND JAPAN: 1900 AD**	11 12
7	**VI SEMESTER** PAPER - VI	**INDIA AFTER INDEPENDENCE**	13-14
8	PAPER - VI (A) VI (B)	**CONTEMPORARY WORLD** **OR** **HISTORY OF WEST ASIA SINCE 1900 A.D.**	15-16 17

COURSE PATTERN, SCHEME OF EXAMINATION AND CREDITS
BA/BA(hons) CREDIT BASED SEMETER SCHEME, 2014

Subject **HISTORY**	Papers	Instruction Hours/ week	Duration of Exam (hrs)	**MARKS**			**Credits**
				I A	**EXAM**	**TOTAL**	
I, II, III & IV SEMESTERS							
Paper 1	**HISTORY OF INDIA-I**	1 X 5	1X3	1 X 50	1X100	1x150	1x3
Paper 2	**HISTORY OF INDIA -II**	1 X 5	1X3	1 X 50	1X100	1x150	1x3
Paper 3	**KARNATAKA – SOCIETY ECONOMY AND CULTURE**	1 X 5	1X3	1 X 50	1X100	1x150	1x3
Paper 4	**HISTORY AND TOURISM IN INDIA**	1 X 5	1X3	1 X 50	1X100	1x150	1x3
V SEMESTER							
Paper 5 .1	**HISTORY OF MODERN INDIA**	1x4	1x3	1x50	1x100	1x150	1x3
Paper 5 .2 (A) Paper 5 .2 (B)	**HISTORY OF EUROPE 1500 -1945** **OR** **HISTORY OF CHINA AND JAPAN SINCE 1900 AD**	1x4	1x3	1x50	1x100	1x150	1x3
VI SEMESTER							
Paper 6.1	**INDIA AFTER INDEPENDENCE**	1x4	1x3	1x50	1x100	1x150	1x3
Paper 6.2 (A) Paper 6.2 (B)	**CONTEMPORARY WORLD** **OR** **HISTORY OF WEST ASIA SINCE 1900 A.D.**	1x4	1x3	1x50	1x100	1x150	1x3

Question Paper Pattern

HISTORY

BA/BA (Hons) Credit Based Semester Scheme w e f., 2014-15

Time: 3 hours Total Marks : 100

Note: Read instructions carefully. All Sections are compulsory.

Section - A

Map :- (1 X 10 = 10)

Marking the Boundary Line - 5 Marks

Explanatory Note - 5 Marks

OR

Marking the Places on Outline Map Provided - 5 Marks

Description of the Places of Historical Importance- 5 Marks

Section - B

Answer any three of the following: (3 X 15 = 45)

1.

2.

3.

4.

5

Section -C

Answer any three of the following (3 X 10=30)

1.

2.

3.

4.

5

Section -D

Answer any three of the following (3 X 5=15)

1.

2.

3.

4.

5.

HISTORY

BREAK UP OF INTERNAL ASSESSMENT MARKS

TEST	30 MARKS
ATTENDANCE	10 MARKS
ASSIGNMENTS	10 MARKS
TOTAL	**50 MARKS**

FIRST SEMESTER, PAPER – 1

HISTORY OF INDIA

UNIT-I: - Introduction : Survey of Sources - Harappan Civilization -Urban Planning - Society- Religious Beliefs- Trade Contacts -Script-Decline Recent Excavations.

UNIT-II: - Vedic Period :

(A) Early Vedic Period- Vedic Texts Pastoralism- Tribal Polity - Social Differentiation- Religious Practices

(B) East Ward Movement -Settlement in the Ganga , Yamuna Doab - Proliferation of Agriculture - Second Urbanization - Stratified Society - Sacrificial Cult -Varna Division -Women.

UNIT-III :- Dissent and Protest : The Context of Heterodox Religions -Jainism and Buddhism- Social base of the Heterodox Religions -Their Philosophy -Greek Invasions - Mauryas - Form of State in Arthasastra -Ashoka -Structure of State - Economy Implications of Ashoka's Dhamma - Decline of Mauryan Empire. Sungas- Kushanas - Art & Architecture.

UNIT-IV: - Gupta and Post-Gupta Periods : Political Conditions under Guptas- Agrarian Developments -Urbanizations -Literature - Science - Art and Architecture - Debate over Golden Age. The Vardhanas - Harsha - Cultural Contributions.

UNIT -V : The South : Sangam Age - Pallavas -Architecture -The Cholas - Administration -Art & Architecture -Bhakti Movement -Alwars & Nayanmars.

MAPS: Extent of the Empire:

1. Harappan sites 2. Religious Centers (Jaina and Buddhist) 3. Sites of trade and commercial importance.

PLACES OF HISTORICAL IMPORTANCE:

1)Harappa 2)Ujjain 3)Lothal 4)Bodhgaya 5)Sarnath 6)Pataliputra 7)Taxila 8)Prayag 9)Sanchi 10)Purushapura 11)Nalanda 12)Thaneshwar 13)Maski 14)Kanauj 15)Sopara 16)Kaveripattanam 17)Ajanta 18)Kancheepuram 19)Mahabalipuram

Books for Study:

1. D D Kosambi - An Introduction to Indian History
2. Romila Thapar : Ancient India
3. Romila Thapar : Ancient Indian Social History
4. R. S. Sharma : Indian Feudalism
5. R S Sharma : Perspectives in Social and Economic History of Early India
6. R S Sharma : History of Indian Political Ideas and institutions
7. D N Jha : Early India, A Concise History
8. B D Chattopadhyaya : The Making of Early Medieval India
9. S Huntington : The Art of Ancient India : Buddhist, Hindu, Jain.
10. M K Dhavalilkar : The Aryans : Myth and Archaeology
11. 6. A S Altekar : State and Government in Ancient India
12. 7. U N Goshal : History of Indian Political Ideas
13. 8. R G Bhandarkar: Early History of Deccan (Two Vol)
14. A L Bhasyam : The Wonder that was India
15. H V Srinivasa Murthy : History and Culture of South India to 1000AD
16. N. Subramanianm : Sangam Polity

17. Dgï ¹ ªÀÄdÄAzÁgï ªÀÄvÀÄÛ EvÀgÀgÀÄ (C£ÀÄªÁzÀ) - ¨sÁgÀvÀzÀ ¥sËæqsÀ EwºÁ¸À
18. ¸ÀzÁ£ÀAzÀ PÀ£ÀªÀ½î (C£ÀÄªÁzÀ) - ¨sÁgÀvÀzÀ EwºÁ¸À
19. f Dgï gÀAUÀ¸ÁéªÀÄAiÀÄå - ¥ÁæaÃ£À ¨sÁgÀvÀ
20. J£ï ¦ ±ÀAPÀgÀ£ÁgÁAiÀÄtgÁªï - ¥ÁæaÃ£À ¨sÁgÀvÀ

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SECOND SEMESTER, PAPER – II

HISTORY OF INDIA -II

UNIT-I :- Introduction : Source material- Coming of Islam - Arab Invasion of Sindh - Founding of the Sultanate - Illtumish, Razia Begum -State Policy. Balban - Theory of Kingship. Turkish Nobility and the Ulema.

UNIT-II:- Successor Dynasties **:** The Khilji Revolution - Allauddin Khilji-Theory of Kingship - Military and Fiscal Measures - Market Control - Southern Campaigns. The Tughluqs Muhammad Bin Tuglhuq- Administrative and Economic Reforms- Deccan Policy - Assessment of Muhammad Bin Tughluq.

UNIT–III:- Aspects of Mughuls Rule : Foundation - Sur Interlude. Akbar - Consolidation of the Empire - Rajput Policy - Religious Policy - Debate - Administrative Structure - Jagirdari and Mansabdari-Aurangzeb . Mughal occupation of Deccan.

UNIT-IV:- Society, Economy, Culture : Emergence of New Social Classes – Women - Debate over Nature of Mughual Economy - Emergence of Composite Culture -Bhakti Movement -Sufi Orders - Evolution of Mughual Architecture

UNIT-V: - The Maratha Moment - Shivaji- Administration

MAPS: EXTENT OF THE EMPIRE OF:

1. Mughal Architectural Centers
2. Trade and commercial Centers
3. Extent of Shivaji's Empire

PLACES OF HISTORICAL IMPORTANCE:

1)Delhi 2)Devagiri 3)Ajmer 4)Dwarasamudra 5)Agra 6)Surat 7)Panipet 8)Rameshwaram 9)Shivaner 10)Poona 11)Ahmednagar 12)Fatehpur Sikri 13)Chittor) 14)Sassaram 15)Amritsar 16)Khandesh 17)Mathura 18)Ranthambor 19)Bijapur 20)Jinjee

Books for Study:

1. Iswari Prasad : Medieval India
2. Mohd. Habib & K A Nizami : Comprehensive History of India Vol.V&VI
3. A L Srivastava : Sultanate of Delhi
4. Tapan Ray Chaudhri & Irfan Habib : Cambridge Economic History of India Vol.1
5. R C Majumdhar : The Mughal Age
6. R S Tripathi : Decline and Fall of Mughal Empire
7. Jadhunath Sarkar : The Maratha Polity
8. Irfan Habib : Agrarian System in Mughal

9. Burton Stein : A History of India

10. Richard Eaton : Essays an Islam and Indian History
11. C A Bayly : Rulers, Townsmen and Bazaar
12. Muzaffar Alam and Sanjay Subramanyam(Ed) : The Mughal State (1526-1750)
13. Rekha Pande : Religious Movement in Medieval India
14. I H Qureshi : The Administration of the Mughal Empire.
15. I H Qureshi : The Sultanate of Delhi.
16. ²ªÀtÚ - ªÀÄzÀåPÁ°Ã£À ¨sÁgÀvÀzÀ DyðPÀ EwºÁ¸À

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THIRD SEMISTER, PAPER – III

KARNATAKA – SOCIETY, ECONOMY AND CULTURE.

UNIT-I :- Introduction : The Satavahanas – The Formation of States, Social - Agrarian Structure - Feudal Base -Kadambas - Inscriptions -Land Grants - Agraharas - Educational System, Early Chalukyas - Ayyahole 500.

UNIT-II :- Vijayanagara and Bahamanis : Society and Economy -Agriculture- Industry and State Income Merchant and Craft Guilds. Bahamani and Adilshahis - State Income - Trade Contacts -Keladi - Shivappa Nayaka's Sist. Tippu - Fiscal Reforms -Economic Innovations.

UNIT-III:- Religion and Philosophy : Jainism - Jaina Centres - New Religious Sects (Advaitha, Dwaita, Vishistadvaitha,) Minor Cults (Kalamukhas and Shaktas) Virashaivism - Haridasas - Sufism.

UNIT- IV:- Literary Contributions : Pampa – Vachanas ((Basava – Akkamahadevi)- Dasa Literature (Purandaradasa – Kanakadasa). Navodaya Movement (Bendre - Kuvempu). Architecture - Chalukyas of Badami, Hoysalas, Vijayanagara, Bahamanis - Adil Shahi's

UNIT- V: - Impact of West - Growth of Nationalism- Freedom movement- Unification of Karnataka.
Contemporary Issues:

1. Politics of assertion and Social Justice(Backward Class Movement, Dalit Movement and Progressive Movements, Gokak Chaluvali, Raitha Sangha)
2. Border Dispute (Mahajan Commission).
3. River - Water Disputes.

MAPS:

1. Centres of Religious Importance
2. Centres of Art & Architecture
3. Centres of Freedom Struggle**.**

<u>PLACES OF HISTORICAL IMPORTANCE:</u>

1) Pratishthana 2) Banavasi 3) Nagavi 4) Badami. 5) Aihole 6) Belur 7) Halebidu 8) Hampi. 9)Keladi 10)Bidar 11)Bijapur 12)Srirangapatna 13)Mysore 14)Bangalore 15)Isur 16) Vidurashwatha 17) Shivapur 18) Belgaum 19) Kittur 20) Belligavi

Books for Study :

1. R R Diwakar - Karnataka Through the ages
2. R R Diwakar - Kanataka Paramapare (Kannada Two Vol)
3. G S Dikshit - Keladiya Nayakaru 1969
4. Saki - Making History
5. Doreswamy H S - Horatada Ditta Hejjegalu 1972
6. H Thipperudraswamy - Karnataka Samskruti Sameekshe (Kannada)
7. Shamba Joshi - Karnataka Samskrutiya Poorva Peetike
8. Chidananda Murthy M - Kannada Shasanagala Samskrutika Adhyayana
9. G M Moras - The Kadamba Kula
10. C. Hayavadana Rao - History of Mysore 3 Vol
11. G S Halappa & Krishna Rao - History of Freedom Movement Two Volumes
12. K. Raghavendra Rao : Imaging the Unimaginable
13. S U Kamat - Karnataka Sankshipta Ithihasa
14. D V Gundappa - Jnapaka Chitrashale
15. S Rajashekar - Karnataka Art & Architecture
16. K R Basavaraj - History and Cultural of Karnataka

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FOURTH SEMESTER, PAPER – IV

HISTORY AND TOURISM IN INDIA

UNIT – I: Introduction: Tourism - Meaning Definition - Scope and Importance Tourism - Types of Tourism - Nature of Travel- Traveler , Tour, Tourist - History as a Tourism Product.

UNIT – II: Tourism Through the Ages: Beginnings to the Medieval Times- Modern Tourism -Sargent Committee -Tourism Development - Basic infrastructure-Tourism Resources.

UNIT – III: Tourism Planning and Policy : Sustainable Tourism -Eco Tourism-Heritage Tourism - Health Tourism. Conservation of Historical Monuments -Protection of Ancient Monuments Act and Museum Act.

UNIT – IV: Tourism Organizations : International , National and Regional -IAOTO-WTO -PATA-ITDC-KSTDC -Role of Travel Agencies- Strengthen Indian Tourism Industry - Tourism Marketing and Management - Socio Economic Impact of Tourism-Hotel Management -Training Personnel for Tourism

UNIT V : Tourism and Karnataka : Historical Sites -World Heritage Sites -Hampi, Pattadakal. Adventure Tourism - Beaches Resorts- Wild Life Sanctuaries in Karnataka-Prospects of Tourism in Karnataka .

MAPS:

1. Heritage Sites in India.
2. Wild Life Sanctuaries in India.
3. Tourism Circuits in Karnataka.

PLACES OF HISTORICAL IMPORTANCE:

1) Gaya 2) Pataliputra 3) Sanchi 4) Ajanta 5) Ellora 6) Nandi 7) Srirangapatna 8) Bandipura 9) Taxila 10) Prayaga 11) Aihole 12) Delhi 13) Patepur Sikri 14) Konark 15) Kujaraho 16) Simhla 17) Jaipura 18) Panaji 19) Mount Abu 20) Shrvana Belugula

Books for study :

1. G S Batra - Tourism in the 21st Century
2. G S Batra and Danguala R C - Tourism promotion and Development
3. Brijindra Punic - Tourism Management programmes and prospects
4. Deems Foster - An Introduction to Travel and Tourism
5. Donald Land Berg E & Carolyn Lund Berg - Interval Travel and tourism
6. Gupta T C Sushma Kashekar - Tourism products in India
7. Chris Cooper and Fletcher - Tourism, Principles and Practices
8. S. Wahab- Tourism Marketing

9. Joan Bakewell - The Complete Traveler

10. Douglas Pierce - Tourism To-day, a Geographical Analysis
11. A.K. Bhatia - Tourism Principles
12. James W Harrison - Travel Agent and Tourism
13. Edward D Mills - Design for Holidays and Tourism
14. Percy Brown - Indian Architecture
15. A.L. Basham - The Wonder that was India
16. Elliot & Dawson - History of India as Told by its own Historians
17. S.U. Kamat - Karnataka Gazetteer

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FIFTH SEMESTER, PAPER - V

HISTORY OF MODERN INDIA

UNIT-I: Advent of Europeans-Impact on Indian Polity –Mercantilism – Wars and Annexations of the British (Plassey, Buxar, Carnatic Wars) - Consolidation and Governance - Resistance and the Revolt of 1857.

UNIT - II: British Land Revenue System (Permanent Settlement, Ryotwari . Mahalwari) – Commercialization of Agriculture – Rural Indebtedness – Impact of Tariff Policy – Famines -Economic Nationalism - Dadabai Navoroji and the Drain Theory.

UNIT - III: Introduction of English Education – Macaulay's Minutes -Social and – Religious Reform Movements – Pan –Islamic Movement -Growth of Nationalism– Founding of Indian National Congress – Early Phase - Gokhale – Tilak and Swadeshism -Muslim League – Coming of Gandhi – Non Co-operation Movement – Civil Disobedience Movement - Gandhian Methods of Struggles - Strategies - Ambedkar and Poona Pact.

UNIT - IV: Emergence of the Left Wing – Jawarlal Nehru and Subhash Chandra Bose - Labour and Peasants Movements -Government of India Act 1935 – II World War and Indian Nationalist – Quit India Movement – Communalism – Mount Batten Plan – Partition and Independence.

MAPS:

1. Early European Settlement.
2. Places Connected to 1857 Movement.
3. Places connected to Indian National Movement.

PLACES OF HISTORICAL IMPORTANCE:

1)Calicut 2)Calcutta 3)Plassey 4)Buxar 5)Champaran 6)Madras 7)Mahe 8)Surat 9)Pondicherry 10) Goa 11)Jhansi 12)Chauri Chaura 13)Murshidabad 14)Chandranagore 15)Lahore 16)Amritsar 17)Dandi 18)Naokhali 19)Mahad 20)Belgaum

Books for study :

1) Sumit Sarkar - Modern India
2) Percival Spear - Modern India
3) A R Desai - Social Background of Indian Nationalism
4) J P Andrews - The Renaissance in India
5) Annie Besant - India a Nation
6) C Y Chinthamani - Indian Politics since the Mutiny
7) Bipan Chandra & Et al. Indian Struggle for Independence
8) Bipan Chandra - Freedom Struggle
9) Bipan Chandra - Barunde & Amalesh Tripathi - Modern India
10) Raj Mohan Gandhi - The Good Boat Man
11) Jawaharlal Nehru - Discovery of India
12) Ravindra Kumar - Essays on the Social History of India

13) Ramachandra Guha - Makers of Modern India

14) Ramachandra Guha - Gandhi Before India,
15) Burton Stein - A History of India
16) Thomas R Metcalf - Ideologies of the Raj
17) Bernard S Cohn - Colonialism and its Forms of Knowledge - The British in India.

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FIFTH SEMESTER, PAPER – V (A)

HISTORY OF EUROPE 1500 -1945

UNIT –I: - Introduction - Geographical Discoveries - Renaissance - Reformation - Counter Reformation- Industrial Revolution - Impact.

UNIT – II:- French Revolution – Significance of the Revolution - Napoleon Bonaparte - Continental System - Napoleon's Expeditions -Reforms - Congress of Vienna - Revolution of 1830 and 1848 - Growth of Liberalism - Marxian Socialism.

UNIT -III:- Nationalism and Movements for Unification – Italy and Germany – Bismarck – Diplomacy and System of Alliances –Kulter Kampf. The Great Alliances (1879-1914) - World War-I -Russian Revolution -Paris Peace Conference-Versailles Treaty - League of Nations.

UNIT- IV: Rise of Dictatorships - Italian Fascist State - The Nazi Experiment - Military Dictatorship in Japan - Outbreak of II World War.

MAPS:

1. Centers of Industrial and French Revolution.
2. Unification Movements - Italy and Germany.
3. Theatres of World Wars I and II.

PLACES OF HISTORICAL IMPORTANCE:

1) Frankfurt 2)Rome 3)Turin 4)Naples 5)Milan 6)Leningrad 7)Paris 8)Berlin 9)Dunkirk 10) Vienna 11)Waterloo 12)Versailles 13)Leipzig 14)Moscow 15)London 16)Piedmont 17) Petersburg 18) Yalta 19) Potsdam 20) Munich.

Books for Study :

1. James Edgar Swain - A History of Civilization
2. C A Bailey - The Birth of Modern World
3. Harman Criz - A People's History of the World
4. Hobsbaum E J - Age of Capital
5. Hobsbaum E J - Age of Revolution.
6. J A R Marriott - A History of Europe
7. W.S.Churchill- The World Crisis 1911-1928
8. Hardy G.M. Gathorne-A Short History of International Affairs 1920-1939
9. W.C. Ongione- The World Since 1914-1919
10. E.H.Carr- The Twenty Years Crisis
11. E.H.Carr –International Relations between the Two World Wars
12. David Thomplan- Europe Since Napoleon.
13. Hartmann Fredick- The Relations of Nations
14. Schuman Fredrick-International .Politics
15. E.H.Carr-A History of Soviet Russia
16. Fisher A.L.- The Soviet in World Affairs
17. Pollock.A.-The League of Nations.
18. Zin mern.A.- The League of Nation and Rule of Law.

19. Lipion .E- Europe 1914-1939

FIFTH SEMESTER, PAPER – V (B)

HISTORY OF CHINA AND JAPAN SINCE 1900

UNIT – I: Introduction – European Intervention in China and Japan- Sino - Japanese War 1894-95 -Rise of Nationalism Taping Rebellion -100 Days Reform - Boxer Rebellion and its Consequences. Dr. Sun-yat-sen- Revolution of 1911.

UNIT – II: The Kuo-min-tung, Chiang-kai Shek - Communists and War Lordism - Achievements of the Nationalist Government. Origin and Growth of the Communist Party - Its leaders - Its success. People's Republic of China - Cultural Revolution of 1966.

UNIT – III: Nationalism in Japan – Economic, Social and Cultural Change in Japan- Meji Restoration -Anglo Japanese Alliance 1902- Russo -Japanese War 1904-05- Treaty of Portsmouth-

UNIT – IV: Japan in the First World War - Washington Conference 1921-1922 - Second World War- Pearl Harbour Incident- Japanese initiatives in Asia -Allied Occupation of Japan- Post war Japan- Treaty of San Francisco -Japan's role in Modern World.

MAPS:

1. Centers of Western Influence in China.
2. Chinese territories under Japanese Occupation in First World War
3. Japanese conquests in Asia during Second World War.

PLACES OF HISTORICAL IMPORTANCE:

1)Peking 2)Shensi 3)Manchuria 4)Honkong 5)Tokyo 6) Kwangtung 7)Nanking 8)Shantung 9)Hunan 10)Nagasaki 11)Canton 12)Macao 13)Mukden 14)Hiroshima 15)Shanghai 16)Kyoto 17)Kanagawa 18)Port Arthur 19)Formosa 20) Trensui 21) Yokohama.

Books for Study :

1. Arthur Tiedmann - Modern Japan
2. Shivakumar and S Jain- History of the far East in Modern Times
3. M D David -Rise and growth of Modern Japan -
4. M D David- Rise and growth of Modern China -
5. D Nelson Rowee- Modern China
6. A K Mukherjee- History of Japan
7. R K Majumdar- History of the Far East
8. R S Chaurasia -History of Modern Japan
9. R S Chaurasia- History of Far East
10. K M Panikar - Asia and Western Dominance
11. P H Clyde and B F Beers- The Far East
12. M. Vinacke - A History of the Far East
13. Latourethe - A Short History of the Far East
14. Beckman - Modernization of China and Japan

15. Cyrus H Peake : Nationalism and Education in Modern China
16. O P Bland - China, Japan and Korea

SIXTH SEMESTER, PAPER – VI

INDIA AFTER INDEPENDENCE

UNIT – I:- Indian Independence : Partition -Aftermath-Problems in the New Republic – Integration of Princely States -Nehruvian Era - Towards a Planned Mixed Economy - Socialist Pattern of Society- Making of a Foreign Policy – Non-Alignment - India and her Neighbors(China, Pakistan, Srilanka)- India in World Affairs- Center State Relations -Formation of Linguistic States-Educational and Cultural bodies (NCERT,UGC,ICSSR, ICCR,ICHR)-Development of Science Technology(Indian Atomic Energy Commission, DRDO).

UNIT - II:- Political Parties : Hegemony of the Congress – The Right and Left Parties - - Socialist and Communist Movements - Problems of Minorities and OBC's - The Politics of Social Justice-Constitutional Method- Ambedkarism and Dalit Movements.

UNIT -III : The Assertion of Regional identities - Regional Political Parties (DMK, Akali Dal and Telugu Desam) - Emergence of Indira Gandhi –Politics of Populism -Towards Coalition Politics - Non-Congressism -Jayaprakash Narayan - J P Movement - Janata Regime - The Rajiv Years - SAARC. Realignment of Political Forces - Mandal Commission.

UNIT - IV:- Religion and Politics : Rise of Fundamentalism – Secularism and Communalism – Post Modernist Movements -The Women's Movements - The Politics of Women's Empowerment - Agriculture and Industry -Globalization and Liberalization - Impact on Indian Economy - Environmental Movements.

MAPS: LOCATE 10 CENTERS ONLY:

1. Union territories and State Capitals of India
2. Native States in integrated in to India
3. Linguistic States created in 1956.

PLACES OF HISTORICAL IMPORTANCE:

1)Srinagar 2)Junagad 3)Hyderabad 4)Mysore 5) New Delhi 6)Nathula 7)Sriperambudur 8)Amritsar 9)Jaipur 10)Simla 11)Bangalore 12)Chennai 13)Sardar Sarovar 14)Puruliya 15)Pokhran 16)Siachen 17)Godra 18)Ayodhya 19) Kargil 20)Rai Bareli

Books for study:

1. Baldev Raj Nayar : Globalization & Nationalism -The Changing Balance in India's Economic Policy 1950-2000
2. Narendra Pani : Inclusive Economics - Gandhian Method and Contemporary Policy
3. Sangeetha Purushotham : Grassroots Women's Networks and the State

4. Ajay K Mehra & Et.al (Ed) - Political Parties and Party Systems

5. Zoya Hasan (Ed) : Politics and the State in India
6. Peter Ronald de Souza : Contemporary India - Transactions
7. J N Dixit : Indian Foreign Policy 1947 - 2003
8. Puniyani : Communal Politics - Facts and Myths
9. Sumantra Bose : The Challenge of Kashmir
10. Bipan Chandra : Ideology and Politics in Modern India
11. Bipan Chandra et. Al : India after Independence 1947
12. R P Bhalla : Elections in India - Legacy and Vision
13. Paul R Brass : Politics of India Since Independence
14. Chaudhar D S : Nehru & Nation Building
15. Gore M S : Unity in Diversity : The Indian Experience in Nation Building

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SIXTH SEMESTER, PAPER –VI (A)

CONTEMPORARY WORLD

UNIT – I:- Impact of the II World War – UNO – Achievements, Failures and Challenges. Cold War - Military Alliances (NATO, WARSAW) Economic Alliances - Cold War Era - Suez Crisis, Korean Crisis, Cuban Missile Crisis, Vietnam Crisis.

UNIT – II: The Third World – Non Alignment - National Liberation Movements South Africa -Middle East - Arab - Israeli Crisis - Regional organizations (Arab League, OPEC, ASEAN, SAARC, European Union) Afghan Civil War

UNIT – III: Disarmament (NPT, CTB, WMD) Disintegration of Soviet Union - Uni-Polar World - New Economic Order - (IMF, IBRD, WTO, GATT, World Bank)

UNIT – IV: Human Rights in Contemporary World - Gender Issues - UN & Women's Rights - CEDAW, Ecological Concerns - Environmental Degradation - RIO Earth Summit - State and Civil Society -Terrorism in Contemporary World.

UNIT – V:- New Trends –Ecology and Environment – Contemporary Concerns – The Earth Summit at Rio – Gender Issues and Global Concern – Human Rights – Globalization –Liberalization

MAPS:

1. NATO Countries.
2. Communist Block**.**
3. Non-Aligned Countries.

PLACES OF HISTORICAL IMPORTANCE:

1) Bandung 2)Paris 3)Baghdad 4)Tehran 5)Beirut 6)Moscow 7)Kabul 8)Helsinki 9)Berlin 10)Warsaw 11)Havana 12)Delhi 13)Belgrade 14)Camp David 15)Rio 16) Colombo 17)Tel Aviv 18)Cancun 19)Islamabad 20) New York

Books for study:

1. Agosin M (Ed) : Women, Gender and Human Rights : A Global Perspective
2. Simonies J : New Dimensions and Challenges to Human Rights
3. Lobo Nancy : Globalization, Hindu Nationalism and Christians in India
4. Went R : Globalization
5. Vyas V S (Ed) : Poverty Reduction in Developing Countries
6. Evans T : Politics of Human Rights
7. Jogdand & Michael : Global Social Movements
8. Jain and Hexamar : Nuclearization in South Asia
9. S K Ray : Refuges and Human Rights
10. Bimal Chakraborty : The United Nations and the Third World -Shifting Paradigms

11. Kathleen C Bailey(Ed): Weapons of Mass Destruction

12. Partha S Ghosh : Co-operation and Conflict in South Asia
13. A C Roy : International Affairs since 1919
14. A K Sen : International Relations since 1919
15. Prakash Chandra, Prem Arora : Comparative Politics and International Relations.
16. Agwani M S - Contemporary West Asia
17. Agwani M S - Politics in the Gulf
18. Cleveland W L A- A History of Modern Middle East
19. Cubban H - Palestine Liberation organization
20. Esposito John L - Voices of Resurgent Islam
21. Lewis Bernard - The Middle East the West

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SIXTH SEMESTER, PAPER –VI (B)

HISTORY OF WEST ASIA SINCE 1900 A.D.

UNIT – I: Introduction – Social and Intellectual Awakening in Modern

West Asia -First World War-Peace Settlements. Turkey-Young Turk Movement - Mustafa Kemal Pasha- Modernization of Turkey-The Kurdish Minority

UNIT – II: - Iraq – Rise of Nationalism – Anglo – Iraq Treaty1930 – Saddam Hussain in Iraq . Iran - Iraq War - Kuwait War -American Intervention -Fall of Saddam Hussain. Iran -Rezashah Pahlvi - Economic Reforms -The Oil Crisis - Pan -Islamism.

UNIT – III: - Arab Nationalism – First World War and Arab Nations –Mandate System – Saudi Arabia and the Arab League **-** Nationalization of Oil Companies in Soudi Arabia

UNIT – IV: Zionist Movement –Balfour Declaration (1917) –Jews and the Second World War –Birth of Israel –Arab-Israeli Conflict - The PLO - Israel Agreement of 1995- Palestinian Authority (PA)

MAPS;

1. Turkey after 1919.
2. Mandates in West Asia after First World War.
3. Areas of Dispute between Palestine and Israel.

PLACES OF HISTORICAL IMPORTANCE:

1) Ankara 2) Damascus 3) Mosul 4) Constantinople 5) Beirut 6) Jeddah 7)Mecca 8)Madina 9)Tel Aviv 10)Tehran 11)Palestine 12)Smyrna 13)Baghdad 14) Jerusalem 15)Tikrit 16)Amman 17)Yemen 18)Riyadh

Books for Study :

1. Agwani M S - Contemporary West Asia
2. Agwani M S - Politics in the Gulf
3. Ahman Talmiz,- Reform in the Arab World
4. Antonio George - The Arab Awakening
5. Binder Leonard - The Ideological Revolution in the Middle East
6. Cubban H - Paleastine Liberation organization
7. Fischer S N - A History of Middle East
8. Hawrani Albert - A History of the Arab People
9. Lowis Bernard - The Middle East the West
10. Peretz Don - The Middle East Today
11. Said Edward - The Question of Palestine
12. Sharabi Hisham - Nationalism and Revolution in the Arab World

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DEPARTMENT OF HISTORY

Dr. M. Jamuna
Professor & Chairperson Dated: 20-06-2014

To
Registrar
Bangalore University
Bangalore

Sir

Sub: Revised Syllabus (UG)-BA History -2014

Please find herewith enclosed of the Proceedings of meeting of BOS (UG) along with 150 copies of the Revised Syllabus for BA/BA (Hons) Credit Based Semester Scheme. Enclosed also is a soft copy of the syllabus.

This is for your kind information.

Thanking you,

Yours faithfully

(M. Jamuna)

BANGALORE UNIVERSITY

JnanaBharathi, Bangalore-56

JOURNALISM (UG) CHOISED BASED CREDIT SYSTEM (CBCS) SYLLABUS of B.A. (Hons.)

2014-2015

JOURNALISM (UG) CHOISED BASED CREDIT SYSTEM (CBCS) SYLLABUS

I SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:1.1	Introduction to Communication And Media	04	3hrs	50	100	150	03

II SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:2.1	Print Media	04	3hrs	50	100	150	03

III SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:3.1	Audio Visual Media	04	3hrs	50	100	150	03

CS: Core Subject **SC:** Soft Core **OE:** Optional Electives

IV SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:4.1	Media Laws	04	3hrs	50	100	150	03

V SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:5.1	Reporting	04	3hrs	50	100	150	03
CS:5.2	Editing	04	3hrs	50	100	150	03

VI SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:6.1	Media Management	04	3hrs	50	100	150	03
CS:6.2	Advertising & Public Relation	04	3hrs	50	100	150	03

CS: Core Subject **SC:** Soft Core **OE:** Optional Electives

VII SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:7.1	Media Issues And Themes	04	3hrs	30	70	100	04
CS:7.2	News Writing And Reporting	04	3hrs	30	70	100	04
CS:7.3	News Processing And Editing	04	3hrs	30	70	100	04
CS:7.4	Business Journalism	04	3hrs	30	70	100	04
CS:7.5	Media Laws, Regulation &Ethics	04	3hrs	30	70	100	04
SC:7.1	Introduction To Communication	04	3hrs	30	70	100	04
Practical	Report Writing	04	3hrs	30	70	100	04

VIII SEMESTER

Theory: 4 Hours/week **Total Hours/ semester: 80**

Sem/ Code	Paper Title	Week/ hour	Duration of Examination	IA Marks	Exam Marks	Total	Credits
CS:8.1	Communication Theories	04	3hrs	30	70	100	04
CS:8.2	Development Communication	04	3hrs	30	70	100	04
CS:8.3	Environmental Communication	04	3hrs	30	70	100	04
CS:8.4	Communication Research Methods	04	3hrs	30	70	100	04
CS:8.5	Radio Broadcasting	04	3hrs	30	70	100	04
CS:8.6	Lab Journal Production/ TV Production	Compulsory Component of the M S Communication Course					

CS: Core Subject **SC:** Soft Core **OE:** Optional Electives

JOURNALISM (UG) CHOISED BASED CREDIT SYSTEM (CBCS) SYLLABUS
Semester: 1 Paper: 1 (1.1)
INTRODUCTION TO COMMUNICATION AND MEDIA

Theory: 5 Hours/week **Total Hours/ semester: 80**

Unit- 1.16 hrs.

Communication: Meaning – Definition – Nature – Scope – Process of communication – Functions of Communication

Unit- 2.16 hrs.

Kinds of Communication: Oral & Written, Verbal and Non – Verbal. Levels of Communication: Intrapersonal – Interpersonal - Group – Mass Communication. Differences between levels of Communication

Unit- 3.16 hrs.

Basic Models of Communication: Aristotle's Model - Herald D Lass well's Model - DavidBerlo's Model – Shannon & Weaver's Model – Osgood's Model - Differences between Linear and Non – Linear Models. Glossary of Communication.

Unit- 4. **16 hrs.**

Media Mass communication: Characteristics of Print Media –Electronic Media – Traditional and Folk Media – New Media

Unit- 5. **16 hrs.**

Media for Communication: Print Media – Electronic Media: Radio & TV, Oral Media – Traditional and Folk Media.

BOOKS FOR REFFERENCE

1. **David Berlo: The Process of Communication** *– Holt, Rinehart & Winston, Newyork,1960*
2. **Wilbur Schramm: Mass Communication –** *University of Illinois press:urbana,IL,1960*
3. **Denis McQuail: McQuali's Mass Communication Theory** *(6th Edition),*SAGE publication Ltd., 2010
4. **Keval. J. Kumar: Mass Communication in India-** *(4th Revised Edition), Jaico Publishing house, Mumbai,2014*
5. **Uma Narula: Mass Communication: theory & Practice-** *Haranand Publications Pvt. Ltd, New Delhi,2008*
6. **Chandrakant P Singh: Dictionary of Media & Journalism –** *IK International Pvt Ltd., Delhi,2004*
7. **SubhirGhose:Mass Communication : An Indian Prespective:** *Shishu Sahitya Samasad,2009*
8. **¤gÀAd£À ªÁ£À½î : J®èjUÀÆ ¨ÉÃPÀÄ ¸ÀAªÀºÀ£À PË±À®å,** *«¸ÀäAiÀÄ ¥ÀæPÁ±À£À*, ªÉÄÊ¸ÀÆgÀÄ, 2012
9. **J.J¸ï.¨Á®¸ÀÄ§æºÀätå: ¸ÀªÀÄÆºÀ ªÀiÁzsÀåªÀÄ ¥ÀzÀ «ªÀgÀuÁ PÉÆÃ±À,** *PÀ£ÀßqÀC©üªÀÈ¢Þ ¥Á¢üPÁgÀ, ¨ÉAUÀ¼ÀÆgÀÄ*
10. **n.¹.¥ÀÆtÂðªÀiÁ:CzsÀÄ¤PÀ ¸ÀAªÀºÀ£À ªÀiÁzsÀåªÀÄUÀ¼ÀÄ ªÀÄvÀÄÛPÀ£ÀßqÀzÀC©üªÀÈ¢Þ:** *¥Àæ¸ÀgÁAUÀ, PÀ£ÀßqÀ «±Àé«zÁå®AiÀÄ,ºÀA¦,2003*
11. **ªÀiÁzsÀåªÀÄ ¥ÀzÀ PÉÆÃ±À,** *PÀ£ÁðlPÀ ªÀiÁzsÀåªÀÄDPÁqÉ«Ä, ¨ÉAUÀ¼ÀÆgÀÄ*

JOURNALISM (UG) SYLLABUS
Semester: 2 Paper: 2 (2.2)
PRINT MEDIA

Theory: 5 Hours/week **Total Hours/ semester: 80**

16 hrs.

Unit- 1

Introduction to Printing: Origin of Printing – Types of Printing – Typography

16 hrs.

Unit- 2

Definition of journalism: Nature & Scope - Functions of Journalism – Kinds of journalism

16 hrs.

Unit- 3

Brief History of Indian Journalism – With special reference to J.A.Hickey – Raja Ram Mohan Roy – James silk Buckingham – Annie Besant – S.Sadananda – B.G.Hornieman

16 hrs.

Unit- 4

Kannada journalism: Origin and Growth of Kannada Journalism in Karnataka – Major Newspapers in Karnataka – Recent Trends

16 hrs.

Unit- 5

Review of Newspapers and periodical contents – Photo Journalism – News agencies

BOOKS FOR REFFERENCE

1. **Rivers W.L. : Mass Media**
2. **Fraser Bond: Introduction to Journalism**
3. **Mehta.D.S.: Mass Communication & Journalism in India**
4. **Nadig Krishna Murthy: Indian journalism**
5. **Parthasarathy. R.: Journalism in India**
6. **Chalapathy Rau. M: The Press**
7. **Ahuja B.N.: The theory & Practice of Journalism**
8. **Gundappa.D.V.: VruttaPatrikegalu**

JOURNALISM (UG) SYLLABUS
Semester: 3 Paper: 3 (3.3)
AUDIO VISUAL MEDIA

Theory: 5 Hours/week **Total Hours/ semester: 80**

16 hrs.

Unit- 1

Brief History of Radio: Evolution of Radio in India – Present status of Radio in India – Growth of FM Radio – Commercial Radio Broadcasting in India

16 hrs.

Unit-2

Types of Radio programs – YuvaVahini – News – Farm News – Agricultural News – Special Audience programs – Principles of writing for Radio

16 hrs.

Unit- 3

A Brief History of Television – Development of television in India – Private channels in India – DTH – SITE

16 hrs.

Unit- 4

Types of Television programs – Production Techniques –Recent trends in Television Broadcasting in India

16 hrs.

Unit- 5

History & Development of Cinema - A brief history of Indian cinema – New Trends in Indian Cinema – Status of Kannada C – Film censorship in India

BOOKS FOR REFFERENCE

1. MehraMasani: *Broadcasting and the people*
2. Srinivasa K.M.: *Radio and TV Joyrnalism*
3. Bliss and Patterson: *Writing News for Broadcast*
4. Kaushik S: *Introduction to TV Journalism*
5. Gerald Millerson: *Techniques of Film Production*
6. Mullick K.R.: Tangled tapes
7. Barnou& Krishna Swamy: *Indian Film*
8. Garga B.D.: *So Many Cinemas: The Motion Picture in India*

JOURNALISM (UG) SYLLABUS
Semester: 4 Paper: 4 (4.4)
MEDIA LAWS

Theory: 5 Hours/week **Total Hours/ semester: 80**

Unit- 116 hrs

Concept of Freedom of Press: Press as a Fourth Estate: Press during Emergencey-1975: Role of Press in democracy

16 hrs.

Unit- 2

Freedom of Speech and expression: Article 19(1) (a) and Article 19(2) – Case studies

16 hrs.

Unit- 3

Media Laws – Defamation and Slander – Libel – Sedition- Obscenity – censorship – Contempt of Court – Cyber Law

16 hrs.

Unit- 4

Media Laws: Official Secret Act – Working Journalists Act of 1955 – Parliamentary Proceedings and Privileges – The Press and Registration of Book Act – Copy right Act – RTI – PrasaraBharathi Act

16 hrs.

Unit- 5

Press Council of India – Press commission of India

BOOKS FOR REFFERENCE

1. DurgadasBasu: *Laws of the Press in India*
2. Rayudu C.S.: *Communication Laws*
3. Umrigar D.M.: *Journalist and the Law*
4. Pil : The Law and the Press
5. DurgadasBasu: Indian Constitution
6. SomeswaraRao: Journalism: Ethics, codes and the Law
7. Radhakrishnamurthy B: Indian Press Laws
8. Reports: 1. First Press Commission
   2. Second Press Commission
   3. Press Council Act

JOURNALISM (UG) SYLLABUS
Semester: 5 Paper: 5 (5.5)
Reporting

Theory: 5 Hours/week **Total Hours/ semester: 80**

Unit- 116 hrs

News: Definitions – News values – Sources of News – Principles of News writing

16 hrs.

Unit- 2

News structure – types – Leads: types of Leads – types of News stories

16 hrs.

Unit- 3

Qualifications of Reporter – Beat Reporter – Correspondents _ foreign Correspondence – Stringers – Free lance journalist – Mofussial

16 hrs.

Unit- 4

Interviews _ Meaning – types and techniques of Interviews – Methods of writing Interview stories

16 hrs.

Unit- 5

Reporting – Parliament – Crime – Sports – Press Conferences – Speech

BOOKS FOR REFFERENCE

1. Kamath M.V.: Handbook of journalism
2. Srivastava. K.M.: News writing and reporting
3. McDougal C.D.: Interpretative Reporting
4. Sheean P.V.: Reportorial Writing
5. Sherwood H.C. : Journalistic Writing
6. Kamath.M.V.: Professional Journalism
7. Carl Warren: Modren News Reporting
8. RamachandraIyer: Quest for News

JOURNALISM (UG) SYLLABUS
Semester: 6 Paper: 6 (6.6)
Editing

Theory: 5 Hours/week **Total Hours/ semester: 80**

Unit- 116 hrs

Functions of Newsrooms – Reporting Sections- Editorial Dept. – Different Designations in Reporting and Editorial Depts.

16 hrs.

Unit- 2

Editing: Meaning – Purpose – Principles of Editing – Rewriting: Purpose – Principles – translation: meaning – purpose – Principles

16 hrs.

Unit- 3

Qualifications and responsibilities of Editor – news editor – Chief sub editor – Sub Editor

16 hrs.

Unit- 4

Headlines: Meaning – kinds – Functions – Headline writing

Unit-5.16 hrs.

Newspaper Design and Layout – Front and Inside Pages- Computer Page Makeup; Principle & Techniques of Page Makeup. Picture Editing and Caption Writing;

BOOKS FOR REFFERENCE

1. B.N. Ahuja and S.S. Chabra: editing, Surjeet Publications, Delhi,2009
2. Bruce Westley: News Editing(3rd edition) IBH Publications, New delhi,1980
3. Baskette, Sissors& Brooks: The Art of Editing(5th edition) McMillan Publications co.,Newyork,1992
4. Harold Evans: Newspaper Design, Holt,Rinehart& Winston,1976
5. Wolesley& Campbell: newsmen at Work, Houghton and Mifflin, 1949
6. TJS George: Editing-A handbook for the Journalist,IIMC, New Delhi,1989
7. Spencer L.M. Editorial Writing
8. Robert C Mcgiffert: The Art of Editing News Chilton Book Co.,1972
9. ¥ÀæzsÁ£ÀUÀÄgÀÄzÀvÀÛ: ¨sÁµÁAvÀgÀ PÀ¯É, ¸Àé¥Àß §ÄPï ºË¸ï, ¨ÉAUÀ¼ÀÆgÀÄ, 2007
10. f.J£ï.gÀAUÀ£ÁxïgÁªï: ¥ÀwæPÉÆÃzÀåªÀÄ, PÁªÀÄzsÀðK£ÀÄ ¥ÀæPÁ±À£À, ¨ÉAUÀ¼ÀÆgÀÄ, 2006
11. «±ÉéÃ±ÀégÀ ¨sÀmïÖ; vÀ¯É §gÀºÀÀ: ¥ÀwæPÉ ºÀuÉ§gÀºÀ:CAQvÀ ¥ÀÄ¸ÀÛPÀ, ¨ÉAUÀ¼ÀÆgÀÄ.2009

12. PÀ£ÁðlPÀ ªÀiÁzsÀåªÀÄCPÁqÉ«Ä: ¥ÀwæPÉÆÃzÀåªÀÄ ¥ÀÄ¸ÀÛPÀ ªÀiÁ¯ÉAiÀÄ PÀÈwUÀ¼ÀÄ

JOURNALISM (UG) SYLLABUS
Semester: 6 Paper: 7 (6.7)
MEDIA MANAGEMENT

Theory: 5 Hours/week **Total Hours/ semester: 80**

Unit- 116 hrs

Starting Of A Newspaper: StructureOf A News Paper Organization And Its Operations. Principles Of Newspaper Business: Planning .Staffing, Organization, Directing, Types Of Newspaper Organization.

Unit- 216 hrs

News Papers Ownership: Types of Newspaper Ownership In India. Role Of Circulation And Promotion. Public Relations for Newspaper Organization.

Unit- 316 hrs

Problems And Prospects Of Newspaper Industry In India, Small Newspapers And Their Problems, Global Competition On India Media.

Unit-416 hrs

Starting Of aTV Channel And Radio Station. Organizational Structure of Radio and TV Studios.

Unit-516 hrs

Compulsory: Study Tour

BOOKS FOR REFFERENCE

1. AchalMehra: Newspaper Management in the new multimedia age, Asian mass communication research and information centre(AMIC), Singapore, 1988
2. Rucker & Williams: newspaper organization and management, 5thedition, lowa state pr; 1955
3. Trilok N. Sindhwani: newspaper economics and management, Ankur publishing house,1979
4. Rayudu C.S: Media and communication management, Himalaya publishing House,2011
5. Mocavatt&pringle: Electronic Media Management, stoneham, MA:Focal Press, 1986
6. ArunBhattacharjee. Indian press- profession to industry, vikas publications, 1972
7. Barngart T.F: Weekly Newspapers Management, Appleton-century-crofts, 1952
8. ©.PÉ.gÀ« ªÀÄvÀÄÛ ¸ÀvÀå¥ÀæPÁ±ïJA.Dgï., ªÀiÁzsÀåªÀÄ–GzÀåªÀÄ, PÀ£ÀßqÀ ¥ÀÄ¸ÀÛPÀ ¥Áæ¢üPÁgÀ, ¨ÉAUÀ¼ÀÆgÀÄ,2008

JOURNALISM (UG) SYLLABUS
Semester: 8 Paper: 8(8.8)
ADVERTISING AND PUBLIC RELATION

Theory: 4 Hours/week **Total Hours/ semester: 80**

Unit- 116 hrs

Nature, Scope And Meaning Of Advertising, Evolutions Of Advertising; Role Of Advertising In Modern Society; Socio And Economic Impact Of Advertising; Advertising Agencies, Types Of Advertising Agencies; Planning Advertising Campaigns. Advertisements and Ethics. ASCI.

Unit- 216 hrs

Advertising Agencies, Functions Of Advertising Agencies. Writing Advertisement Copy: Writing Advertisement Copy for Print Media, Radio And Television; Visualization, Layout, Illustration, Color; Elements Of Advertisement Copy; Headline, Sub-Headline, Text, Slogan, Logo, Trade Mark. Writing For Different Media.

Unit- 316 hrs

Brand positioning – creative strategies – creating ads for FMCG products – Brand promotions and sales promotions.

Unit- 416 hrs

Nature and scope of public relation. Qualification and responsibilities of a public relations officer. Differences between publicity, public opinion, propaganda and public relations.

Unit-5 **16 hrs**

PR Tools: house journals, press conferences, press releases, exhibitions, advertising, media tour. Marketing communication: Role of advertising in the marketing communication process; the importance of marketing to advertising

BOOKS FOR REFFERENCE

1. KevalJKumar: advertising in India
2. Sandage and others: Advertising – theory and practice
3. Sethia&Chunawala: Advertising – principles and practice
4. Otto kleppner: Advertising procedure
5. Cutlip& center: Effective Public Relations
6. Ravindran: Handbook of Public Relation
7. Ahuja& Chandra: Public Relations

8. Sam black: Practical Public Relations
9. K. R. Balan: Applied Public Relations &Communication, Sultan Chand & sons, new delhi,2008

JOURNALISM (UG) SYLLABUS
Semester: 9 Paper: 9 (9.9)
MEDIA ISSUES AND DEVELOPMENT

Theory: 5 Hours/week **Total Hours/ semester: 80**

UNIT-I**16 hrs**

Media and Society: Importance of the Media, the Raise Of Mass Media After1947, Print, Radio, TV, Cinema And Internet, Sociology Of The Media.

UNIT-II**16 hrs**

Mass Media and Democracy: Hebermasand the Public Sphere, Media As A Watch Dog, Government And Media Relationship, Adversaries Or Friends? Information Role.

UNIT-III**16 hrs**

Ideology Of The Media: Who Owns The Media? Definition, Characteristics Of Ideology, Ideology Of The Indian Mass Media. Influenceof Ideology On Content; Corporatization Of Media, Entry Of Multi-National Companies; Sociology Of News Production.

UNIT-IV**16 hrs**

Mass Media and The Public Interest: Consumers of the Mass Media What Is Public Interest? A Critical Study Of The Media And Its Role In Serving Public Interest And Marginalized Groups; Role Of The Media In Indian Social Movements, Media And Civil Society In India.

UNIT-V**16 hrs**

Mass Media A Changing Global Culture: What Is Globalization? The Global Media Industry, Commodification Of News; Infotainment; The Debate Over Cultural Imperialism; The Indian Media After 1990;Socio, Political, Economic And Technological Impact On Indian Media. Media Convergence and Fragmentation.

Books for Reference:

1. Law and the Media – An Everyday Guide for Professionals – Crone
2. Media and Ethics – S K Aggarwal
3. Mass Media Laws and Regulations in India – K S Venkataramaiah

4. Press and the Law – An Grover
5. Press in Chains – ZamirNaizi
6. Freedom of the Press – Some Recent Incidents – K S Venkataramaiah
7. Mass Media and Freedom of Press in India – K S Padhy
8. Battle for Freedom of Press in India – K S Padhy
9. Laws of Press in India – B Basu
10 The Press Council – T N Trekha

JOURNALISM (UG) SYLLABUS
Semester: 10 Paper: 10(10.10)
NEWS WRITING AND REPORTING

Theory: 5 Hours/week **Total Hours/ semester: 80**

UNIT-I:

News Perspectives: Principles Of News: Changing Value of News. News as Purposive Behavior; News asPropaganda. AreThe Five W's And 1 H Still Relevant? Writing For Changing Time- Brief, Crisp And To The Point; Does News Has Mere Informational Value Or Is It A Form Of Knowledge?

UNIT-II:

Routine Reporting: A Typology Of Events, Accidents, Scandals, Speeches And Covering Celebrities; Page 3 Reporting Sunshine Stories, Court And Legislative Reporting, Press Conferences, Planted Stories And Superficial Events. Crime and Sports Stories, Interviews.

UNIT-III:

Specialized Reporting: In-Depth Analysis Of Events And Individuals; Interpretation Of Political, Scientific, Economics, Sociological Events, Covering Various Movements; Investigative Reporting, Reporting War And Conflicts, Communal Riots And Ethical Issues (With Relevant Examples); Special Reporting; Agriculture, Drought, Floods And Other National Disasters; Covering Foreign Affairs.

UNIT-IV:

Sources of News: Traditional Sources, Media Sources, Cross Media Sources including – Radio, T.V., And Internet. News Is What Newspaper Man Make It- Gate Keeping And News Making Process; Validation Of News Sources.

UNIT-V:

News Reporting Professionalism: Some Constrains Defining Objectivity, Pressures- Political, Economic And Sociological And PR Professionals, And Spin Doctors, Intra Organizational Controls; Owner And Editor's Relationship; Professional Norms And Ethics. Present Status Of Indian News Reporting (With Recent Examples) As Case Studies.

Books for Reference

1. News Reporting – B. N. Ahuja and S. S. Chhabra
2. News Writing and Reporting – Mames M Neal and Suzanne S Brown

3. Investigative Reporting and Editing – P. N. Williams
4. Reporting for the Print Media – F. Fedler
5. Reporting – Mitchell V Charnley
6. Depth Reporting – Neal Copple
7. Interpretive Reporting – D. D. Mach Dougal
8. Writing for the Mass Media – James Glen Stevall
9. Journalism – G. K. Puri
10. Journalists Hand Book – M. V. Kanath
11. Professional Journalism =- M. V. Kamath
12. Reporting India 1973, 1974, 1976 – G. G. Mirchandani
13. Dateline Bhopal: A Newsman's Dairy of the Gas Disaster – A. Chishti
14. News Reporting and Editing – K. M. Srivastava
15. ¥ÀwæPÉÆÃzÀåªÀÄ, - f.J£ï. gÀAUÀ£ÁxÀgÁªï, PÁªÀÄzsÉÃ£ÀÄ ¥ÀæPÁ±À£À, ¨ÉAUÀ¼ÀÆgÀÄ.

BANGALORE UNIVERSITY

FACULTY OF ARTS

DEPARTMENT OF POLITICAL SCIENCE

REVISED SYLLABUS FOR THE BA/BA (HONS) CREDIT BASED SEMESTER SCHEME

WITH EFFECT FROM THE ACADEMIC YEAR 2014-2015

INTRODUCTION TO THE BA/BA (HONS) CREDIT BASED SEMESTER SCHEME

The B.A/BA (Hons) Political Science Course is a Credit Based Semester Scheme, spread over six semesters for BA and eight semesters for BA (Hons). The objective of the course is to provide a firm grounding in the subject, imbibe analytical skills and to develop a realistic and pragmatic perspective on the local, national, regional and international issues that figure in the syllabus.

The syllabus has been updated. Many new and innovative papers are being offered in keeping with the changing times and circumstances, as well as the larger societal needs. The titles and detailed contents of the papers are mentioned below. All the Papers in the syllabus are provided with an extensive Reading list.

The goals and objectives of the B.A/B.A (Hons) Political Science Course are as follows:

- To impart quality education to those seeking admission to the B.A/BA (Hons) Political Science course.

- To equip the students to prepare themselves for careers in teaching and research, the Union and State Civil Services, and the non-governmental sector.

- To increase awareness among students on local, national and international issues, and strengthen their analytical skills and capabilities.

- To train students to be good citizens

BA/BA (HONS) CREDIT BASED SEMESTER SCHEME SYLLABUS, POLITICAL SCIENCE w.e.f 2014-2015

Sl NO	SEMESTERS I SEMESTER	TITLE OF PAPER	Page no
1.	PAPER - 1	**Core Concepts of Political Science**	**1**
	II SEMESTER		
2.	PAPER - 2	**Understanding Political Theory**	**2**
	III SEMESTER		
3.	PAPER - 3	**Public Administration: Core Concepts**	**3**
	IV SEMESTER		
4.	PAPER - 4	**Western and Eastern Political Thought**	**4**
	V SEMESTER		
5.	PAPER 5.1	**Indian Constitution: Institutional Framework**	**5**
6.	PAPER 5.2	**International Politics**	**6**
	VI SEMESTER		
7.	PAPER 6.1	**Major Constitutional Systems**	**7**
8.	PAPER 6.2	**International Organisations and Foreign Policies**	**8**
VII SEMESTER BA(HONS) PROGRAM			
(Syllabus and Scheme of Examination will be the same as that of the First Semester Postgraduate Program in Political Science)			
VIII SEMESTER BA (HONS) PROGRAM			
(Syllabus and Scheme of examination will be the same as that of the Second Semester Postgraduate Program in Political Science)			

BA/BA (HONS) CREDIT BASED SEMESTER SCHEME SYLLABUS, POLITICAL SCIENCE w.e.f 2014-2015

(COMPULSORY PAPER FOR ALL U.G. COURSES)

SL. NO.	TITLE OF PAPER	Page no
1.	**Indian Constitution and Human Rights**	**10**

QUESTION PAPER PATTERN

BA/BA (HONS) CREDIT BASED SEMESTER SCHEME, w.e.f 2014-2015

Total Marks: 100 **Time: 3 hours**

NOTE: Read Instructions carefully. All parts are compulsory except for their Internal options.

PART – A

Instructions: Answer any three from the following in 60 words each. All questions carry equal marks**.** **3x5 = 15 marks**

1)
2)
3)
4)
5)

PART – B

Instructions: Answer any four from the following in 200 words each. All questions carry equal marks. 4**x10 = 40 marks**

1)
2)
3)
4)
5)
6)

PART – C

Instructions: Answer any three from the following in 400 words each. All questions carry equal marks. **3x15 = 45 marks**

1)
2)
3)
4)
5)

COURSE PATTERN, SCHEME OF EXAMINATION AND CREDITS
BA/BA (HONS) CREDIT BASED SEMESTER SCHEME, 2014

Subject	Papers	Instruction hrs/week	Duration of Exam (hrs)	Marks			Credits
				IA	Exam	Total	
I, II, III and IV SEMESTERS							
Paper 1	Core Concepts of Political Science	1x5	1x3	1x50	1x100	1x150	1x3
Paper 2	Understanding Political Theory	1x5	1x3	1x50	1x100	1x150	1x3
Paper 3	Public Administration: Core Concepts	1x5	1x3	1x50	1x100	1x150	1x3
Paper 4	Western and Eastern Political Thought	1x5	1x3	1x50	1x100	1x150	1x3
V SEMESTER							
Paper - 5.1	Indian Constitution: Institutional Framework	1x4	1x3	1x50	1x100	1x150	1x3
Paper - 5.2	International Politics	1x4	1x3	1x50	1x100	1x150	1x3
VI SEMESTER							
Paper - 6.1	International Organisations and Foreign Policies	1x4	1x3	1x50	1x100	1x150	1x3
Paper - 6.2	Major Constitutional Systems	1x4	1x3	1x50	1x100	1x150	1x3

BREAK UP OF INTERNAL ASSESSMENT MARKS

Tests	**25 marks**
Attendance	**10 marks**
Assignments	**15 marks**
TOTAL	**50 MARKS**

I SEMESTER

PAPER 1 : CORE CONCEPTS OF POLITICAL SCIENCE

1. **Political Science**: Nature, Scope and Importance; Approaches to the study of Political Science – Historical and Normative; Behaviouralism and Post-Behaviouralism.

2. **State:** Elements of State; Theories of State – Historical, Divine Right, Social Contract Theory; State in the age of Globalisation; State and Civil Society.

3. **Sovereignty**: Characteristics; Monistic and Pluralistic theories of Sovereignty; Changing Dimensions of Sovereignty in the age of Globalisation.

4. **Law:** Meaning and Sources; Schools of Law – Historical, Philosophical, Comparative, Social and Marxian; Law and Governance.

5. **Power, Authority and Legitimacy**: Nature, Kinds and Importance; The Contemporary Debate.

READINGS

1. A C Kapur - Principles of Political Science
2. J.C Johari - Political Theory
3. Harihardas and B.C. Choudhary - Political Theory
4. Amal Ray & Mohit Bhattacharya - Political Theory
5. M.J.Vinod and Meena Deshpande (2013) Contemporary Political Theory (PHI Learning: New Delhi)
5. S.K. Kabburi - Political Theory
6. Ashirvatham - Political Theory
7. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - gÁdå±Á¸ÀÛçzÀ ªÀÄÆ®¨sÀÆvÀ ¥ÀjPÀ®à£ÉUÀ¼ÀÄ, PÀ¯Á¥ÀæPÁ±À£À
8. ºÁ®¥Àà - gÁdå±Á¸ÀÛç , ZÉÃvÀ£À §ÄPï ºË¸ï
9. ªÀiÁ°ªÀÄÄzÀÝtÚ - gÁdå±Á¸ÀÛç, PÀ¯Á ¥ÀæPÁ±À£À
10. gÁªÀÄPÀÈµÀÚ - gÁdå±Á¸ÀÛç , ®°vÀ ¥ÀæPÁ±À£À
11. ¯ÉÆÃ»vÁ±Àé - gÁdå±Á¸ÀÛçzÀ ¥ÀjPÀ®à£ÉUÀ¼ÀÄ , «zÁå¤¢ü
12. PÀ§Æâj - gÁdå±Á¸ÀÛçzÀ ªÀÄÆ® ¥ÀjPÀ®à£ÉUÀ¼ÀÄ, «ÃuÁ ¥À©èPÉÃ±À£ïì

II SEMESTER

PAPER 2 : UNDERSTANDING POLITICAL THEORY

1. **Political Theory**: Nature and Scope; *Traditions of Political Theory* – Liberal, Marxist, Conservative; *Approaches to Political Theory* – Normative, Historical and Empirical

2. **Democracy:** Meaning and Kinds; Theories of Democracy – Classical, Pluralist, Marxist, Elitist; Challenges to Democracy in the Contemporary World.

3. **Rights and Duties** – Meaning and Kinds - Civil, Political, Social, Economic and Cultural; Human Rights with special reference to Rights of Children, Women, Minorities and Disadvantaged Sections; Duties towards the State.

4. **Justice and Equality –** *Justice*: Meaning, Kinds -Social, Economic, Political and Legal; Rawls and Nozick's concept of Justice; *Equality*: Meaning, Kinds and Importance.

5. **Imperialism and Neo-Colonialism**: Meaning and Types, Neo-Colonialism and its Features, Dependency Theory, Modernism and Post Modernism.

READINGS

1. A.C Kapur - Principles of Political Science
2. M.J.Vinod and Meena Deshpande (2013) Contemporary Political Theory (PHI Learning: New Delhi)
3. Rajeev Bhargava and Ashok Acharya (2008) Political Theory: An Introduction (New Delhi: Pearson)
4. S.L. Verma(2010) Advanced Political Theory: Analysis and Technologies (Jaipur: Rawat Publications)
5. John Hoffman and Paul Graham (2007) Introduction to political Theory (New Delhi: Pearson Education)
6. O.P. Gauba (2013) An Introduction to Political Theory (New Delhi: Macmillan)
7. Sushila Ramaswamy (2013) Political Theory: Issues and Concepts (New Delhi: Macmillan)
8. J.C.Johari - Political Theory
9. Amal Ray and Mohit Bhattacharya - Political Theory
10. S.K. Kabburi - The concepts of Political Science and Political Theories
11. B.K. Gokhale - Study of Political Theory
12. R.C. Agarwal - Political Theory & Practice
13. Ashirvatham E - Political Theory
14. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - ¥ÀæªÀÄÄR gÁdQÃAiÀÄ ¹zÁÝAvÀUÀ¼ÀÄ, PÀ¯Á¥ÀæPÁ±À£À
15. PÉ.eÉ.¸ÀÄgÉÃ±ï - ¥ÀæªÀÄÄR gÁdQÃAiÀÄ ¹zÁÝAvÀUÀ¼ÀÄ, ZÉÃvÀ£À §ÄPï ºË¸ï
16. qÁ.zÉÃªÉÃUËqÀ - ¥ÀæªÀÄÄR gÁdQÃAiÀÄ ¹zÁÝAvÀUÀ¼ÀÄ, ZÉÃvÀ£À §ÄPï ºË¸ï

III SEMESTER

PAPER 3 : PUBLIC ADMINISTRATION: CORE CONCEPTS

1. **Public Administration**: Meaning, Scope and Importance of Public Administration; Private and Public Administration - Differences; Organisation – Theories and Principles, Line, Staff, Auxiliary Agencies, Departments.
2. **Dynamics of Management**: Meaning and Functions of Management, Chief Executive – Powers and Functions; Leadership – Qualities, Communication, Planning and Public Relations.
3. **Personnel Administration**: Meaning and Importance; Recruitment, Training, Promotion, Morale, Discipline, Retirement.
4. **Financial Administration:** Budget – Nature and Principles, Budgetary process – Preparation, Enactment and Execution; Reforms in Financial Administration; Performance Budget, Zero based Budgeting.
5. **Trends in Public Administration**: Comparative Administration, Development Administration, Good Governance, E-Governance, Public-Private Partnership

READINGS

1. Avasthi and Maheshwari (2012) Public Administration
2. Siuli Sarkar (2010) Public Administration in India (New Delhi: PHI Learning)
3. Henry, N. (2012). Public Administration and Public Affairs. New Delhi: PHI Learning.
4. Fadia, B.L. and Fadia, K. (2011). Public Administration: Administrative Theories and Concepts.
5. Sapru, RK. (2011). Public Policy: Art and Craft of Policy Analysis. New Delhi: PHI Learning.
6. Basu, R. (2005). Public Administration: Concepts and Theories. New Delhi: Sterling.
7. Bhagwan, V. and Bhushan, V. (2005). Public Administration. New Delhi: S. Chand.
8. Bhattacharya, M. (2011). New Horizons of Public Administration. New Delhi: Jawahar
9. A.R. Tyagi - Public Administration
10. Sachdeva and Gupta - Public Administration
11. Rumki Basu - Principles of Public Administration
12. Mohit Bhattacharya - Development Administration.
14. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï- ¸ÁªÀðd¤PÀ DqÀ½vÀzÀ ªÀÄÆ®vÀvÀéUÀ¼ÀÄ, ±À§jªÀÄ¯ÉAiÀÄ£ï
15. ºÉZï . n. gÁªÀÄPÀÈµÀÚ - ¸ÁªÀðd¤PÀ DqÀ½vÀ, ®°vÀ ¥ÀæPÁ±À£À
16. ªÀiÁ°ªÀÄzÀÝtÚ - ¸ÁªÀðd¤PÀ DqÀ½vÀ, ¥ÀzÀä ¥ÀæPÁ±À£À
17. JZï.PÀÈµÀÚgÁªï - ¸ÁªÀðd¤PÀ DqÀ½vÀ, ªÉÄÊ¸ÀÆgÀÄ «.«
18. £ÀªÀ®UÀÄAzÀ - ¸ÁªÀðd¤PÀ DqÀ½vÀ, «zÁå¤¢ü ¥ÀæPÁ±À£À
19. ²Ã®ªÀAvÀgÀ - ¸ÁªÀðd¤PÀ DqÀ½vÀ, «zÁå¤¢ü ¥ÀæPÁ±À£À
20. PÉ.eÉ.¸ÀÄgÉÃ±ï - ¸ÁªÀðd¤PÀ DqÀ½vÀ, ZÉÃvÀ£À §ÄPï ºË¸ï
21. ¢£ÉÃ±À - C©üªÀÈ¢Ý DqÀ½vÀ, ZÉÃvÀ£À §ÄPï ºË¸ï
22. PÀ§Æâj - ¸ÁªÀðd¤PÀ DqÀ½vÀ, «ÃuÁ ¥À©èPÉÃ±À£ïî

IV SEMESTER

PAPER 4 : WESTERN AND EASTERN POLITICAL THOUGHT

1. **Ancient Greek Political Thought**: Greek City States; Plato – Ideal State, Justice, Education, Communism and Philosopher King; Aristotle – State, Citizenship, Classification of Constitutions and Revolution.

2. **Medieval Political Thought** – Church and State in Medieval Europe; St. Augustine and St. Thomas Aquinas.

3. **Social Contractualists:** Thomas Hobbes, John Locke and J.J.Rousseau

4. **Socialists:** Karl Marx and Lenin

5. **Indian Political Thought**: Manusmrithi, Kautilya's Arthasastra, Shanti Parva of Mahabharata

READINGS

1. Sharma S.K and Urmila Sharma ((2013) Western Political Thought, Volumes1&2, (New Delhi: Atlantic Publishers)
2. Stephen Trombley (2012) Fifty Thinkers Who Shaped the Modern World (London: Atlantic Books)
3. Shefali Jha (2010) Western Political Thought: From Plato to Marx (New Delhi: Pearson)
4. Brian R. Nelson (2007) Western Political Thought: From Socrates to the Age of Ideology(New Delhi: Pearson Education)
5. R.P. Kangle (2010) Kautilya's Arthasastra (New Delhi: Motilalal Banarsidass Publishers)
6. C.L.Wayper (1979) Political Thought (Bombay: BI Publishers)
7. George Sabine - A History of Political Thought
8. D.R. Bhandari - History of European Political Philosophy
9. P.G. Das - History of Political Thought
11. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - ¥ÁæaÃ£À ¨sÁgÀvÀzÀ gÁdQÃAiÀÄ vÁwéPÀgÀÄ, ±À§jªÀÄ¯ÉAiÀÄ£ï
12. qÁ. JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - DzsÀÄ¤ÃPÀ gÁdQÃAiÀÄ aAvÀPÀgÀÄ, ±À§jªÀÄ¯ÉAiÀÄ£ï
13. ªÀiÁ° ªÀÄÄzÀÝtÚ - gÁd¤ÃwdÕgÀÄ, PÀ¯Á ¥ÀæPÁ±À£À
14. «.f.¸Á°ªÀÄoÀ - gÁdå±Á¸ÀÛç ªÉÊZÁjPÀgÀÄ, «zÁå¤¢ü
15. JZï.¹.¯ÉÆÃ»vÁ±Àé – gÁdQÃAiÀÄ aAvÀPÀgÀÄ, «zÁå¤¢ü
16. £ÀªÀ®UÀÄAzÀ - ¥Á²ÑªÀiÁvÀå ªÀÄvÀÄÛ ¨sÁgÀwÃAiÀÄ gÁd¤Ãw «ªÉÃZÀPÀgÀÄ, «zÁå¤¢ü
17. PÀ®äoÀ ªÀÄvÀÄÛ ²Ã®ªÀAvÀgÀ - ¨sÁgÀwÃAiÀÄ gÁd¤Ãw «ªÉÃZÀPÀgÀÄ, «zÁå¤¢ü
18. n.r.zÉÃªÉÃUËqÀ - ¥Á²ÑªÀiÁvÀå gÁdQÃAiÀÄ aAvÀ£É, ZÉÃvÀ£À§ÄPï ºË¸ï
19. PÉ.eÉ.¸ÀÄgÉÃ±ï - ¥Á²ÑªÀiÁvÀå gÁdQÃAiÀÄ aAvÀPÀgÀÄ , ZÉÃvÀ£À§ÄPï ºË¸ï

V SEMESTER

PAPER 5.1: INDIAN CONSTITUTION – INSTITUTIONAL FRAMEWORK

1. **Framing of the Constitution and Major Features**: Constituent Assembly at Work, Preamble and Salient Features, Citizenship, Fundamental Rights, Directive Principles of State Policy, Fundamental Duties.

2. **Union and State Legislatures:** Composition, Powers and Functions; Presiding Officers, Law Making Process, Committees of Parliament, Decline of Legislatures, Reforms.

3. **Union and State Executive:** President and Vice-President – Elections, Powers and Functions; Prime Minister and Council of Ministers – Powers and Functions; Governor, Chief Minister and Council of Ministers – Powers and Functions; Debate over Parliamentary and Presidential forms of Government.

4. **Judiciary:** Supreme Court and High Courts – Composition, Jurisdiction and Functions; Judicial Activism.

READINGS

1. Granville Austin (2013***)*** *Working of a Democratic constitution: a History of the Indian Experience* (New Delhi: Oxford University Press)
2. Niraja Gopal Jayal and Pratap Bhanu Mehta (2012) *the Oxford Companion to Politics in India* (New Delhi: Oxford University Press)
3. Subhash Kashyap (2011) *Our Parliament* (New Delhi: National Book Trust)
4. Shibani Kinkar Chaube (2010) *The Making and Working of the Indian Constitution* (New Delhi: NBT)
5. M.V.Pylee (1984) *India's Constitution*
6. Rajni Kothari (2013) *Politics in India*
7. Granville Austin (1990) *Indian Constitution: Cornerstone of a Nation* (Bombay: Oxford University Press)
8. D.D.Basu, *Introduction to the Constitution of India*
9. J.A. Siwach, *Dynamics of Indian Government & Politics*
10. D.C. Gupta, *Indian Government and politics*
11. J.C. Johari, *Indian Government and Politics*
12. Hans J. Raj *Indian Government and Politics*
13. S.K. Kabburi *Indian Constitution – Institutions & Processes*.
14. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï- ¨sÁgÀvÀzÀ ¸ÀA«zsÁ£À, PÀ¯Á ¥ÀæPÁ±À£À
15. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - ªÀiÁ»w ºÀPÀÄÌ, ±À§jªÀÄ¯ÉAiÀÄ£ï
16. ªÀÄAUÀ¼À ªÀÄÆwð- ¨sÁgÀvÀ ¸ÀA«zsÁ£À, ªÀiÁ£ÀªÀ ºÀPÀÄÌUÀ¼ÀÄ ªÀÄvÀÄÛ ¥Àj¸ÀgÀ, ZÉÃvÀ£À§ÄPï ºË¸ï
17. ºÉZï.n. gÁªÀÄPÀÈµÀÚ - ¨sÁgÀvÀ ¸ÀA«zsÁ£À, ®°vÀ ¥ÀæPÁ±À£À
18. ²Ã®ªÀAvÀgÀ - ¨sÁgÀvÀzÀ ¸ÀA«zsÁ£À ¸ÀPÁðgÀ ªÀÄvÀÄ ÛgÁdQÃAiÀÄ , «zÁå¤¢ü
19. gÁd±ÉÃRgÀ - ¨sÁgÀvÀ ¸ÀPÁðgÀ ªÀÄvÀÄÛ gÁdQÃAiÀÄ, QgÀuï
20. n.r.zÉÃªÉÃUËqÀ - ¨sÁgÀvÀ ¸ÀPÁðgÀ ªÀÄvÀÄÛ gÁdQÃAiÀÄ, ZÉÃvÀ£À§ÄPï ºË¸ï
21. JA.«.Dgï.gÁªï- CAvÀgÀgÁ¶ÖçÃAiÀÄ PÁ£ÀÆ£ÀÄ , PÀ£ÀßqÀ CzsÀåAiÀÄ£À ¸ÀA¸ÉÜ, ªÉÄÊ¸ÀÆgÀÄ, «.«
22. PÀ§Æâj - ¨sÁgÀvÀ ¸ÀA«zsÁ£À, «ÃuÁ ¥À©èPÉÃ±À£ïì

V semester

PAPER 5.2: INTERNATIONAL POLITICS

1. **International Politics**: Nature, Scope and Importance; Theories - Idealist, Realist theories, World Systems theory and Game theory.

2. **National Power, National Interest and Foreign Policy**: Elements of National Power and National Interest; Formulation and Implementation of Foreign Policy; Role of Diplomacy and Economic Instruments.

3. **International Law and Human Rights**: Nature, Sources and Sanctions; Universal Declaration of Human Rights; Role of Non-Governmental Organisations in the promotion of Human Rights.

4. **Approaches to International Peace**: Balance of Power; Collective Security; Pacific Settlement of International Disputes; Disarmament and Arms Control – Problems and Issues.

READINGS

1. Hans Morgenthau, ***Politics Among Nations***
2. Rumki Basu (2012) ***International Politics: Concepts, Theories and Issues*** (New Delhi: Sage)
3. Pew Ghosh (2009) ***International Relations*** (New Delhi: PHI Learning)
4. Joshua Goldstein. S (2004) ***International Relations*** (Delhi: Pearson Education)
5. Noam Chomsky (2003) ***Understanding Power: The Indispensable Chomsky*** – edited by peter R. Mitchell & John Schoeffel (New Delhi: Penguin Books)
6. Jozef Goldblat (2002) ***Arms Control: The New Guide to Negotiations and Agreements*** (London: Sage Publications)
7. Karen Mingst (1999) ***Essentials of International Relations*** (New York: W.W.Norton & Co)
8. Bruce Russett and Harvey Starr (1986) ***World Politics: The Menu For Choice***
9. qÁ.¦.J¸ï.dAiÀÄgÁªÀÄÄ - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ , PÀté¥ÀæPÁ±À£À
10. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï- CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼À ¥ÀjPÀ®à£ÉUÀ¼ÀÄ , ±À§jªÀÄ¯ÉAiÀÄ£ï
11. JZï.¹. ¯ÉÆÃ»vÁ±Àé - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ ªÀÄvÀÄÛ ¸ÀAWÀl£ÉUÀ¼ÀÄ , «zÁå¤ü ¥ÀæPÁ±À£À
12. PÉ.eÉ.¸ÀÄgÉÃ±À - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ, ZÉÃvÀ£À §ÄPï ºË¸ï
13. ªÀiÁ° ªÀÄÄzÀÝt Ú- CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ , PÀ¯Á ¥ÀæPÁ±À£À
14. ºÁ®¥Àà - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ , «zÁå¤ü ¥ÀæPÁ±À£À

VI SEMESTER

PAPER 6.1 : MAJOR CONSTITUTIONAL SYSTEMS

1. **Political System of the United Kingdom**: Features; House of Lords and House of Commons - Composition, Powers and Functions; Prime Minister and Council of Ministers - Powers and Functions; The Monarchy and its role; Judicial System – Composition Powers and Jurisdiction; Party system.

2. **United States Political System** Features of the Constitution**;** House of Representatives and Senate - Composition, Powers and Functions, President - Powers and Functions; Supreme Court -Composition, Jurisdiction and working; Judicial Review; Party system.

3. **Russian Political System***:* Features of the Constitution; Federation Council and State Duma - Composition, Powers and Functions; President and Prime Minister **-** Powers and Functions*;* Supreme Court**-** Composition, Jurisdiction and Functions; Party System;

4. **Political System of Switzerland**: Features of the Constitution; National Council and Council of States - Composition, Powers and Functions; Executive - Types, Powers and Functions; Federal Supreme Court - Composition, Powers and Jurisdiction; Direct Democratic Checks; Party System.

READINGS

1. Neil Schlagler and Jayne Weisblatt (2013) World Encyclopedia of Political Systems and Parties (Viva Books: New Delhi)
2. Daniele Caramani (2012), Comparative Politics (Oxford University press, New Delhi)
3. A.C.Kapur, Select Constitutions
4. V.K.Khanna, Comparative Study of Government and Politics
5. J.C.Johari, Major Modern Political systems
6. K.K.Ghai, Select Political Systems
7. K.K.Ghai, Modern Governments
8. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - DzsÀÄ¤ÃPÀ ¸ÀPÁðgÀUÀ¼ÀÄ, PÀ¯Á ¥ÀæPÁ±À£À
9. n.r.zÉÃªÉÃUËqÀ - DzsÀÄ¤ÃPÀ ¸ÀPÁðgÀUÀ¼ÀÄ, ZÉÃvÀ£À§ÄPï ºË¸ï
10. PÉ.eÉ ¸ÀÄgÉÃ±ï - DzsÀÄ¤ÃPÀ ¸ÀPÁðgÀUÀ¼ÀÄ, ZÉÃvÀ£À§ÄPï ºË¸ï
11. ºÉZï.n.gÁªÀÄPÀÈµÀÚ - DzsÀÄ¤ÃPÀ ¸ÀPÁðgÀUÀ¼ÀÄ, ®°vÀ §ÄPï ºË¸ï
12. ¯ÉÆÃ»vÁ±Àé - DzsÀÄ¤ÃPÀ ¸ÀPÁðgÀUÀ¼ÀÄ, «zÁå¤¢ü ¥ÀæPÁ±À£À
13. ªÀÄÆ®: PÉ.¹.«ÃAiÀÄgï C£ÀÄªÁzÀ: ªÀÄºÉÃ±ÀégÀ¥Àà - DzsÀÄ¤ÃPÀ ¸ÀA«zsÁ£ÀUÀ¼ÀÄ, ªÉÄÊ¸ÀÆgÀÄ , «.«

PAPER 6.2: INTERNATIONAL INSTITUTIONS AND FOREIGN POLICIES

1. **International Organisations**: Evolution and Growth of International Organisations; *United Nations* – Background, Purposes, Achievements, Shortcomings, UN and Environmental and Developmental Issues, Reforms and Restructuring of the United Nations; Millennium Development Goals.

2. **Major Issues:** New International Economic Order, North-South and South-South Dialogues; Major Issues pertaining to the Working of W.T.O, European Union, ASEAN and SAARC.

3. **Foreign Policies of Major Powers**: United States, Russia and China.

4. **Foreign Policy of India**: Evolution and Principles; India and South Asia, South East and West Asia; India and the United Nations; India and the Non- Aligned Movement.

READINGS

1.Bimal Prasad (2013) *The Making of India's Foreign Policy: The Indian National Congress and World Affairs, 1885-1947*(New Delhi: Vitasta)
2.Shashi Tharoor (2012) *PaxIndica: India and the World in the 21st Century* (New Delhi: Penguin Books)
3. Mohanan B. Pillai and L.Premashekhara, eds., (2010) *Foreign Policy of India: Continuity and Change* (New Delhi: New Century Publications)
4. Rajiv Sikri (2009) *Challenges and Strategy: Rethinking India's Foreign Policy* (New Delhi: Sage)
5. Raja Mohan C (2003) *Crossing the Rubicon: The Shaping of India's New Foreign Policy* (New Delhi: Viking)
6. Fareed Zakaria (2008) *The Post-American World* (New Delhi: Penguin Books)
7. Vinay Kumar Malhotra *International Relations*
8. V.P. Dutt *Indian Foreign Policy*
10. qÁ.¦.J¸ï.dAiÀÄgÁªÀÄÄ - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ, PÀté ¥ÀæPÁ±À£À
11. qÁ.JA.¦. ¨sÀÄªÀ£ÉÃ±ÀégÀ ¥Àæ¸Ázï - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼À ¥ÀjPÀ®à£ÉUÀ¼ÀÄ , ±À§jªÀÄ¯ÉAiÀÄ£ï
12. ¹.¯ÉÆÃ»vÁ±Àé - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ ªÀÄvÀÄÛ ¸ÀAWÀl£ÉUÀ¼ÀÄ, «zÁå¤¢ü ¥ÀæPÁ±À£À
13. Dgï.«.ºÉÆgÀr - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ ªÀÄvÀÄÛ CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀAWÀl£ÉUÀ¼ÀÄ, «zÁå¤¢ü
14. PÉ.eÉ.¸ÀÄgÉÃ±À - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ , ZÉÃvÀ£À §ÄPï ºË¸ï
15. ªÀiÁ°ªÀÄÄzÀÝtÚ - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ , PÀ¯Á ¥ÀæPÁ±À£À
16. ºÁ®¥Àà - CAvÀgÀgÁ¶ÖçÃAiÀÄ ¸ÀA§AzsÀUÀ¼ÀÄ, «zÁå¤¢ü ¥ÀæPÁ±À£À

BA/BA (HONS) CREDIT BASED SEMESTER SCHEME w.e.f 2014-2015

INDIAN CONSTITUTION AND HUMAN RIGHTS

(Compulsory Paper for all U.G. Courses)

Chapter I: Indian Constitutional Philosophy

a) Features of the Constitution; Preamble
b) Fundamental Rights and Fundamental Duties
c) Directive Principles of State Policy

Chapter II Union and State Executive, Legislature and Judiciary

a) Union Parliament and State Legislature: Powers and Functions
b) President, Prime Minister and Council of Ministers
c) State Governor, Chief Minister and Council of Ministers
d) The Supreme Court and High Court: Powers and Functions

Chapter III: Concept and Development of Human Rights

a) Meaning Scope and Development of Human Rights
b) U.N. and Human Rights – UNHCR
c) UDHR 1948, ICCCPR 1996 and ICESCR 1966

Chapter IV: Human Rights in India

a) Protection of Human Rights Act, 1993 (NHRC and SHRC)
b) First, Second and Third Generation Human Rights
c) Judicial Activism and Human Rights

READINGS

1. Durga Das Basu, Introduction to the Constitution of India, Prentice – Hall of India Pvt. Ltd.. New Delhi
2. J.A. Siwach, Dynamics of Indian Government & Politics
3. D.C. Gupta, Indian Government and politics
4. J.C. Johari, Indian Government and Politics
5. Hans J. Raj Indian Government and Politics
6. M.V. Pylee, Indian Constitution
7. Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd.. New Delhi
8. Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012
9. S.K. Kapoor, Human Rights

BANGALORE UNIVERSITY

BA/BSC
SYLLABUS 2014

BANGALORE UNIVESITY
DEPARTMENT OF PSYCHOLOGY
Jnanabharathi Campus, Bangalore-560 056.

DEPARTMENT OF PSYCHOLOGY

The BOS meeting held on 16th June 2014 at the department of psychology approved the UG Syllabus. Following is the framework of the syllabus for the six semesters for BA/BSc with psychology as one of the optional subjects.

Semester	Paper Title	Number of units	Number of hours	Number of credits
I	Basic psychological processes I	5	50	2
I	Practicals I		3/week	1
II	Basic psychological processes II	5	50	2
II	Practicals II		3/week	1
III	Child Psychology I Or Developmental Psychology I	5	50	2
III	Practicals III		3/week	1
IV	Child Psychology II Or Developmental Psychology II	5	50	2
IV	Practicals IV		3/week	1
V *	Counseling Psychology I Or Health psychology I Or Social Psychology I Or Industrial & Organizational psychology I Or Educational Psychology I Or Abnormal Psychology I	4	40	2 X 2 = 4
Practical V & Practical VI			3 X 2/week	2
	Counseling Psychology II Or Health psychology II Or Social Psychology II Or Industrial & Organizational psychology II Or Educational Psychology I I Or Abnormal Psychology I I	4	40	2 X 2 = 4
Practical VII & Practical VIII			3 X 2/week	2

***V & VI sem any two papers out of the six electives are to be offered.**

3BASIC PSYCHOLOGICAL PROCESSES

I SEMESTER - BA/BSC.

UNIT - I- THE SCIENCE OF PSYCHOLOGY: 12 hours.

A) Definition and goals of Psychology.
b) Modern perspectives – Psychodynamic, Behavioral, Cognitive, Evolutionary, Sociocultural, Humanistic Movement and Positive Psychology, Indian Perspective.
c) Fields of Psychology.
c) Types of Psychological Research: Descriptive research (Observation, Survey and Interviews, Standardized Tests, Case studies).
Correlational Research (Positive and Negative)
Experimental Research (independent and Dependent variables, Experimental and Control groups, Double – Blind Experiments).

UNIT –II INTELLIGENCE: 12 hours.

A) Definition;**Measuring intelligence;** criteria of good intelligence tests, types of intelligence tests (Binet tests, Wechsler scales, Group Tests of Intelligence)
b) Theories of intelligence: Multiple intelligences, Gardner's Eight Intelligences, Sternberg's Triarchic Intelligence.
c) Influences on intelligence - Genetic and Environmental only
d) Extremes in intelligence - Mental Retardation, giftedness.
E) Emotional Intelligence.

UNIT-III LEARNING: 10 hours.

A) Definition, types of learning;
b) Biological factors in learning.
c) Classical Conditioning: (Pavlov's studies, acquisition, generalization and discrimination, extinction and spontaneous recovery) Applications of classical conditioning.
D) Operant conditioning: Thorndike's Law of Effect; Skinner's approach to operant Conditioning, shaping, principles of reinforcement (positive and negative reinforcement, Primary and secondary Reinforcement).
e)Observational learning.
F) Insight learning.

UNIT – IV- MEMORY: 10 hours.

a)Nature of memory (Encoding, storage and retrieval)
a.1) Memory encoding- Attention, levels of Processing, Elaboration, Imagery.
a.2) Memory storage – Sensory Memory, short –Term memory, Chunking and Rehearsal, working Memory, Long-Term Memory, Explicit Memory, Implicit Memory.
a.3) Memory Retrieval – Retrieval Cues and retrieval tasks.

b) Forgetting – Encoding Failure; Retrieval Failure; Memory and Study Strategies in encoding, storage and retrieval

UNIT – V MOTIVATION: 8 hours.

a)Nature;

b) Approaches – Instinct Approaches, Drive Reduction Approaches, Arousal Approaches, Incentive Approaches, Humanistic Approaches, Self-Determination Theory.

References – for both I and II Semester

1. John.W Santrock, Psychology Essentials 2, II Edition (Updated) 2006, Tata McGraw Hill Publication.

2.Saundra K Ciccarelli and Glenn E Meyer, Psychology, South Asian Edition, Dorling Kindersley (India) Pvt. Ltd., Licensees of Pearson Education in south Asia.

3. Feldman. R.S Understanding Psychology, IV Edition, 2006, Tata McGraw Hill Publication.

4. Robert A Baron, Psychology, III Edition, Prentice Hall Publications.

5. Sridhara.A. Manovygnanika Sidhantagala Kaipidi.(Kannada)

6.Srivasthava, Indian Psychology

7.Anand Paranjpay, Indian Psycholo

PRACTICALS

1st Semester

1. Observation & Suggestion
2. Habit Interference
3. Effect of Chunking on Recall
4. Bilateral Transfer
5. Effect of Cueing on Recall

Statistics

- Measures of Central Tendency Mean, Median & Mode for Ungrouped Data & Grouped Data with only Frequency(No class Intervals) Long Method.

Project-

Moti Quiz- Data Collection-25-30 years Working Professionals (Men & Women)

BASIC PSYCHOLOGICAL PROCESSES

II SEMESTER - BA/BSC.

UNIT – I –

BIOLOGY AND BEHAVIOR: **12 hours.**

a) An overview of the Nervous System; neurons and nerves (structure of the neuron, neural impulse, synapse, neurotransmitters)
b)Central Nervous System:
b.1) The Brain – structure of the brain; brain stem; structure of the cortex; association areas of the cortex (Broca's area and Wernicke's area)
b.2)The Spinal Cord – The Peripheral Nervous System – The Somatic Nervous System and the Autonomic Nervous System.
c) Techniques to study the brain.
d)Endocrine glands.

UNIT – II

SENSATION AND PERCEPTION: **10 hours.**

a)Sensation - Purposes of sensation and perception; sensory receptors and the brain; ABCs of sensation.
b) Vision – Colour Vision, After Image and Colour Blindness.
c) Perception – ABCs of perception; The Constancies (Size, Shape and Brightness).Gestalt Principles; Depth perception; Perceptual Illusions.

UNIT – III **10 hours**

THINKING:

Cognition; Concept formation (Importance); Problem solving (Steps in Problem Solving; obstacles in Problem Solving) Critical Thinking; Reasoning (Inductive and Deductive reasoning) Decision making; Creativity (Divergent and Convergent thinking).

UNIT – IV

EMOTIONS **8 hours**

a) The Three Elements of Emotion – The Physiology of Emotion; The Behavior of Emotion; The Subjective Experience of Emotion.

b)Theories of Emotion – James – Lange Theory of Emotion, Cannon – Bard Theory of Emotion, Schachter – Singer Theory of Emotion; Lazarus and the Cognitive – Mediational Theory. Positive psychology Movement.

UNIT – V-

PERSONALITY: 10 hours.

A)Definitions of Personality, including Allport's definition.
b)Approaches to the study of Personality– Freud's Psychoanalytic theory (Personality's structures, Defense Mechanisms, Personality development) Roger's Approach; Trait Theories – The Big Five Personality Factors; Bandura's Social Cognitive Theory (Self - Efficacy) Skinner's Behaviorism.
c) Measurement of Personality – Questionnaires, Rating Scales, Projective Tests.

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PRACTICALS II Semester

1. Signal Detection
2. Stroop Effect
3. Muller Lyer Illusion
4. Mapping of Retinal Color Zones
5. Maze Learning

Statistics Measures of Central Tendency-Mean, Median (short method) & Mode with Class Intervals and frequency.

Project : Analysis of data on Motiquiz - Gender Differences for sample collected by Individual.

CHILD PSYCHOLOGY -I

III SEMESTER- BA/BSC.

UNIT I **(6 hours)**

INTRODUCTION TO CHILD PSYCHOLOGY

A) The field of child psychology - Definition; careers in child development
B) Theories of child development– Cognitive theories, Behavioral and social cognitive theories; Ecological model – Bronfenbrenner, Ethological model/perspective.
C) Methods and Designs – Longitudinal, Cross – sectional, Sequential, Correlation.

Unit – II **(15 hours)**

BIOLOGICAL FOUNDATION

A) GENETIC FOUNDATION - genetic code, sex cells, boy or girl (sex determination), multiple offspring, patterns of genetic inheritance.
B)Inheritance - dominant and recessive relationship, dominance and recessive genes.
C) Diseases - Chromosomal abnormalities – Down syndrome; **Abnormalities of the sex chromosomes** - Kleinfelters, Fragile x , Turner's, XXX, XYY; **Gene linked abnormalities** - PKU, Sickle Cell Anaemia, Tay Sachs Disease.

PRENATAL DEVELOPMENT

A)Conception - period of zygote, period of embryo, period of fetus .
Influences on prenatal development; Genetic counseling;
Prenatal diagnostic methods;
B)**Child birth** – types of child birth - natural, prepared, home deliveries, medication; Birth complications – oxygen deprivation, pre-term and low birth weight ; sudden infant death syndrome (SIDS); Stages of child birth ; publications ; Assessment – Apgar scale and Brazelton scale;

UNIT III **(10 hours)**

MOTOR AND SENSORY DEVELOPMENT

A) **MOTOR DEVELOPMENT** **-** Reflexes – new born reflexes; reflexes and development of motor skills; infant states of arousal – sleep and crying

Motor development in infancy – meaning; sequence of motor development – cephalocaudal and proximodistal; gross motor development; fine motor development – reaching and; handedness.

B) **SENSORY DEVELOPMENT**

Vision, hearing, touch, taste, smell and balance

UNIT - IV **(10 hours)**

COGNITIVE DEVELOPMENT AND DEVELOPMENT OF LANGUAGE

A)COGNITIVE DEVELOPMENT - Piaget's theory of cognitive development –Memory - strategies of storing memory

B) **LANGUAGE DEVELOPMENT** – components of language development; Pre-linguistic development – receptivity to language, first speech sounds, Phonological development; semantic development; Pragmatic development; Bilingualism.

UNIT V **(9 hours)**

Emotional and social development-

A) EMOTIONAL DEVELOPMENT.

Development of emotional expression, emotional self regulation, acquiring emotional display rules, understanding and responding to emotions of others, individual differences .

B) **SOCIAL DEVELOPMENT -**

Functions of the family, growing up with siblings ; Media, TV, Academic and Pro-social learning, Imagination, Computers .

References: for III & IV Semester

1. Laura E. Berk- Child Development- 7th Edition, Easter economy edition, PHI publication
2.John.W.Santrok Child Development - 11th edition, Tata McGraw hill edition
3. Carson, Butcher and Mineka ,Abnormal Psychology- 11th edition, Pearson education

PRACTICALS

1. Learning Styles -VARK
2. Student Problem Checklist
3. Free Association
4. Paired Association Learning
5. Creativity

Statistics

- SD Grouped & Ungrouped Data

- Significance of Difference between Means –SEM

Project: Child Psychology- Any one of three projects on ADHD, LD and Separation Anxiety in children.

CHILD PSYCHOLOGY - II

SEMESTER IV- BA/BSC.

Unit I

MORAL DEVELOPMENT (8 HOURS)

What is moral development? Piaget's theory, Kohlberg's theory, Influences on moral reasoning; Pro-social and antisocial behavior.

UNIT II

EMERGENCE OF SELF (10 HOURS)

A) **Self -** Emergence of self and self awareness ; self concept – middle childhood, cognitive & cultural influence on self concept; self esteem ; structure of self esteem , changes in the level of self esteem , influences on self esteem .
B) **Play -** Functions of play, partners, classic study of play, types of play.

Unit III:

PEERS AND SCHOOLING: (10 Hours)

A) **Peers:** Importance of peer relations, Dev of peer sociability, influences on peer sociability, friendships, peer acceptance, peer groups, peer pressure and conformity .
B) **Schooling:** School transition, teacher-student interaction**,** teaching students with special needs.

UNIT IV:

DISORDERS OF CHILDHOOD: (12 Hours)

ADHD, conduct disorder, oppositional defiance disorder**,** anxiety disorders of childhood, childhood depression, symptom disorders, (Eneuresis, encopresis, sleep walking and tics) Pervasive developmental disorders (Autism).

UNIT V:

TREATMENT & OUTCOMES (10 HOURS)

ADHD; conduct disorder, oppositional defiance disorder ; anxiety disorders of childhood ;childhood depression; symptom disorders, (Eneuresis, encopresis, sleep walking and tics) ;Pervasive developmental disorders (Autism),

Other therapeutic techniques – family therapy and play therapy.

PRACTICALS FOR IV SEMESTER

1. Self Concept Rating Scale (R.K.Saraswat)
2. Concept Formation for height and size
3. Two Point Threshold
4. Size Weight Illusion
5. Emotional Intelligence Inventory (MEII)

Statistics:

- Correlation-Rank Difference
- Pearson's Product Moment methods.

Project

Analyses of Data and discussion for the project worked on, in III Semester.

DEVELOPMENTAL PSYCHOLOGY - I

III SEMESTER BA/ B.Sc

UNIT I **(08 hours)**

INTRODUCTION TO DEVELOPMENTAL PSYCHOLOGY

a)Human development today.

b)Theoretical approaches to human development – Eric Erickson and Urie Bronfenbrenner Domains of human development- Physical, cognitive, psycho-social development.
c)Influences on Human Development-- Heredity, environment, maturation, family, socio-economic status and neighbors, culture, race or ethnicity .
d)Major stages in Life Span Development (8 stages).
e)Principles of Baltes's life span approach (6 principles)
g) **Developmental research designs** – Longitudinal, Cross-sectional, Sequential and Microgenetic studies.

UNIT II

BIOLOGICAL BEGINNINGS (08 hours)

a)Conceiving a new life-Fertilization; Multiple Births
b)Mechanisms of Heredity- Genetic Code, Sex Determination, Patterns of Genetic Transmission -Dominant and Recessive Inheritance:
Genotypes, phenotypes, Multifactorial Transmission
c)**Mutation**- Causes and types- Chromosomal and Gene linked abnormalities. – Chromosomal Abnormality-Down syndrome; **Sex-linked chromosomal abnormalities** - Kleinfelters, fragile X, Turner's, XYY, triple X; **Gene linked abnormalities** - PKU, Sickle Cell Anaemia, Tay Sachs Disease.

Unit III

PRENATAL LIFE **(10 hours)**

a)Prenatal Development
a.1)Stages of prenatal development- period of germinal, embryonic and foetal stage
a.2)**Environmental influences on prenatal development**- i) Maternal factors- Nutrition, physical activity, drug intake, sexually transmitted diseases, maternal illness, maternal age, outside environmental hazards.
ii) Paternal factors.

b)Prenatal Assessment- Amniocentesis, chorionic villus sampling, embryoscopy, pre-implantation diagnosis, maternal blood test, umbilical cord blood sampling, ultrasound.
c)Birth Process- Stages of Child Birth .
d)Methods of delivery: Medicated, natural, prepared and caesarean.

Unit IV INFANCY **(12 hours)**

a)Neonatal period- medical and behavioral assessment: Medical- Apgar scale, Behavioral- Brazelton scale ;Physical development in infancy - principles - cephalocaudal, proximodistal;
b)Physical growth
b.1) Early reflexes- Moro, grasping, tonic neck, babinsky, rooting, walking and swimming
b.2) Early Sensory capacities - Touch, taste, smell, hearing and vision (sight) **Motor development**- milestones of motor development- (gross and fine motor skills-head control, hand control and locomotion).
c) Cognitive development- Piagetian approach - sensory motor stage
d) **Emotional development**- stranger anxiety, separation anxiety, social referencing e)**Language development**- sequence of language development, early vocalization, recognizing language sounds, gestures, first words, first sentences.
f)Social development- Socialization and internalization – developing a conscience, developing self –regulation.

Unit V CHILDHOOD (Early and Late childhood) **(12 hours)**

a)Physical development-
Bodily growth and change.
b)Motor development/skills- gross motor skills, fine motor skills and handedness .
c)Cognitive development- Piagean approach preoperational stage and concrete operational stage .
d)Emotional development- Understanding emotions; Emotional growth .
e)Language development- Vocabulary , grammar, syntax, pragmatics and social speech. Private speech, delayed language development.
f)Social development- relationships with other children, choosing playmates and friends.

REFERENCES Common for III & IV Semester

1. Diane E Papalia, Sally Wendkos Olds, Ruth Duskin Feldman, Human development, 9th edition, Tata McGraw Hill Publication
2. John W Santrock A topical Approach to Life Span Development , 3rdEdition, Tata Macgraw-Hill Edition

PRACTICALS

III SEM B.A/B.Sc

1. Learning Styles -VARK
2. Student Problem Checklist
3. Free Association
4. Paired Association Learning
5. Creativity

Statistics

- SD Grouped & Ungrouped Data
- Significance of Difference between Means –SEM

Project : Developmental Psychology-Learning Styles Sample-Age Group-16-20 years, Boys & Girls, (Eg: 5Boys+5 Girls from B.A compared with 5Boys+5 Girls from B.com)Compare learning styles of students from any two Faculties

DEVELOPMENTAL PSYCHOLOGY - II

IVSEMESTER B.A/ B.Sc

UNIT I PUBERTY & ADOLESCENCE (12 hours)

a)Puberty – the end of childhood,
b)Physical Development: Adolescents' growth spurt, primary and secondary sexual characteristics, signs of sexual maturity .
c) Physical and Mental Health -
c.1)Nutrition and Eating disorders; **Substance abuse** – risk factors of drug abuse, gate way drugs – alcohol – marijuana and tobacco; **STD's** – sexually Transmitted diseases; **Search for identity** – theories by Erikson , Marcia; **Moral reasoning** – Kohlberg's theory; **Psychosocial Development**: Relationship with family, peers and adult society (in brief)

.UNIT II: EARLY ADULTHOOD (10 hours)

a)Physical Development : Sensory & Psychomotor Functioning .
b)Cognitive development-Piaget's shift to post formal thought, Schaie's Life span model of Cognitive development. Emotional Intelligence.
c)Psycho social development -Erikson's Intimacy versus Isolation. Marital and non-marital life styles - Single life, Homosexual relationship, co-habitation ,Marriage.

UNIT III: MIDDLE ADULTHOOD (12 hours)

a)Physical Development- physical changes – Sensory & Psychomotor Functioning, , Sexuality & Reproductive Functioning- Menopause & its Meanings; Changes in male Sexuality.
b)Cognitive development –The distinctiveness of adult cognition – the role of expertise, integrative thought, practical problem solving, creativity .
c)PsychoSocial Development –
Consensual Relationships: Marriage, Midlife divorce, Gay & Lesbian Relationships, Friendships, Relationships with maturing children.

UNIT IV:

LATE ADULTHOOD - PART - I (10 hours)

a)Physical development: Sensory & Psychomotor Functioning-Vision, Hearing, Taste& Smell, Strength, Endurance, Balance &Reaction time, Sexual Functioning
b)**Cognitive Development**: Intelligence &Processing Abilities ; Competence in everyday tasks & problem solving .
c) Psychosocial Development- Personal Relationships in Late life- Social contact, Relationships & Health ; Multigenerational Family; **Non-marital kinship ties-**Relationships with Adult children or their absence; Relationship with siblings; **Becoming Grandparents**.

UNIT V

LATE ADULTHOOD - PART - II (06 hours)

a) The many faces of death; Care of the dying.

b) Facing death & Loss-Psychological Issues-Confronting one's death; Patterns of grieving Death & Bereavement across the Lifespan.

c)Finding Meaning & purpose in Life &Death

PRACTICALS

IV SEMESTER

1. Self Concept Rating Scale (R.K.Saraswat)
2. Concept Formation for height and size
3. Two Point Threshold
4. Size Weight Illusion
5. Emotional Intelligence Inventory (MEII)

Statistics:

- Correlation-Rank Difference
- Pearson's Product Moment methods.

Project

Analysis of Data and discussion for the project worked on, in III Semester.

COUNSELLING PSYCHOLOGY - I

V SEMESTER – BA / BSC

UNIT – I **10 hours**

INTRODUCTION

Definition of Counselling, Goals of Counselling, Scope of Counselling, Difference between Counselling, Guidance and Psychotherapy. Historical background of Counselling. Current trends.

UNIT – II **10 hours**

THEORETICAL APPROACHES TO COUNSELLING

Psycho –Analytical, Behavioural, Cognitive, Humanistic and Gestalt Therapy.

UNIT III **12hours**

PROCESS OF COUNSELLING

Client – Counsellor Relationship establishment, Problem Identification and Exploration. Working in a counselling relationship: Counsellor Skills in the understanding and action phases – Changing perceptions, leading, Multi focused responding, Accurate empathy, Self disclosure, Immediacy, Humor, Confrontation, Contracting, Rehearsal, Transference and Counter Transference. Planning for problem – Solving, Solution Application and Termination. Issues related to termination – Follow up, Referral and Recycling.

UNIT – IV **08 hours**

PERSONAL ASPECTS OF COUNSELLING SKILLS

Conselling Skills: Communication Skills: Non –verbal and Verbal Communication Skills. Variables affecting the Conselling processes: Counsellor Variables - Age, Experience, Sex, Interest, Perceptual Sensitivity, Personal Adjustment, Personal Security, Genuineness, Counsellor's Attitude and Beliefs, Rapport, Empathy. Portrait of an Effective Counsellor. Counsellee factors.

REFERENCES: common for V & VI Semester

1. Samuel T. Glading,(6th Edition), Counselling, A Comprehensive Profession. Dorling Kindersley India Limited,pearson.

2. Robert.L Gibson,Marianne H, Mitichell, Introduction to Counselling and Guidacne. 7th Edition, Prentice Hall India Private Limited.
3. S Narayana Rao, Counselling and Guidacne.Tata McGraw Hill Publication Co. Ltd. New Delhi.
4. E.R. Welfel, levis.E. patterson. The Counselling Process – A multi-theoretical Integrative Approach

EDUCATIONAL PSYCHOLOGY - I

V SEMESTER- BA/BSC.

UNIT I : 8 hours

PSYCHOLOGY AND ITS BEARING ON EDUCATION

a) Educational Psychology-Definition, Nature, Scope; Role of psychology for educational theory and practice; Aims and objectives of educational psychology .

b.) Research Methods-Program evaluation research, Action research and the Teacher as a researcher

UNIT II: 12 hours

APPLICATION OF LEARNING THEORIES TO EDUCATION.

a) Behavioral approaches to learning-Classical conditioning, Operant conditioning {in brief}; applied behavior analysis in education-Increasing desirable behaviors, Decreasing undesirable behaviors.

b) Social Cognitive approaches to learning –Bandura's Social Cognitive theory,

c) Observational learning {in brief};

Theories of instruction- 1) Bruner's Cognitive development theory; Gagne's Hierarchical theory; Atkinson's Decision-Theoretic Analysis for Optimizing Learning;

UNIT III: 10hours

MOTIVATION IN LEARNING.

a. Motivation to achieve –extrinsic and intrinsic motivation; other cognitive processes-Attributions, Mastery motivation, Self-efficacy; Anxiety and Achievement;

UNIT IV: MEMORY AND FORGETTING 10 hours

a. Meaning, Nature, Types of memory; Improving STM-Chunking;

Improving LTM-development of declarative knowledge, development of procedural and conditional knowledge.

b. Forgetting- Nature, Causes.

TEXT BOOKS – common for V & VI Semester

1)Bhatia and Bhatia.- A Textbook of Educational Psychology (1996), Doaba House Booksellers and Publishers, Delhi.
2)S.K.Mangal – Advanced Educational Psychology, 2nd edition, (2002), Prentice Hall of India, New Delhi.
3)J.W.Santrock- Educational Psychology, 2nd Edition (2006) Tata Mc Graw – Hill publishing Company Limited, New Delhi.

INDUSTRIALAND ORGANIZATIONAL PSYCHOLOGY - I

SYLLABUS for V SEMESTER

UNIT-I 12 Hours

INTRODUCTION

Definition, Goals, Forces and Fundamental concepts -Nature of people and nature of organization.**History** of industrial Psychology and Organizational Behavior, Areas of Industrial psychology.
Two classical studies-A).**Time and motion study** -Nature and characteristics, Use of Therbligs. Principles, psychological implications and shortcomings-
Objections to change- Intrusion of an outsider, Increased feeling of insecurity.
Hawthorne studies –Nature,Implications and criticisms.
Importance of Time and Motion studies and Hawthorne studies.
I-O Psychology as a career: Training & Employment.

UNIT II 10 hours

JOB ANALYSIS AND SELECTION

Job Analysis: Definition and methods – Questionnaire method, Checklist method, Individual interview method, Observation, Group interview method, Technical conference method, Diary method, Work participation method and Critical incident method.
Selection: **Application blanks.Psychological tests** used in selection – intelligence tests, personality tests, interest tests and aptitude tests.(mention two in each area).
Interview – guided interview, unguided interview, stress interview and group interview.

UNIT III 10 hours

EMPLOYEE ATTITUDES AND THEIR EFFECTS

The Nature of Employees Attitudes -Job satisfaction, Job Involvement, Organizational Commitment, Work Moods. Effects of Employee Attitudes- Employee Performance, Turnover, Absence & Tardiness, Theft, Violence, Other Effects.
Studying Job Satisfaction-Benefits of job satisfaction studies, Use of Existing job satisfaction Information, Changing Employee Attitudes

UNIT IV 08 hours

MOTIVATION AND REWARD SYSTEMS

Motivation- Goal setting- elements, Content Theories of Motivation – Herzberg's-Motivator-Hygiene (Two factors) Theory, Alderfer's- E-R-G Model.

Reward system- Financial and Non-financial incentives.
Economic Incentive Systems: Purposes & Types- Incentives Linking Pay with Performance, Wage Incentives, Profit Sharing, Gain Sharing, And Skill-Based Pay.

References: common for V & VI Semester

1. **Schultz D.P. and Schultz E.S** –Psychology & Work Today Eighth Edition ,Pearson Education,Inc.and Dorling Kinderssley Publishing Inc.

2. John W Newstrom- OrganizationalBehaviour-Human Behaviour at Work. Twelfth Edition Tata McGraw-Hill Publishing Company Limited.New Delhi.

3.GirishbalaMohanty-Industrial Psychology and OrganisationalBehaviour, Kalyani Publishers, Ludhiana

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SOCIAL PSYCHOLOGY-I

SEMESTER – V

UNIT – 1 10 Hours.

SOCIAL PSYCHOLOGY – DEFINITION AND SCOPE:

Nature and scope of Social Psychology – Definitions(by Baron and Taylor) social psychology as scientific in nature, focus on the behavior of individuals, understanding causes of social behavior and thought, actions and characteristics of others, cognitive processes, environmental variables, cultural context.

Methods in Social psychology – Systematic Observation, Correlation, Experimental.

UNIT 2 10 Hours.

PERCEPTION AND ATTRIBUTION: Self – perception and Person – perception; meaning and principles of social perception; Information used in Social Perception (non-verbal communication – facial expressions, gazes, stares, body language, touching).

Attribution – meaning and theories – Jones and Davis' theory of correspondent interference – non common effects, social desirability. Kelley's theory of Causal Attribution – consensus, consistency, distinctiveness.

Some basic sources of error in attribution – correspondence bias, actor – observer effect, self serving bias.

Applications of attribution theory – attribution and depression, attribution and prejudice.

Impression formation and impression management – central and peripheral traits, cognitive explanations and other aspects of impression formation – nature of first impressions and motives for forming them.

UNIT-III 10 Hours.

SELF AND SELF – CONCEPT

Self – concept – nature and correlates of self esteem, attitude about self, evaluating one's self, social comparisons ,downward social comparisons, effects of high v/s low self esteem, paradoxical self esteem, changes in self esteem.

Other aspects of self functioning – focusing, monitoring, and efficacy – focusing attention on self or external world, monitoring behavior using external and internal cues.

Self efficacy – nature and correlates, confidence in self.

Gender Stereotyping – nature and correlates, gender identity and gender stereotypes; basis of gender identity; gender – role behavior and reactions to gender role behavior, gender role at home and on the job; why gender roles are still powerful; why men and women differ – biology, acquired gender roles or both.

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UNIT-IV– 10 Hrs.

ATTITUDE AND PREJUDICE **Attitude** – definition, nature, formation and change – formation of attitudes – social learning, want satisfaction, information exposure, group affiliation, personality factors.

Types of attitude change

Nature of Prejudice: Public opinion, Stereotypes and Stigma. Changing attitude and prejudice.

References common for V & VI Semester

1. Robert A Baron and Donn Byrne Social Psychology –, 10th edition, Pearson Education Publication.

2.Shelley A Taylor, Letitia Anne peplau, David O. Sears, Social Psychology –, 2006, Pearson Education.

3.B.Kuppuswamy,Social Psychology

PAPER - V - HEALTH PSYCHOLOGY –I

SEMESTER V - BA/B.Sc.

UNIT I - Introduction **10 hours**

a) Definition of Healthy Psychology
(History of Health Psychology; The Bio-Medical model)
b) Methods - Experiments, Correlational studies, prospective and retrospective study
c) Illness cognition; the meaning of being healthy; Levinthal's self-regulatory model of illness cognition till stage 3.

UNIT II - Stress
10 hours

a) Stress: What is stress? Theories of Stress – (Cannon, Selye, Lazarus); Subjective correlates of stress.
b) Coping with stress; nature of coping; coping strategies; measuring coping; Social support.

Unit III – Addictive Behaviour – A Perspective: **10 hours**

a) Addiction.
b) Factors involved in learning addictive behaviour; Stages of substance abuse;
c) Interventions to promote cessation.

Unit IV – Modification and Enhancement of Health Behaviour **10 Hours**

a) Modification – Changing Health Habits; Cognitive-Behavioural Approaches to Health Behaviour Changes.
b) Health Enhancing Behaviour – Exercise, Maintaining a Healthy Diet, Food Habits, Weight Control.

Textbooks:

1. Jane Ogden – Health Psychology – a text book, 4th edition 2010, Tata McGraw Hill Education Private Limited, New Delhi.

2. Shelley E. Taylor – Health Psychology – 6th Edition 2006, Tata McGraw Hill Education Private Limited, New Delhi.
3. Steve R. Baumgardner & Marie K. Crothers – Positive Psychology, 2009, Dorling Kindersley (India) Pvt. Ltd., licensees of Pearson Education in South Asia.

Books for Reference –

1. M. Robin Dimatteo & Leslie R. Martin – Health Psychology – 2002, Dorling Kindersley (India) Pvt. Ltd, licensees of Pearson Education in South Asia.
2. Alan Carr – Positive Psychology - Dorling Kindersley (India) Pvt. Ltd, licensees of Pearson Education in South Asia.

Abnormal Psychology -I

V semester - BA/BSC.

Unit: 1 Introduction- 6 Hours

Defining abnormality**,** criteria of abnormality- statistical, social, personal-discomfort, maladaptive. Myths and Misconceptions of abnormal behavior, classification of abnormal behavior

Unit:-2 Psychological models of abnormality 14 Hours.

Psychodynamic- Levels of consciousness, structure and dynamics of personality, psycho sexual stages, ego defense mechanisms, impact and criticisms

Behaviorism- Assumptions of behavioral psychology, mechanisms of learning-extinction, generalization, discrimination, shaping, Learning to follow rules, reinforcement, punishment, abnormal behavior as a product of learning

Cognitive behavioral perspective- Attribution theory cognitive appraisal-conceptual frame work for cognitive vulnerability, self efficacy, information processing

Humanistic theory- Roger's theory (relate to Abnormality)

Community and Interpersonal Mental Health model – Roots of Interpersonal perspective, Sullivan's Interpersonal theory; community and interpersonal personal relationships, impact of Interpersonal Model.

Unit-3 Stressand Mental Health 06 Hours.

Definition of stress, causes of stress-frustration, pressure and conflict. Stress Management and coping – biofeedback, exercise, stress management intervention, catarsis

Unit:-4 Anxiety, Somatoform and Dissociative Disorders 14 Hours Phobia- Agoraphobia, Social phobia, Specific phobia, General anxiety disorders, Panic attack- with agoraphobia, without agoraphobia, Obsessive Compulsive disorder

Somatoform disorder-Somatization disorder, hypochondriasis, pain disorder, convulsion disorder.

Dissociative disorder- Fugue, Amnesia, Dissociative identity disorder, Depersonalization disorder, general causes and symptoms.

References: for V & VI Semester

1. Lauren B Alloy, John.H.Riskind, Margaret J Manah, **Abnormal Psychology C**urrent perspective-9th edition

2.Robert C Carson, James N Butcher, Susan Mineka, Jill M Hooley,**Abnormal Psychology** 13th edition,

3.Rosen and Gregory,**Abnormal Psychology ,**

PRACTICALS FOR SEMESTER V (Practicals V)

1.Eysenck Personality Inventory
2. FIRO – B
3. Type A/B Behavioral Pattern Scale
4. Internal – External Locus of Control Scale
5. Personal Values Questionaire

Statistics: Critical Ratio

PRACTICALS FOR SEMESTER V- (Practicals VI)

1. DBDA- 1 to 4
2. DBDA – 5 to 8
3. MRMT
4. Interest Inventory
5. Tweezer Dexterity

Statistics – 't' test.

Project – Interest inventory – college students – 18 – 21 years, 10 boys, 10 girls(should be related to the specialization taken).

SOCIAL PSYCHOLOGY-II

SEMESTER – VI

UNIT 1 10 Hours

INTER- PERSONAL ATTRACTION &**GROUP DYNAMICS**

Meaning; variables determining interpersonal attraction – proximity, positive and negative emotions, need to affiliate and observable characteristics (physical attractiveness), similarity.

Mutual liking, close relationships – family.

GROUP DYNAMICS – Group – definition and types of groups; stages of group formation; effects of groups on performance – social facilitation; coordination in groups.

Leadership – meaning, characteristics of a leader; leadership styles; initiating structure (production oriented) consideration (person oriented)

UNIT-2 10 Hours.

SOCIAL INFLUENCE:

Social influence – meaning, conformity, factors affecting conformity, cohesiveness, group size, descriptive and injunctive social norms; bases of conformity – normative social influence, desire to be right.

Compliance – underlying principles (Cialdini); tactics – ingratiation, foot – in – the – door, hone ball, door – in - the – face, that's – not – all, playing hard – to – get, pique.

Obedience -meaning, destructive obedience, intense indoctrination. Factors affecting and underlying principles of obedience.

UNIT-3 10 Hours.

PROSOCIAL BEHAVIOR:Prosocial behavior – meaning; bystander effect; diffusion of responsibility; decision to help; situational factors that enhance/inhibit helping – attraction, attribution, prosocial models, self interest, moral integrity, moral hypocrisy.

Helpers and those who receive help – bystanders additional state; dispositional differences – empathy. Additional factors – sense of wellbeing, achievement motivation, sociability, need for approval, altruistic personality.

Characteristics of those being helped – aspiring for help, how it feels to receive help.

Theories of prosocial behavior – Empathy – Altruism; Negative state relief model; Empathy – Joy; Genetic determinism.

UNIT-4 10 Hrs.

SOCIAL PROBLEMS AND SOCIAL HARMONY :

Application of Social psychology in dealing with social problems.
Aggression, unemployment, poverty, discrimination (gender, caste, socio – economic status, disease related issues)
Role of media in social discord and harmon

INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY -II
VI SEMESTER

UNIT-I 10 hours

PERFORMANCE APPRAISAL

Definition, Need for Performance Appraisal, Techniques of Performance Appraisal Methods – (a) **Objective PerformanceAppraisal methods**-Output measures, Computerised Performance Monitoring, Job-Related Personal Data Essay Methods, Critical Incident Method, CheckList Method, **Judgmental Performance Appraisal Methods-**Written narratives, Merit Rating Techniques-Rating Scales, Ranking Techniques, Paired-Comparison Technique, Forced – Distribution Technique, Forced Choice Technique, Behaviour Anchored Rating Scale(BARS), Behavior Observation Scales(BOS) (c) Management by Objectives(MBO). 360* Feedback.**Bias in Performance Appraisal**. How to Improve Performance Appraisals

UNIT-2 12 hours

TRAINING and MANAGING COMMUNICATIONS

Nature of Training; Goals of organizational training.**Methods** /approaches to training-classroom/lectures , conferences, films, Vestibule training, apprenticeship, Computer Assisted Instruction(CAI)Net Based training, In basket training, Role Playing, Executive Coaching.

MANAGING COMMUNICATIONS

Communication Fundamentals, Two-way Communication Process-
Potential Problems; Communication Barriers – Impact of Barriers on Communication Process.
Types of Communication: (a) Downward Communication (b) Upward Communication. c)Other Forms of Communication: Lateral Communication and Electronic Communication. d) Informal Communication – Grapevine Communication, Rumour

UNIT-3 08 hours

LEADERSHIP, TEAM WORK AND TEAM BUILDING

Leadership – definition and nature, styles of leadership-authoritarian & democratic leaders, Transactional & Transformational leaders.
Team work - Life cycle of a team. Team building- need, process & skills.

UNIT-4 10 hours

STRESS AND COUNSELING

Definition, Employee Stress, Extreme Products of Stress- Burn-out, Trauma, Workplace Trauma, Workplace Violence, Post-Traumatic Stress Disorder. Causes of Stress- Job Related Causes of stress, Stress& Job Performance, Individual differences in Stress Response. Approaches to Stress Management
Employee Counseling –Nature of counseling, Functions of Counseling, Types of Counseling

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VI SEMESTER- BA/BSC.

EDUCATIONAL PSYCHOLOGY -II

UNIT I : 12 hours

LEARNER DIFFERENCES AND LEARNING NEEDS.

Individual differences in intelligence-meaning, Multiple Intelligences, Intelligence as a process; Ability differences and Teaching- between class ability grouping, within class ability grouping;

Cognitive and learning styles-Cognitive styles: Field dependent and field independent, Impulsive and reflective cognitive styles; Learning styles and

Preferences: what are learning preferences and cautions.

UNIT II : 10 hours

EDUCATING EXCEPTIONAL CHILDREN.(COGNITIVE)

a)Definition and Nature;

b)Gifted Children- Meaning, Definition, Needs and Problems, Identification, Education of gifted children;

c)Mentally Challenged children –Definition , Nature, Detection, Identification, Classification on the basis of adaptive behavior, Planning education according to the level of mental retardation; d)Disadvantaged Children –Definition, meaning, and education ; e)Learning disability –Definition , Nature and characteristics, Educational provisions for children with learning disability.

UNIT III : 10 hours

EDUCATING EXCEPTIONAL CHILDREN (PHYSICAL AND EMOTIONAL)

a)Types of disabilities: Sensory; Physical; Speech and language ;Emotional and Behavioral .

b) Suggested remedial measures.

a)Behavioral problems – (BRIEFLY)

)Life Skills training; Use of behavioral strategies.

UNIT IV : 8 hours

MANAGEMENT OF CLASSROOM

a)Why classrooms need to be managed effectively;

b) Management issues in Elementary and secondary school classrooms–the crowded, complex and potentially chaotic classroom;

c) Emphasizing instruction and a positive Classroom climate;

d) Management goals and strategies; Designing the Physical environment of the classroom-principles of classroom arrangement, Arrangement style.

1)Anita Woolfolk- Educational Psychology (2004), 9th Edition, Pearson Education (Singapore) Pvt.Ltd, Indian Branch, Delhi.
2)S.S.Mathur - Educational Psychology, (2007), Vinod Pustak Mandir, Agra.

COUNSELLING PSYCHOLOGY-II
VI SEMESTER – BA / BSC

UNIT I TESTING,ASSESSMENT AND DIAGNOSIS IN COUNSELLING 12 hours

Tests and Test Scores, Problems and Potential of using tests, Qualities of Good tests – Validity, Reliability, Standardization and Norms. Classification of tests – Intelligence and Aptitude Tests, Interest and Career Tests, Personality tests, Achievement tests. Administration and Interpretation of Tests. Assessment, Diagnosis.

UNIT II GROUP COUNSELLING 08 hours

Definitions and Explanations. Group Counselling. Theoretical considerations, Values of Group Counselling, Selection of Group Members. Group Processes: Establishment of the Group, Identification, productivity, Realization, Termination. Similarities and Differences between Individual and Group Counselling.

UNIT – III SPECIAL AREAS IN COUNSELLING 12 hours

Marriage, Couple, Family and Career Counselling: The changing forms of family life, Marriage and Couple Counselling, Family Counelling. The changing nature of the world of work. Abuse and Disability: Abuse - Interpersonal Abuse (only definition), Intra – Personal Abuse – Substance Abuse – Nature, Prevention, Treatment. Counselling people with disabilities: Nature of disabilities. Clients with Specific disabilities – Physical, Mental disabilities, Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), HIV / AIDS**UNIT – III**

ETHICS IN COUNSELLING 08 hours

Codes of Professional Ethics, Ethical Principles: Respect for Autonomy, Beneficence, Nonmaleficence, justice, Fidelity. Ethical Theory: Relationship between Ethics and Law; Common Ethical violations by Mental Health Professionals.

Health Psychology –II
Semester VI – BA/B.Sc.

Unit I – Psycho Neuro Immunology and Disorders of Immune System

10 Hours

a) Immune system – Physical and Psychological correlation of the Immune System. Disorders – HIV and transmission of HIV, approaches to intervention in HIV, role of the Psychologist; Cancer, coping with HIV status and Cancer, Role of Psychologist.

UNIT II: PAIN **10 hours**

a) Nature of pain; Early pain theories; including psychology in theories of pain; the gate control theory of pain;
b) The role of psychosocial factors in pain perception; subjective –affective – cognitive processes.
c) The role of psychology in pain treatment; CBT.
d) Psychological intervention to manage pain
e) Pain control techniques – pharmacological, surgical and sensory.
f) Managing pain – biofeedback, relaxation technique, hypnosis, acupuncture, distraction, guided imagery.

Unit II – Life Style Disorders **10 Hours**

CHD – Nature of CHD; Women and CHD; Cardiovascular reactivity, hostility and CHD, Depression and CHD, Type A behaviour.

a) Hypertension – An overview – Stress and Hypertension; Personality and Hypertension;
b) Stroke and its consequences.
c) Diabetes – Types; Implications; Problems in Self Management of Diabetes.
d)

Unit – III Resilience **10 Hours**

Nature of resilience, Developmental perspectives, Clinical perspectives, Sources of resilience, the dangers of blaming the victim, Sources of resilience in children, sources of resilience in adulthood and later life, successful aging, Trauma, positive and negative effects of trauma.

Unit- IV Intervention **10 Hours**

Psychological, Psychiatric and Psychopharmacological interventions.

a) Health practitioners as effective agents of behaviour change.
b) Compliance, Predicting, Patient satisfaction, Patient understanding.
c) Patient reaction, role of knowledge in health professionals, problems with traditional approach, problem of doctor viability, explaining variability – the role of health professionals' health beliefs.

Textbooks:

1. Jane Ogden – Health Psychology – a text book, 4th edition 2010, Tata McGraw Hill Education Private Limited, New Delhi.
2. Shelley E. Taylor – Health Psychology – 6th Edition 2006, Tata McGraw Hill Education Private Limited, New Delhi.
3. Steve R. Baumgardner & Marie K. Crothers – Positive Psychology, 2009, Dorling Kindersley (India) Pvt. Ltd., licensees of Pearson Education in South Asia.

Books for Reference:

1. M. Robin Dimatteo & Leslie R. Martin – Health Psychology – 2002, Dorling Kindersley (India) Pvt. Ltd, licensees of Pearson Education in South Asia.
2. Alan Carr – Positive Psychology - Dorling Kindersley (India) Pvt. Ltd, licensees of Pearson Education in South Asia.

ABNORMAL PSYCHOLOGY-II

VI Semester- BA/BSC.

Unit:-1 Personality disorders **8 Hours**

Classification-General characteristics and causes. Examples of 3 clusters- Paranoid, Narcissistic and Avoidant personality.

Unit:-2 Schizophrenia and Paranoia **10 Hours**

Symptoms, types and general causes

Unit:-3 Mood disorders **10 Hours.**

Depressions that are not mood disorder (Normal depression) Unipolar disorder- Dysthymia and Major depressive disorder. Bipolar disorder- Bipolar I and Bipolar II general causes and symptoms; Suicide- factors associated with suicide.

Unit:-4 **12 Hours.**

Brain disorders and other cognitive impairments- Dementia, Delusion, Delirium& Mental retardation-Microcephaly Hydrocephaly, Macrocephaly, Downsyndrome, PKU, Cretinism; AMD Classification.
Developmental disorders- Dyslexia and Autism.

PRACTICALS FOR Semester VI (Practicals VII)

1.Assessment of Guidance needs
2.Bell's Adjustment Inventory (200 questionnaire)
3. GHQ
4. IPAT Anxiety Scale
5. Team effectiveness scale – Dhar & Dhar.
Statistics: Median Test
Project: Norms & Validation of Stress Inventory
PRACTICALS FOR Semester VI (Practicals VIII)
1.Study of attitudes
2.RPM

3.Bhatia's Battery
4.GMA/ Test of General Intelligence of college students by Pall and Misra,
5.Emotional Maturity scale
Statistics – Chi-square.
Project – Team effectiveness scale – college students –sample size – 10 boys and 10 girls.

PROCEEDINGS OF THE MEETING OF B.O.S. (UG) IN MICROBIOLOGY AND BIOTECHNOLOGY

The meeting of the B.O.S. (UG) in Microbiologyand Biotechnology was held on **18th June, 2014** in the Department of Microbiology and Biotechnology, Bangalore University, Bangalore. At the outset, the Chairman welcomed the members and initiated the proceedings.

Agenda-1

The Credit Based Semester Scheme for B.Sc. in Microbiology and Biotechnology, the Syllabus (theory and practical) and Scheme of examination for I, II, III & IV Semesters were finalized and approved.

Agenda-2

The panel of examiners for UG Microbiology and Biotechnology (both external and internal) was modified and approved for the year 2014-15.

Agenda-3

The B.O.S. approved the list for the formation of B.O.E. (UG) in Microbiology and Biotechnology for the year 2014-15.

The meeting concluded with the Chairman thanking all the members for their co-operation.

Members present:

1. Dr. Shastri P. S
2. Dr. Jyotsna B. S
3. Dr. Bharathi
4. Smt. Pushpalatha. T
5. Dr. Vijaya. B
6. Dr. ShanthiIyer
7. Dr. S.K. Sarangi

B.Sc. CREDIT BASED SEMESTER SCHEME
BIOTECHNOLOGY (PART 2)
SCHEME OF INSTRUCTIONS AND CREDITS

Paper No.	Title of the paper	Type of paper	Hours/ Week	Duration of Exam (Hours)	IA	Exam	Total Marks	Credits
I Semester								
BTT-101	Cell Biology & Genetics	T	4	3	30	70	100	2
BTP-102	Cell Biology & Genetics	P	3	3	15	35	50	1
Total Marks and Credits for I semester							150	3

Paper No.	Title of the paper	Type of paper	Hours/ Week	Duration of Exam (Hours)	IA	Exam	Total Marks	Credits
II Semester								
BTT-201	General Microbiology & Biostatistics	T	4	3	30	70	100	2
BTP-202	General Microbiology	P	3	3	15	35	50	1
Total Marks and Credits for II semester							150	3

Paper No.	Title of the paper	Type of paper	Hours/ Week	Duration of Exam (Hours)	IA	Exam	Total Marks	Credits
III Semester								
BTT-301	Biological chemistry	T	4	3	30	70	100	2
BTP-302	Biological chemistry	P	3	3	15	35	50	1
Total Marks and Credits for III semester							150	3
Paper No.	**Title of the paper**	**Type of paper**	**Hours/ Week**	**Duration of Exam (Hours)**	**IA**	**Exam**	**Total Marks**	**Credits**
IV Semester								
BTT-401	Molecular biology	T	4	3	30	70	100	2
BTP-402	Molecular biology	P	3	3	15	35	50	1

Total Marks and Credits for IV semester							150	3
Paper No.	**Title of the paper**	**Type of paper**	**Hours/ Week**	**Duration of Exam (Hours)**	**IA**	**Exam**	**Total Marks**	**Credits**
V Semester								
BTT-501	Genetic Engineering & Environ. Biotechnology	T	4	3	30	70	100	2
BTT-502	Immunology & Animal Biotechnology	T	4	3	30	70	100	2
BTP-503	Genetic Engineering & Environ. Biotechnology	P	3	3	15	35	50	1
BTP-504	Immunology & Animal Biotechnology	P	3	3	15	35	50	1
Total Marks and Credits for V semester							300	6

Paper No.	**Title of the paper**	**Type of paper**	**Hours/ Week**	**Duration of Exam (Hours)**	**IA**	**Exam**	**Total Marks**	**Credits**
VI Semester								
BTT-601	Plant Biotechnology	T	4	3	30	70	100	2
BTT-602	Industrial Biotechnology	T	4	3	30	70	100	2
BTP-603	Plant Biotechnology	P	3	3	15	35	50	1
BTP-604	Industrial Biotechnology	P	3	3	15	35	50	1
Total Marks and Credits for VI semester							300	6

Internal assessment:

Theory : (30)

(a) Tests – 10

(b) Assignments - 15

(c) Attendance - 05

Practical : (15)

(a) Tests – 10

(b) Class Records - 05

BANGALORE UNIVERSITY, BANGALORE

Syllabus for B.Sc. BIOTECHNOLOGY
(Credit Based Semester Scheme)

SEMESTER-I

BTT 101 – CELL BIOLOGY AND GENETICS

Total hours: 52

PART A: CELL BIOLOGY

Total hours:28

Unit 1. Cell as a Basic unit of Living Systems

Discovery of cell, The cell Theory.
Ultra structure of an eukaryotic cell- (Both plant and animal cells) 2 Hours

Unit 2. Surface Architecture

Structural organization and functions of plasma membrane and cell wall of eukaryotes.
4 Hours

Unit 3. Cellular Organelles

Structure and functions of cell organelles – Endoplasmic reticulum, Golgi complex, Mitochondria, Chloroplast, Ribosomes, Lysosomes, Peroxisomes, Nucleus (Nuclear envelope with nuclear pore complex, Nucleolus, Nucleoplasm and Chromatin).
Vacuole, Cytosol and Cytoskeleton structures (Microtubules, Microfilaments and Intermediate filaments). 8 Hours

Unit 4. Chromosomes

Discovery, Morphology and structural organization – Centromere, Secondary constriction, Telomere, Chromonema, Euchromatin and Heterochromatin, Chemical composition and Karyotype.
Ultrastructure: Single-stranded and multi-stranded hypothesis, folded- fibre and nucleosome models. 7 Hours
Special type of chromosomes: Salivary gland and Lampbrushchromosmes.

Unit 5. Cell Division

Cell Cycle and regulation, mitosis and meiosis. 5 Hours

Unit 7. Cell Senescence and programmed cell death 2 Hours

PART B: GENETICS

Total Hours: 24

Unit 1. Structure of DNA and RNA – a brief account

2 Hours

Unit 2.Mendelism

Mendel's work, Laws of heredity, Test cross, Incomplete dominance and simple Problems. 3 Hours

Unit 3. Interaction of Genes

Supplementary factors: comb pattern in fowls
Complementary genes- Flower colour in sweet peas
Multiple factors – Skin colour in human beings
Epistasis – Plumage colour in poultry
Multiple allelism: Blood groups in Human beings. 4 Hours

Unit 4. Sex Determination in Plants and animals

Concept of allosomes and autosomes, XX- XY, XX-XO, ZW-ZZ, ZO-ZZ types 2 Hours

Unit 5. Linkage and Crossing Over

Coupling and repulsion hypothesis, Linkage in maize and Drosophila, Mechanism of crossing over and its importance, chromosome mapping-linkage map in maize. 3 Hours

Unit 6. Chromosomal variations

A general account of structural and numerical aberrations, chromosomal evolution of wheat and cotton. 3 Hours

Unit 7. Cytoplasmic Inheritance

Plastid inheritance in Mirabilis, Petite characters in yeast and Kappa particles in paramecium. 2 Hours

Unit 8. Mutations

Types: Spontaneous and induced, Mutagens: Physical and chemical, Mutation at the molecular level, Mutations in plants, animals and microbes for economic benefit of man. 3 Hours

Unit 9. Human Genetics

Karyotype in man, inherited disorders – Allosomal (Klinefelter syndrome and Turner's syndrome), Autosomal (Down syndrome and Cri-Du-Chat Syndrome). 2 Hours

SEMESTER - I

BTP 102 – Cell biology and Genetics

Total units: 15

1. Use of Micrometer and calibration, measurement of onion epidermal cells and yeast 2 Units
2. Cell division: Mitotic and meiotic studies in grasshopper testes, onion root tips and flowerBuds 4 Units
3. Chromosomes: Mounting of polytene chromosomes 1 Unit
4. Buccal smear - Barr bodies 1 Unit
5. Karyotype analysis - Human and Onion 2 Units

Human – Normal and Abnormal – Down and Turner's syndromes (With the help of slides)

6. Simple genetic problems (Problems on Interaction of genes) 1 Unit
7. Isolation of Mitochondria 2 Unit

8. Vital staining of Mitochondria 1 Unit
9. RBC cell count by Haemocytometer 1 Unit

Each student is required to submit 5 permanent slides (mitosis & meiosis- at least two from each)

Practical Examination Scheme

(35 marks)

Major:

Mitosis/Meosis/Polytene Chromosomes/Haemocytometry

(20 marks)

Minor: Answer any two

Barr body/ Karyotype/ Blood smear differential Staining/ Genetic Problem/ Vital Staining of Mitochondria

(15 marks)

Record: To be submitted

REFERENCES:

CELL BIOLOGY

1. Molecular Biology of Cell - Bruce Alberts et al, Garland publications.
2. Animal Cytology and Evolution – MJD, White Cambidge University Publications
3. Molecular Cell Biology –Daniel, Scienific American Books
4. Cell Biology - Jack d Bruke, The William Twilkins Company
5. Principles of Gene Manipulations – Old & Primrose, Black Well Scientific Publications
6. Cell Biology – ambrose&Dorouthy M Easty, ELBS Publications
7. Fundamentals of Cytology – Sharp, McGraw Hill Company
8. Cytology – Willson&Marrison, Reinform Publications
9. Molecular Biology – Smith Faber & Faber Publications
10. Cell Biology & Molecular Biology – EDP Roberties& EMF Roberties, Saunder College.
11. Cell Biology – C.B Powar, Himalaya Publications

GENETICS

1. Basic Genetics – Daniel L. Hartl, Jones &Barlett Publishers USA
2. Human Genetics and Medicine lark Edward Arnold P London
3. Genetics – Monroe W Strickberger, Macmillain Publishers, New York
4. Genes V - Benjamin Lewin, Oxford University Press.
5. Genes I - Benjamin Lewin, Wiley Eastern Ltd., Delhi
6. Genes II - Benjamin Lewin, Wiley & Sons Publications
7. Genes III- Benjamin Lewin, Wiley & Sons Publications
8. Principles of Genetics – Winchester Sinnot& Dom
9. Genetics – Blue print of life by sandhyaMitra, Tata McGraw Hill Publication
10. Genetics – Edgar Altenburg Oxford & IBH publications
11. Principles of Genetics – E.J. Gardener, M.J. Simmons and D.P. Snustad, John Wiley & Son Publications

SEMESTER II

BTT 201- GENERAL MICROBIOLOGY AND BIOSTATISTICS

Total hours: 52

PART A: GENERAL MICROBIOLOGY

Total hours : 37

Unit 1. Introduction and Scope of Microbiology

Definition and history of Microbiology, contributions of Antony van Leeuwenhoek, Louis Pasteur, Robert Koch, Joseph Lister and Alexander Fleming. Importance of Scope of Microbiology as a modern science Branches of Microbiology. 3 Hours

Unit 2. Microscopy

Constructions and working principles of different types of microscopes – Compound, Dark field, Phase contrast, Fluorescence and Electron (Scanning and Transmission) 3 Hours

Unit 3. Microbial Techniques

A). STERILIZATION: Principles and applications of

a. Physical Methods: Autoclave, Hot air oven, laminar airflow, Seitz filter, sintered glass Filter and Membrane filter.
b. Chemical Methods: Alcohol, Aldehydes, Phenols, Halogens and Gaseous agents.
c. Radiation Methods: UV rays and Gamma rays. 4 Hours

B). STAINS AND STAINING TECHNIQUES: Principles of staining, Types of stains- Simple Stains, Structural stains and Differential stains 3 Hours

Unit 4. Microbial Taxonomy

Concepts of Microbial species and strains, Classification of bacteria based on Morphology (Shape and flagella), Staining reaction, nutrition and extreme environment 2 Hours

Unit 5. General Account of Viruses and Bacteria

A. VIRUSES – Structure and classification Plant Viruses – CaMV
Animal Viruses – Hepatitis B
Bacterial Viruses – Lambda phage
B. BACTERIA – Ultra structure of a bacterial cell, cell wall, endospore and capsule 8 Hours

Unit 6. Eukaryotic Microorganism

Salient features, Classification and reproduction of fungi, mycoplasma and algae. 4 Hours

Unit 7. Pathogenic Microorganisms

A. Bacterial diseases of man – Tetanus, Tuberculosis, Typhoid and Cholera
B. Viral diseases: AIDS (HIV). 4 Hours

Unit 8. Microbial Metabolism

A) Respiration: EMP, HMP and ED Pathways, Kreb's cycle, Oxidative Phosphorylation.

B) Bacterial Photosynthesis: Photosynthetic pigments in Prokaryotes, Photophosphorylation & Dark reaction. 6 Hours

PART B-BIOSTATISTICS

Total hours: 15

Unit 1. Importance and application

Tabulation and classification of data, Frequency distribution and Graphical distribution of data. 2 Hours

Unit 2. Measures of Central Tendencies 3 Hours

Mean, Median, Mode and their properties

Unit 3. Measures of Dispersion 3 Hours

Mean deviation, Variance, Standard deviation and Coefficient of Variation

Unit 4. Hypothesis Testing 2 Hours

Student *t* and Chi-square test

Unit 5. Probability and Distribution

Concepts and problems on probability, Binomial, Poisson, Normal Distribution and their applications 5 Hours

BTP 202-GENERAL MICROBIOLOGY

Total Units: 15

1. Safety measures in microbiology laboratory 1 Unit
2. Cleaning and sterilization of glass wares 1 Unit
3. Study of instruments: Compound microscope, Autoclave, Hot air oven, P_H meter, Laminar airflow and centrifuge. 3 Unit
4. Staining Techniques: Simple, Negative staining, Gram staining, Endospore staining fungal Staining, Bacterial mobility by hanging drop method. 2 Unit
5. Media preparation: Nutrient agar, MRBA and Nutrient broth. 2 Unit
6. Isolation of bacteria and fungi from soil, air, and water- dilution and pour plate methods. 2 Unit
7. Estimation of microorganisms - Total Count (haemocytometer) 1 Unit
8. Antibiotic sensitivity test – paper disc method 1 Unit
9. Biochemical tests – starch hydrolysis, catalase & gelatin liquefaction. 1 Unit
10. Study of Rhizobium from root nodules of legumes. I Unit

Practical Examination Scheme

(35 marks)

Major: 20 Marks

Gram Staining & Endospore Staining/ Haemocytometry or Gram Staining/ Endospore staining

Minor: 15 Marks

Answer any two of the following
Instruments (any one)/ culture media / components (any one)
Biochemical tests (any one)
AST

Records: To be submitted

REFERENCES:

MICROBIOLOGY:

1. Microbiology-Pelzer, Chan, Krieg Tata McGraw Hill Publications
2. Microbiology- Concepts and applications by Paul A. Ketchum, Wiley Publications
3. Fundamentals of Microbiology –Furbisher, Saunders & Toppan Publications
4. Microbiology –Ronald M.Atals
5. Introductory Biotechnology-R.B Singh C.B.D. India (1990)
6. Industrial Microbiology-Casual Wiley Eastern Ltd.
7. Fundamentals of Bacteriology - Salley
8. Fontiers in Microbial technology-P.S. Bison, CBS Publishers.
9. Biotechnology, International Trends of perspectives A. T. Bull, G. HollM.D.Lilly Oxford & T Publishers.
10. General Microbiology –C.B. Powar, H.F. Daginawala, Himalayan Publishing House

BIOSTATISTICS:

1. Bliss, C.J.K. (1967) Statistics in Biology, Vol. I McGraw hill. New York.
2. Campbell R.C. (1974) Statistics for Biologists, Cambridge Univ, Press, Cambridge
3. Daniel (1999) Biostatistics (3rd edition) Panima Publishing, Corporation
4. Sward law, A. C. (1985) Practical Statistics for Exponents Biologists, John Wiley and Sons, Inc., NY
5. Khan (1999) Fundamentals of Biostatistics Publishing Corporation.

SEMESTER III

BTT 301- BIOCHEMISTRY AND BIOPHYSICS

Total Hours: 52

PART-A: BIOCHMEISTRY

Total Hours: 35

Unit 1. Amino acids

Classification and properties due to intra, centre and side chain, titration against acid and abase. 4 Hours

Unit 2. Proteins

Classification based on structure and functions, structural organization of proteins (Primary, secondary, tertiary and quaternary structure) 6 Hours

Unit 3.Enzymes

Introduction, classification, enzyme kinetics, factors influencing enzyme activity, co-Enzymes and co-factors. 8 Hours

Unit 4.Carbohydrates

Structure, properties and classification with examples, Carbohydrates as a source of Energy. 5 Hours

Unit 5.Lipids

Structure, properties and classification and functions. 5 Hours

Unit 6.Vitamins

Water Soluble and fat-soluble vitamins, Dietary source. 4 Hours

Unit 7.Hormones

Steroid hormones- structure O, E_2, P_4, Glucocortocoid hormones. mechanism of steroid hormone action. 3 Hours

PART-B: BIOPHYSICS

Total Hours: 17

Unit 1. Introduction and scope of Biophysics. 1 Hour

Unit 2.pH and buffer concepts. 2 Hours

Unit 3.Chemical bonding – Ionic bond, covalent bond, hydrogen bond and peptide bond Vander waals forces, Principles of thermodynamics. 2 Hours

Unit 4. Analytical techniques

Principles and applications of

a) Chromatography (Paper, thin – layer, column, GLC and HPLC)

b) Centrifugation (RPM and G, Ultra centrifugation) 7 Hours

Unit 5.Spectroscopic techniques

Principles and applications of UV, Visible spectroscopy, X-ray crystallography, NMR, IR, fluorescence & atomic absorption. 3 Hours

Unit 6. Iosotopes

Types, their importance in biological studies, measure of radioactivity, GM counters and Scintillation counting. 2 Hours

BTP 302- Biochemistry and Biophysics

Total units : 15

1. Preparation of Buffers-Citrate and Phosphate. 1 Unit
2. Estimation of reducing sugars (Glucose, Maltose and Lactose) by DNS and Somoji's Methods. 4 Units
3. Estimation of Protein by Biuret method and Lowry's method 3 Units
4. Assay of enzyme activity- Amylase. 2 Units
5. Separation of Sugars by TLC. 2 Units
6. Estimation of Amino acids by ninhydrin method. 2 Units
7. Estimation of inorganic phosphate by Subba row method 1 Unit

Practical Examination Scheme

(35 marks)

Major: (20 marks)

a) Estimate the amylase enzyme activity of the given sample, write the principle and Procedure

b) Write the principle of TLC/Ninhydrin

Or

Comment on preparation of Citrate buffer/Phosphate buffer

Minor: (15 marks)

Estimation of Reducing sugar/Protein/Inorganic PO_4

Record: To be submitted

REFERENCES:

BIOCHMISTRY

1. Principles of Biochemistry- AlbertLLehninger CBS Publishers & Distributors.
2. Biochemistry-LUbretStryer Freeman International Edition.
3. Biochemistry-KeshavTrehan Wiley Eastern Publications

4. Fundamentals of Biochemistry J.L. Jain S.Chand and company
5. Biochemistry, Prasaranga, Bangalore University
6. Fundamental of Biochemistry-Dr. A.C. Deb
7. Textbook of Organic Chemistry (A Modern approach) P.L. Soni, Sultan Chand and Sons, Publishers.
8. The Biochemistry of Nucleic acid-tenth Edition-Roger L.P. Adams, John T. Knower and David P. Leader, Chapman and Hall Publications.

BIOPHYSICS

1. Narayanan, P (2000) Essentials of Biophysics, New Age Int. Pub. New Delhi.
2. Bliss, C.J.K. (1967) Statistics in Biology, Vol. I McGraw hill. New York.
3. Campbell R.C. (1974) Statistics for Biologists, Cambridge Univ, Press, Cambridge
4. Daniel (1999) Biostatistics (3rd edition) Panima Publishing, Compotation
5. Sward law, A. C. (1985) Practical Statistics for Exponents Biologists, John Wiley and Sons, In
6. Khan (1999) Fundamentals of Biostatistics Publishing Corporation
7. Roy R.N. (1999) A Text Book of Biophysics New Central Book Agency

SEMISTER IV

BTT- 401 – MOLECULAR BIOLOGY

Total Hours: 52

Unit 1.Molecular basis of life – an introduction RNA and DNA as genetic material, experimental proof of DNA as genetic material. 3 Hours

Unit 2.Nucleic Acids

Structure and functions of DNA and RNA
Watson and Crick model of DNA and other forms of DNA (A and Z)
Functions of DNA and RNA including ribozymes 5 Hours

Unit 3. DNA Replication

Prokaryotic and Eukaryotic – Enzymes and proteins involved in replication, Theta model and Rolling circle model. 4 Hours

Unit 4. DNA Repair

Causes and mechanism – photoreactivation, excision repair, mismatch repair, SOS repair. 4 Hours

Unit 5. Recombination in prokaryotes

Transformation, Conjugation and Transduction 5 Hours

Unit 6. Structure of Prokaryotic and Eukaryotic gene – genetic code, Properties and wobble hypothesis. 4 Hours

Unit 7. Transcription in Prokaryotes and Eukaryotes

Mechanisms, Promoters and RNA polymerase, transcription factors, Post transcriptional modifications of eukaryotic mRNA. 5 Hours

Unit 8. Translation

Mechanism of translation in prokaryotes and Eukaryotes, Post translational modification of Proteins. 7 Hours

Unit 9. Regulation of Gene Expression

Regulation of Gene expression in Prokaryotes – Operan concept (Lac and Tryp)
Regulation of Gene expression in Eukaryotes – transcriptional activation, galactose metabolism in yeast. 8 Hours

Unit 10. Gene organization and expression in Mitochondria and chloroplasts. 3 Hours

Unit 11. Insertional elements and transposons.
Transposable elements in Maize and Drosophila. 4 Hours

BTP 402 – Molecular Biology

Total Units: 15

1. Preparation of DNA model 1 Unit
2. Estimation of DNA by DPA method. 1 Unit
3. Estimation of RNA by Orcinol method 1 Unit
4. Column chromatography – gel filtration (Demo)
5. Extraction and partial purification of protein from plant source by Ammonium sulphate precipitation. 3 Units
6. Extraction and partial purification of protein from animal source by organic solvents. 3 Units
7. Protein separation by Polyacrylamide Gel Electrophoresis (PAGE) 3 Units
8. Charts on- Conjugation, Transformation and Transduction 1 Units

<u>Practical Examination Scheme</u>

(35 Marks)

Major: 20 Marks

Extraction and estimation of protein by salt precipitation method/organic solvent method (Plant and animal source)

Minor: 15 Marks

Estimation of DNA/RNA
and
Comment on PAGE/Column chromatography/conjugation/transformation/transduction

Records: To be submitted

REFERENCES:

MOLECULAR BIOLOGY

1. Glick, B.R and Pasternak J.J (1998) Molecular biotechnology, Principles and application of recombinant DNA, Washington D.C. ASM press.
2. Howe. C. (1995) Gene cloning and manipulation, Cambridge University Press, USA
3. Lewin, B., Gene VI New York, Oxford University Press.
4. Rigby, P.W.J. (1987) Genetic Engineering Academic Press Inc. Florida, USA.
5. Sambrook et al (2000) Molecular cloning Volumes I, II & III, Cold spring Harbor Laboratory Press New York, USA
6. Walker J. M. and Ging old, E.B. (1983) Molecular Biology & Biotechnology (Indian Edition) Royal Society of Chemistry U.K.
7. Karp. G (2002) Cell & Molecular Biology, 3rd Edition, John Wiley & Sons; I

BANGALORE UNVERSITY

DEPARTMENT OF BOTANY

SYLLABUS

B. Sc., BOTANY

I – VI SEMESTER

2014

PROCEEDINGS OF THE MEETING OF THE BOARD OF STUDIES (UG) IN BOTANY, BANGALORE UNIVERSITY HELD ON 11 JUNE 2014 IN THE DEPARTMENT OF BOTANY, BANGALORE UNIVERSITY, BANGALORE – 560 056. AT 11-00 A.M.

Venue: Department of Botany, Bangalore University, Jnana Bharathi, Campus,Bangalore 560 056

Date: 11-06-2014

Time: 11-00 am

Agenda: To finalize the Scheme of study, Syllabus and Examination pattern for Undergraduate Credit Based Semester Scheme.

Members Present:

1	Prof. D.H.Tejavathi	Chairperson	Sd/
2	Sri. A. Karthikeyan	Member	Sd/
3	Sri. N.S.Shivashankaraiah	Member	Sd/
4	Dr. N.Venugopal	Member	Sd/
5	Smt. K. Pushpa	Member	Sd/
6	Sri. Mohamad Ataulla	Member	Sd/
7	Dr. Abdul Khayum	Member	Sd/
8	Smt. C. Shathakumari	Member	Sd/
9	Sri. K. G. Annappaswamy	Member	Sd/
10	Smt. K. S. Shylaja	Member	Sd/
11	Dr. Sabiha Sulthana	Member	Sd/
12	Prof. G. Krishnakumar	External member	Sd/
13	Prof. M.S.Sudarshana	External member	Sd/

Member Absent:

1. Dr.Leelavathi — Member

MINUTES OF THE BOS (UG) MEETING:

Chairperson welcomed the members to the meeting and thereafter the agenda was taken up for discussion

1. Discussed and finalized syllabus for Theory and Practicals from I to VI semesters, Question Paper pattern, and Scheme of Valuation for B.Sc., Credit Based Semester system.

2. Chairperson is authorized to change or modify the syllabus based on the requirement.

The meeting ended with a vote of thanks by the Chairperson.

CHAIRPERSON.

PROFESSOR & CHAIRPERSON
Department of Botany
Bangalore University
Bangalore - 560 056.

PROFORMA FOR THE SCHEME OF STUDY AND EXAMINATION OF CREIDIT BASED SEMESTER SCHEME, BACHELLOR'S DEGREE IN SCIENCE

Semester	Paper	Title of the Paper	Instruction hrs/week		Total No.Hrs.		Duration of Exam (hrs)		Max. Marks for Examination							Credits		
									IA		Exam		Total		Grand Total	Theory	Practical	Total
			Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical				
1	I	Diversity of Non- Vascular plants Part-1 Introduction to Microbiology, Viruses, Bacteria, Cyanobacteria and Phycology	4 hrs	3 hrs	52	52	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
2	II	Diversity of Non- Vascular plants Part-2 Mycology, Plant Pathology, Bryophytes and Plant Anatomy	4 hrs	3 hrs	52	52	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
3	III	Pteridophytes, Palaeobotany, Environmental Biology and Phytogeography.	4 hrs	3 hrs	52	52	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
4	IV	Gymnosperms and Embryology of Angiosperms	4 hrs	3 hrs	52	52	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
5	V	Taxonomy and Economic Botany	3 hrs	3 hrs	39	39	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
	VI	Molecular Biology, Genetic Engineering, Biotechnology and Plant Physiology	3 hrs	3 hrs	39	39	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
6	VII	Cytology, Genetics, Evolution and Plant Breeding	3 hrs	3 hrs	39	39	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03
	VIII	Plant Physiology.	3 hrs	3 hrs	39	39	3 hrs	3 hrs	30	15	70	35	100	50	150	02	01	03

Chairperson

PROFESSOR & CHAIRPERSON
Department of Botany
Bangalore University
Bangalore - 560 056.

QUESTION PAPER FORMAT
THEORY EXAMINATION

Masks for each question	Number of question to be		Total Marks
	Answered	Out of	
A. 2	**10**	**12**	**20**
B. 5	**4**	**6**	**20**
C. 10	**3**	**5**	**30**
		Total	**70**

BANGALORE UNIVERSITY

B.Sc., Degree Examination December / January 20
(Undergraduate Credit Based Semester Scheme)
BOTANY

Paper:

Time: 3 hours Max. Marks : 70

A. Explain / Define any ten of the following in **two** or **three** sentences: (10x2=20)

B. Write critical notes on any **four** of the following (4x5=20)

C. Give a comprehensive account on any **three** of the following (3x10=30)

INTERNAL ASSESSMENT

1. **THEORY** 30 MARKS – Attendance = 5, Assignment=5, Test =2 (ten marks each)
2. **PRACTICAL** 15 MARKS – Continues Assessment = 10, Test = 5

Frame Work

Semester I – Paper I	Dr. Venugopal.N, Govt. Science College, Nrupathunga Road, Bangalore – 560 001.
Semester II – Paper II	Prof.Karthikeyan.A. K. G. F. First Grade College, Ooragaum, KGF – 563 120
Semester III – Paper III	Ms.Pushpa.K. MES Degree College Arts, Commerce & Science, Malleshwaram, Bangalore 560 003.
Semester IV – Paper IV	Smt.Shylaja. K. S. Vijaya College, R. V. Road, Bangalore-560 004.
Semester V – Paper V	Dr.Abdul Khayum**,** Govt. College for Women, Chinthamani 563 125, Kolar District.
Semester V – Paper VI	Sri.Shivashankaraiah, Govt. First Grade College, RPC Layout, Vijayanagar, Bangalore – 560 040.
Semester VI– Paper VII	Sri.Annappa Swamy, H. K. E. Society, Sadashivanagar, Bangalore- 560 080..
Semester VI – Paper VIII	Sri.Mohammed Atha Ulla, Govt. Science College, Nrupathunga Road, Bangalore – 560 001.

I SEMESTER

PAPER – I: DIVERSITY OF NON VASCULAR PLANTS - PART-I

INTRODUCTION TO MICROBIOLOGY, VIRUSES, BACTERIA, CYANOBACTERIA AND PHYCOLOGY

52 hrs

UNIT I: INTRODUCTION TO MICROBIOLOGY AND VIRUSES **13 hrs**

Introduction, aim, objectives, scope of microbiology and significance.

Branches of microbiology- Industrial, Medical, Agricultural and Environmental microbiology, Contributions of scientists to the field of microbiology (Anton von Leeuwenhock, Louis Pasteur, Robert Koch, Alexander Flemming)

Isolation of microbes from soil – brief account of culture media, serial dilution, pour plate method and colony characteristics of bacteria.

Applied Microbiology- A brief account of Biofertilizers, Biopesticides, Biogas production, Bioremediation, and Bioconversion of waste products.

A brief history of Virology – (Adolf Mayer, Iwanowsky, Beijerinks, W. M. Stanley, F. W. Twort), General composition and properties of viruses, Architecture of TMV & Bacteriophages, Multiplication & transmission. A brief account of Prions and Viroids

Common plant diseases – Little leaf of Tomato and *Vinca rosea*, Yellow Mosaic of Beans, and Papaya leaf curl

UNIT II: STUDY OF BACTERIA **13hrs**

Introduction, Brief account of Bergey's system of bacterial classification. Occurrence, size and shape, arrangement of flagella and structure of Bacterial cell.

Reproduction – Binary fission and genetic recombination. A brief history of plasmids – definition, properties and types, structure and importance of Ti plasmid, bacterial nutrition, phototrophs and chemotrophs.

Economic importance – Role of bacteria in agriculture, medicine and industry.

Bacterial disease - Citrus canker**.**

General account of Mycoplasma – Sandal spike disease.

Immunology – Brief account of immune systems, application of immune techniques in agriculture and industry, monoclonal anti bodies (ELISA, Hybridoma techniques).

UNIT III: STUDY OF CYANOBACTERIA AND PHYCOLOGY – PART-I **13hrs**

Cyanobacteria: Introduction, general characteristics, outlines of classification, thallus structure, ultra structure of cell, photosynthesis, reproduction, economic importance of Cyanobacteria, SCP, Biofertilizers, role in water pollution and treatment.

Type study: *Anabaena, Spirulina, Scytonema*

Phycology-Part-I: Introduction, general characteristics, outlines of classification (Fritsch – 1947), thallus structure, pigmentation, reproduction.Economic importance of algae in industry, agriculture and medicine. Toxic algae – Algal blooms, fish poisoning.

UNIT IV: PHYCOLOGY- PART –II **13hrs**

Occurrence, structure, reproduction and life cycle: *Chlamydomanas, Hydrodictyon, Oedogonium, Chara, Sargassum, and Polysiphonia*

PRACTICAL PAPER – I

DIVERSITY OF NON VASCULAR PLANTS

INTRODUCTION TO MICROBIOLOGY, VIRUSES, BACTERIA, CYANOBACTERIA AND PHYCOLOGY

Total Units - 13

1. Study of instruments: autoclave, inoculation chamber, hot air oven, incubator and inoculation loop. **2 units**
   Sterilization of glass ware and media preparation (Nutrient Agar, Martin Rose Bengal Agar).
   Isolation of Bacteria from soil by pour plate method.
2. Colony characteristics of Bacteria to identify colonies obtained. **2 units**
   Bacterial diseases - Tomato Leaf curl disease, citrus canker, Mycoplasma-sandal spike
3. Plant viral diseases- Little leaf of Tomato and *Vinca rosea*, Yellow Mosaic of Beans, and Papaya leaf curl **2 units**
   Gram staining: a) Rhizobium from root nodules b) Lactobacillus from curds.
4. Measurement of cell concentration – yeast cells / fungal spores using Haemocytometer. Type study of Cyanobacteria: *Anabaena*, *Spirulina*, *Scytonema* **2 units**
5. Type study of algae: *Chlamydomanas, Hydrodictyon, Oedogonium, Chara, Sargassum* and *Polysiphonia* **5 units**

PRACTICAL QUESTION PAPER-I

DIVERSITY OF NON VASCULAR PLANTS

INTRODUCTION TO MICROBIOLOGY, VIRUSES, BACTERIA, CYANOBACTERIA AND PHYCOLOGY

Max Marks – 35

1. Identify Given specimens **A, B, C & D** with labeled diagrams and reasons **4x3=12**
2. Describe colony characteristics of given colony **E** and tabulate your observations. **2**
3. Prepare temporary slide of **F,** sketch, label and identify with reasons. Leave preparation for evaluation. **5**
4. Stain given material **G** by gram staining write the procedure and identify with reasons. Leave preparation for evaluation **3**

   Or

   Calculate the population of fungal spores / yeast cells **G** using haemocytometer
5. Identify Slide **H** and **I** with labeled diagrams with reason **2 x 2 ½ = 5**
6. Record and Submission **5+3= 8**

SCHEME OF VALUATION

1. Four specimens **A, B, C, D**- two from algae, one from Cyanobacteria and one specimen of diseases / Herbarium. (Identification – **1** mark, labeled diagram with reasons **2** marks)
2. Colony characters of the given colony **E** – **2** marks,
3. Specimen **F** from algae - mounting – **2** marks. Identification – **1** mark, sketch with reasons **2** marks)
4. Specimen **G** – Gram staining (Staining, Procedure and result – each **1** mark).

   OR

   Calculation of fungal spores / yeast cells using haemocytometer (Procedure **1** mark, calculation – **2** marks)
5. Two permanent slides **H** & **I** - from algae / Cyanobacteria (Identification – **1** mark, sketch with reasons **1 ½** marks)
6. a) Record – **5** marks

   b) Submission of 3 algae / Cyanobacteria materials – **3** marks

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Web Sites

- http://www.phycology.net/
- http://www.algaebase.org/

II SEMESTER

PAPER II: DIVERSITY OF NON-VASCULAR PLANTS – PART - II
MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY

52 hrs

UNIT I: **MYCOLOGY** **13hrs**

Introduction: General characters, occurrence, thallus organisation, reproduction and classification.

Structure, reproduction and life history of *Albugo, Peziza, Puccinia* and *Cercospora.*

Economic importance: Role of fungi in Medicine, Agriculture and Industry

Lichens: General account, Structure and reproduction. Ecological and Economic importance.

Mycorrhiza: General account

Saccharomyces - A model genetic organism.

UNIT II: **PLANT PATHOLOGY** **13 hrs**

General account of symptoms, pathogen etiology, mode of Infection.

Management of fungal diseases: Koleroga, Coffee rust, Grain smut of Sorghum, Blast disease of Rice, Red rot of Sugarcane.

A brief account of Biopesticides: Neem*, Trichoderma and Bacillus thuerngiensis*

UNIT III: **BRYOPHYTA** **13 hrs**

General characters. Study of distribution, structure, reproduction, classification and alternation of generation in *Marchantia, Anthoceros* and *Funaria*

UNIT IV: **PLANT ANATOMY** **13 hrs**

Meristematic Tissues : Structure, function, classification, Organisation of Apical Meristems:Tunica-carpus theory and Histogen theory.

Secretary Cells and Tissues: Structure, Classification and significance.

Simple and permanent tissues

Vascular tissues: A brief account

Secondary growth: Dicot stem**.**

A**nomalous Secondary growth**: A general account (*Dracaena and Boerhaavia*)

PRACTICAL PAPER – II

DIVERSITY OF NON-VASCULAR PLANTS MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY

Total units - 13 Units

I.	Identification and classification of fungi members included in the theory	**3 Units**
II.	Demonstration of mushroom cultivation Study of lichens, Study of Mycorrhiza	**2 Units**
III.	Study of plant diseases included in the theory	**2 Units**
IV.	Study of forms of Bryophytes included in the theory	**3 units**
V.	Normal and Anomalous secondary growth in Stem ex. *Tridax*, *Dracaena* stem and *Boerhaavia* stem.	**2 Units**
VI.	Field visit to study pathogen and host interaction	**1 Units**
VII.	Report of Field visit: Project report of mushroom cultivation / Application of Bio fertilizers	

PRACTICAL QUESTION PAPER - II

DIVERSITY OF NON-VASCULAR PLANTS MYCOLOGY, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY

Time: 3 hours **Max. Marks: 35**

1. Identify the specimens **A, B & C** with labelled diagrams and reasons **3x3=9**
2. Prepare a temporary Safranin stained T.S of the material **D** Sketch, label and Identify with reasons, leave the preparation for evaluation **4**
3. Write critical notes on **E** **2**
4. Identify the Slides **F,G,H & I** with labelled diagrams and reasons **4x3=12**
5. Record and submission. **5+3=8**

SCHEME OF VALUATION

1. Two specimens from Fungi and one from Bryophyta (Identification -**1** mark, Labelled diagram with reasons **2** marks)

2. Any one of the following may be given-stem of *Tridax, Dracaena* or *Boerhaavia* (Staining and mounting- **2** marks, sketch and labelling- **1** mark, Identification with reasons- **1** mark)

3. One diseased plant/Lichens/Mycorrhiza (Identification-**1** mark & critical points**1** mark)

4. Two from Bryophytes, One from Fungi and One from Anatomy (Identification & Classification -**2** mark, labelled diagrams with reasons-**2** marks)

5. Record & Submission: 3 Herbarium sheets from Plant pathology (marks **5**+**3**)

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III SEMESTER

PAPER - III: PTERIDOPHYTES,PALEOBOTANY,ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

52 hrs

UNIT I: PTERIDOPHYTES **13 hrs**

Introduction and general character with classification (As per Sporne). Study of diversity in morphology,anatomy and reproduction of the following groups in representative forms

1. Psilotopsida – Eg: *Psilotum.*
2. Lycopsida – Eg: *Lycopodium ,Selaginella.*
3. Filicopsida – Eg: *Marsilea.*

(Developmental stages not required)

Brief account of Stelar evolution,heterospory and seed habit.

UNIT II: PALEOBOTANY **13 hrs**

Contribution of Paleobotanist-Birbal Sahni**.**

Outline of geological time scale with emphasis on Paleozoic and Mesozoic Era. Process of fossilization– Compression,Impression and Petrifaction.

Type Study: *Rhynia,Cycadeoidea* and *Pentaxylon*.

UNIT III: ENVIRONMENTAL BIOLOGY **13 hrs**

Introduction and scope of Environmental Biology

Ecological Factors: Climatic – Light,Temperature, Rainfall,Wind and Atmospheric humidity.

Edaphic factors: Soil Formation, Soil Profile, Soil air, Soil Microorganisms

Soil Erosion:Water and Wind.

Soil Conservation:

Biological – Contour farming,Mulching,Strip cropping,Terracing and Crop rotation.

Mechanical – Basin Listing,Construction of dams

Soil reclamations

Biotic Factors – Positive and negative interactions.

Ecosystem – Concept,Components,Study of marine,Grass land and Crop land Ecosystems.

Ecological Succession – Hydrosere and Xerosere.

Ecological Adaptations – Hydrophytes, Xerophytes, Halophytes, Epiphytes and Parasites.

UNIT IV: ECOSYSTEM MANAGEMENT **13 hrs**

Water Shed Management.

Conservation of natural resources:

- Over Exploitation of Natural resources – eg:Forest
- Afforestation,Social Forestry and Agroforestry.

Conservation of plant diversity:
In-situ and *Ex-situ* Conservation – National park,Sancturies and Bioreserves. Role of Seed Bank and Gene Bank.

PHYTOGEOGRAPHY
Phytogeographical regions of India, Vegetational types of Karnataka.

PRACTICAL PAPER– III

PTERIDOPHYTES, PALEOBOTANY, ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

Total Units – 13

1. Identification and Classification of Pteridophytes (examples studied in theory) **4 units**
2. Paleobotany – Study of specimens and slides (fossil material/slide) **1 unit**
3. Ecological Adaptations – Study of one example for each adaptation **2 units**
4. Estimation of chloride and dissolved oxygen content in the given sample **2 units**
5. Study of Quadrat method in Ecology and studying soil sample and analysis of soil sample for structure(texture) p^H etc. **3 units**
6. Marking of vegetation types of Karnataka on Karnataka map and Phytogeographical areas of India **1 unit**
7. Record & submissions: Submission of 3 slides of free hand sections (Pteridophytes / Ecological Specimens)

PRACTICAL QUESTION PAPER–III

PTERIDOPHYTES, PALEOBOTANY, ENVIRONMENTAL BIOLOGY AND PHYTOGEOGRAPHY

Time : 3 hours **Max Marks : 35**

1. Identify and classify specimen **A** & **B** giving reasons. **2 x 3= 6**
2. Identify the slides **C, D, E** with reasons and diagrams. **3 x 3 = 9**
3. Comment on slide/specimen/photocopy/photograph of **F**. **3**
4. Identify and comment on Ecological adaptation of **G**. and **H** (vegetation pattern of Karnataka). **2x2 ½ = 5**

5. Estimate the Oxygen / Chloride content of the given sample **I**. **4**
6. Record and Submission. **5+3 = 8**

SCHEME OF VALUATION

1. Pteridophytes - (Identification & classification – **1** mark, Reasons – **2** marks).
2. Pteridophytes - (Identification – **1**mark, Reasons – **1** mark, Diagram – **1** mark).
3. Fossil Material - (Identification – **1** mark,comment – **2** marks)
4. Specimen/Slide / Map - (Identification – **1** mark,comment – **1.5** marks)
5. Estimation – (Conducting experiment – **2** marks ,principle, procedure & result– **2** marks)
6. Record and Submission : 3 permanent slides of free hand sections of Pteridophytes and ecological specimens (**5+3 = 8** marks**)**.

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16. Wagnaer, K.D.1998. **Environmental Management**,W.B. Saundars Co., Philadelphia.

IV SEMESTER

PAPER–IV: GYMNOSPERMS AND EMBRYOLOGY OF ANGIOSPERMS

52 hrs

UNIT I GYMNOSPERMS **13hrs**

General characters and classification.

Economic importance of Gymnosperms with reference to wood, essential oils, resins and drugs.

Morphology and Anatomy of vegetative structures- Root, stem and leaf (primary and secondary growth), Reproductive structures (Developmental Stages not required) and life cycles of *Cycas , Pinus* and *Gnetum* (Evolutionary significance of *Gnetum*)

UNIT II EMBRYOLOGY OF ANGIOSPERMS – I **13 hrs**

Indian botanists and their contributions to Embryology– P.Maheshwari, BGL Swamy

Structure – Typical Angiosperm flower, Androecium and Gynoecium

Microsporangium-Development & structure of mature anther, Anther wall layers, Tapetum-types, structure& functions.Sporogenous tissue.

Microsporogenesis - Microspore mother cells (mmc) , cytokinesis, microspore tetrads

Abnormalities-Pollinia,compound pollengrains.

Microgametogenesis – Formation of vegetative and generative cells, structure of male gametophyte.

Abnormalities – Nemec phenomenon

UNIT III EMBRYOLOGY OF ANGIOSPERMS – II **13 hrs**

Structure of Pistil – Placentation-definition and types.

Megasporangium – Structure of ovule - Integuments(endothelium), Micropyle (Obturator),Nucellus (crassinucellate and tenuinucellate conditions). Types of ovule- Anatropous, Orthotropous, Amphitropous, Circinotropous. Megasporogenesis.

Megagametogenesis – Types of development of Female gametophyte/embryosac- monosporic- *Polygonum* type, bisporic-*Allium* type, tetrasporic- *Fritillaria* type.Structure of mature embryosac- Structure and functions of synergids, egg, central cell and antipodals.

Double fertilization – pollen germination, growth of pollen tube through style (solid and hollow styles), entry of pollen tube into ovule (porogamy, mesogamy, chalazogamy), entry of pollen tube into the embryosac, pollen tube discharge,syngamy, triple fusion. Significance of double fertilization, post fertilization changes.

Endosperm – Types and its biological importance. Free nuclear (*Areca catechu ,Cocos nucifera*), cellular (*Cucumis),* helobial types. Ruminate endosperm.

UNIT IV EMBRYOLOGY OF ANGIOSPERMS–III **13 hrs**

Embryogenesis – Dicot (*Capsella bursa-pastoris)* and Monocot(*Najas)*. Parthenocarpy. Polyembryony- definition and types.

Seed – Structure of Dicot and Monocot seed.

PALYNOLOGY- pollen morphology – pollen wall, aperture, shape, size and architecture, NPC system, pollen wall stratification. Applied Palynology – Aeropalynology, Mellissopalynology

EXPERIMENTAL EMBRYOLOGY - Definition, Totipotency, basic steps in plant tissue culture technique. Nutrient media- basic components , composition of MS & White's media.

Tissue culture techniques and their practical applications - Anther culture, Embryo culture, protoplast culture.

Embryology in relation to Taxonomy- egs. *Trapa, Exocarpus*

PRACTICAL - IV
GYMNOSPERMS AND EMBRYOLOGY OF ANGIOSPERMS

Total Untis – 13

1) Study of materials and permanent slides of Gymnosperms included in Theory **5 units**
2) Permanent slides of microsporogenesis and male gametophyte **1 unit**
3) Mounting of Pollen grains –*Grass, Mimosa,* Pollinia of *Calotropis* and Pollen germination (hanging drop method) **1 unit**
4) Permanent slides of types of ovules,Megasporogenesis&embryosac development **1 unit**
5) Permanent slides of types of placentation—Axile, Marginal, Parietal, basal types . Sectioning of ovary , for any two types of placentation. **1 unit**
6) Mounting of embryo- *Tridax* and *Cyamopsis*. **1 unit**
7) Mounting of endosperm - *Cucumis*. **1 unit**
8) Mini project work in groups of 3-5 students, from the following list. **2 units**
   a) Study of pollen morphology of different flowers with respect to shape, colour,
   b) pores etc.
   c) Pollen germination of different pollen grains andcalculate percentage of germination.
   d) Calculating percentage of germination of one particular type of pollen grain collected from different localities/ under different conditions.
   e) Study of placentation ofdifferent flowers.
   f) Any other relevant study related to Gymnosperms / Embryology.

Mini project work may be carried out in groups of 3-5 students, supervised by the batch in charge . The mini project report, about 5-6 pages (type written), to be prepared in following format and certified by the teacher in charge and HOD tobesubmitted in practical examination.

1.Introduction
2.Aim of study
3.Materials& methodology
4.Observation
5.Conclusion,
Copies to be submitted separately by individual members of the group..

PRACTICAL QUESTION PAPER–IV

GYMNOSPERMS AND EMBRYOLOGY OF ANGIOSPERMS

Time: 3 hours. **Max Marks: 35**

1.	Identify and classify specimens **A,B** and **C** giving reasons **-**	**3X3= 9**
2.	Identify the slides **D, E** & **F** with reasons and labeled diagrams	**3X3=9**
3.	Mount the embryo/Endosperm of specimen **G** & comment.	**5**
4.	Mount the pollinia/perform pollen germination of specimen **H** & comment	**4**
5.	Record & submission	**5+3=8**

SCHEME OF VALUATION

1. Gymnospem materials- . *Cycas, .Pinus,.Gnetum* (Identification & classification- **1** mark, reasons-**2** marks).
2. One Gymnospem slide, one from T.S.of young anther/ mature anther, one from megasporogenesis/ stages of embryosac development, /placentation/ types of ovules included in theory.(Identification – **1** mark, Diagram-**1** mark, reasons- **1** mark).
3. Endosperm /Embryo mounting (preparation- **3** marks, comment with diagram- **2** marks).
4. Pollinia / pollen germination (preparation-**2** marks,comment with diagram- **2** marks)
5. Record & submission of mini project report (**5 + 3** marks)

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V SEMESTER

PAPER-V: TAXONOMY AND ECONOMIC BOTANY

39hrs

UNIT: I CLASICAL TAXONOMY 13 hrs

Aim and Scope of taxonomy, Brief History, Broad outline of classification proposed by Bentham & Hooker, Engler & Prantl and their relative merits and demerits. Species concept: Taxonomic hierarchy, species, genus and family.

Biosystematics: Plant nomenclature, Binomial system, ICBN- rules for nomenclature. Taxonomic Tools, Herbarium and its techniques, Floras and their importance, Botanical gardens and their importance (one state level, one national level & one international level). (Examples: State: Lalbagh, National: Indian Botanical garden Sibpur, Calcutta, International: Royal Botanical garden, Kew, England). Chemotaxonomy, Cytotaxonomy, Numerical taxonomy & application of computer.

UNIT: II TAXONOMY – I 13hrs

Taxonomic studies of following families, according to Engler & Prantl system of classification and their economic importance

Monocotyledoneae Families: Poaceae, Arecaceae Musaceae, and rchidaceae

Dicotyledoneae Families:
Archichlamydeae- Magnoliaceae, Annonaceae, Brassicaceae, Rutaceae, Leguminosae (Subfamilies: Papilionatae, Caesalpinioideae and Mimosoideae) Rosaceae & Euphorbiaceae.

UNIT: III TAXONOMY – II AND ECONOMIC BOTANY 13hrs

Metachlamydeae - Cucurbitaceae, Apiaceae Rubiaceae, Asteraceae, Asclepiadaceae, Acanthaceae & Lamiaceae.

Ethnobotany: A general account.

ECONOMIC BOTANY: Study of the following plants with Botanical names, Family, part used, and economic uses.

Edible oils:	Groundnut, Coconut & Sesamum
Sugar and Starch:	Sugarcane, Beetroot, Potato & Tapioca
Fibers:	Cotton, Jute & Coir
Paper & Pulp:	Bamboo & Eucalyptus
Beverages:	Coffee, Tea &Cocoa

Spices:	Ginger, Cardamom, Clove, Cinnamon, Asafoetida, Turmeric Saffron & Nutmeg
Timber:	Teak & Rose wood
Medicinal & Aromatic:	Ashwagandha, Aloe *vera,* Indian Pennywort, Holy Basil, Amla, Periwinkle, Margosa tree, *Patchouli*, Mint, & Lavender

PRACTICAL PAPER – V

TAXONOMY AND ECONOMIC BOTANY

Total Units: 13

1. Morphology of Angiosperms – Vegetative Structure and modifications of root, & leaf. **1 Unit**
2. Morphology of Angiosperms – Inflorescence and flower **1 Unit**
3. Morphology of Angiosperms– Fruits (Simple, aggregate & multiple) **1 Unit**
4. Methods of identification of plants with Technical terms. **1 Unit**
5. Study of taxonomic characters of families included in theory (Minimum one genus from each family) **6 Units**
6. Study of economically important plants covered in theory to identify with Botanical names, families, parts used and Economic uses. **2Units**
7. Herbarium techniques. **1 Unit**
8. Study of local flora by arranging local collection trips.
9. Record & Submission of 6 Herbaria with field notes of plants included in theory.

PRACTICAL QUESTION PAPER- V

TAXONOMY AND ECONOMIC BOTANY

Time: 3 hrs **Max marks: 35**

1. Assign the specimens **A, B** & **C** to their respective families giving diagnostic features. **3×3= 9**
2. Describe **D** in technical terms; draw the floral diagram with floral formula. **6**
3. Identify the specimen **E, F, G, H, I** &**J** with their morphological, Biological & Economic importance. **6x2=12**
4. Record and Submission. (Herbaria with field notes) **5+3=8**

SCHEME OF VALUATION

1. One Archichlamydeae, one Metachlamydeae, one Monocot (Identification ½ mark, Classification 1 mark, Diagnostic features 1½ mark)
2. Dicot plant (Technical detail 2 marks, floral diagram 2 marks, floral formula 2 marks)
3. Root/ Stem/ Leaf modification/ Inflorescence/ Fruit and/ Economic Importance. (Identification **½** mark, diagram**½** mark, description **1** mark, for economic importance, identification with family **1** mark, part use **½** mark economic uses **½** mark)
4. Record- **5** marks.
5. Submission of **Six** herbaria with field notes of family's studies, **½** marks each-**3** marks

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V SEMESTER

PAPER VI: MOLECULAR BIOLOGY, GENETIC ENGINEERING, BIOTECHNOLOGY AND PLANT PHYSIOLOGY

39 hrs

UNIT I MOLECULAR BIOLOGY **13 hrs**

Introduction, Discovery, Chemical nature& replication of genetic material, genetic code, non genetic RNA, Biosynthesis of proteins, Regulation of gene action in prokaryotes (Lac operon concept only).

GENETIC ENGINEERING & BIOTECHNOLOGY: Steps in Recombinant DNA technology, Genomic libraries, application of genetic engineering technology in agriculture.A brief account on hazards & safe guards of genetic engineering technology with special reference to Bt Cotton. A brief account of Bioinformatics and its uses.

UNIT II MICROBIAL BIOTECHNOLOGY **13 hrs**

Uses of microbes in industry and agriculture fermentation – production of ethanol, production of antibiotics – Penicillin.

PLANT PHYSIOLOGY- I – Water Relations: Importance of water, Diffusion, Osmosis, water potential, Osmotic Potential, Membrane and their Permeability.Absorption Of Water- Mechanisms of water absorptions, factors affecting rate of waterabsorption.

Stress Physiology: Water stress, heat stress, salt stress and mechanisms of Plant response to water and related stress.

UNIT III PLANT PHYSIOLOGY – II **13 hrs**

Mechanism of ascent of Sap – Vital and physical force theories.

Transpiration – Loss of water, Types, Mechanisms, Stomatal Dynamics. Stomatal mechanism, Significance, Factors affecting transpiration, anti - transpirants, Guttation.

Mineral Nutrition In Plants - Major& Minor elements, their deficiency symptoms in plants.

Phloem Transport- Transport of organic solutes.Path of transport, vein loading and unloading.Transcellular or streaming hypothesis, contractive protein hypothesis, mass flow hypothesis,Source – Sink concept.

PRACTICAL PAPER–VI

MOLECULAR BIOLOGY, GENETIC ENGINEERING, BIOTECHNOLOGY AND PLANT PHYSIOLOGY

Total Units – 13

1.	Qualitative Test for Starch, Protein, Reducing Sugars and Lipids.	**2 Units**
2.	Determination of Osmotic potential of the cell sap by Plasmolytic method.	**1 Unit**
3.	Determination of Stomatal Index.	**1 Unit**
4.	Structures of Stomata in Hydrophytes, Mesophytes and Xerophytes.	**2 Units**
5.	Streaming of Protoplasm to show Cyclosis.	**1 Unit**
6.	Determination of pH of Plant Samples by using Indicators.	**1 Unit**
7.	Study of Osmosis & Transpiration Experiments.	**3 Units**
8.	Study of Phloem Transport by Ringing Experiment.	**2 Units**

PRACTICAL QUESTION PAPER–VI

MOLECULAR BIOLOGY, GENETIC ENGINEERING, BIOTECHNOLOGY AND PLANT PHYSIOLOGY

Time 3 hours **Max. Marks 35**

1.	Conduct the biochemical test of sample **A** and **B**.	**3 x 3= 6**
2.	Determine the osmotic potential of the cell sap by plasmolytic method / stomatal index of material **C**	**8**
3.	Determine the pH of the given sample **D**.	**2**
4.	Set up and comment on the experiment **E**.	**6**
5.	Comment on experiment **F** and **G**.	**4+4 = 8**
6.	Record.	**5**

SCHEME OF VALUATION

1. Samples – Starch, Protein, Reducing Sugar and Lipids (Positive Test - **1** mark, Negative Test – **2** marks).
2. Conducting the Experiment – **3** marks; Principle – **2** marks; Procedure – **1** mark; Result – **2** marks.
3. Extract from Root, Stem, Leaves of a Plant to be given (Determination of pH – **1** mark, Comment – **1** mark).
4. Experiments of E: a. Potato Osmoscope.
   b. Thistle Funnel experiment.
   c. Farmer's Potometer.
   d. Ganongs Potometer.

(Requirements – **1** mark, Principle – **1** mark, Procedure & Conducting Experiment –**3** marks, Result – **1** mark)

5. Experiments of **F** & **G**: a. Streaming of Protoplasm (Cyclosis).
   b. Balsam Plant experiment.
   c. Bell Jar experiment.
   d. Transpiration Pull.
   e. Mass Flow Hypothesis.
   f. Ringing Experiment.
   (Identification – **1** mark, Comment – **3**)
6. Record **5** marks.

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VI SEMESTER

PAPER–VII: CYTOLOGY, GENETICS, EVOLUTION AND PLANT BREEDING

39 hrs

UNIT 1 CELL & CHROMOSOME BIOLOGY **13 hrs**

Cell as a fundamental unit of life and organism. Structure of eukaryotic chromosome;centromere,kinetochore and telomere. Nucleosome and its importance in the organisation of eukaryotic chromosome. Types of Chromosomes; biarmed and holocentrictypes.

Cell Division - Phases, mitotic apparatus, cytokinesis, mitotic inhibitors, significance of mitosis; Meiosis- phases of meiotic cycle cytological proof of crossing over, synaptonemal complex. Brief study on Apoptosis (PCD).

UNIT II MENDELIAN GENETICS **13 hrs**

Biography of Mendel in brief: Mendel's experiments:Monohybrid cross – law of dominance, law of segregation, purity of gametes .Homozygous, heterozygous, phenotype, genotype, monohybrid test cross, Dihybridcross-law of independent assortment, dihybrid test cross, incomplete dominance(*Mirabilis jalapa*, Snapdragon).

Modification of Mendelian ratios*:*(With reference to plant examples). Interaction of genes epistasis (dominant & recessive); supplementary factors, complementary factors: Polygenic inheritance in Maize (Self Sterility in*Nicotiana*), Linkage & Crossing over (in Maize).

SEX DETERMINATION: Chromosomal mechanism of sex determination methods. XX –XY, ZZ – ZW & XX – XO (Sex determination in *Melandrium*) and genetic problems related to topics.

UNIT III EVOLUTION **13 hrs**

Origin of life, theories of evolution, modern concepts of evolution, role of mutations in evolution, Gene duplication (2R hypothesis), Big Bang theory.Numerical changes in chromosome number, polypioidy and aneuploidy - trisomics and monosomics and Chromosomal aberrations.

PLANT BREEDING

Historical account and objectives of plant breeding.Vegetative propagation methods (underground plant parts and isolated plant parts - cutting, grafting, layering, gootee, clones) Hybridization (intergeneric and interspecific), maintenance of germplasm, pollen banks, quarantine methods.

PRACTICAL PAPER – VII

CYTOLOGY, GENETICS, EVOLUTION AND PLANT BREEDING

Total Units - 13

1. Preparation of cytological stains - Aceto carmine &Aceto orcein.	**1 Unit**
2. Mitosis from *Allium* root tips—Aceto orcein.	**3Units**
3. Meiosis from *Allium* flower buds- Aceto carmine.	**3Units**
4. Karyotype and Idiogram : Camera Lucida drawing**.**	**1 Unit**
5. Permanent slides of Mitosis.	**1Unit**
6. Permanent slides of Meiosis**.**	**1 Unit**
7. Emasculation and bagging of the flower buds of available species.	**1 Unit**
8. Genetic problems.	**2Units**
9. Record and Submission- 6 Slides (3 Mitosis and 3 Meiosis.)	

PRACTICAL QUESTION PAPER- VII

CYTOLOGY, GENETICS, EVOLUTION AND PLANT BREEDING

Time: 3 hours **Max Marks: 35**

1.	Prepare a temporary mitotic, slide from material **A** identify the stage with diagram.	**6**
2.	Prepare a temporary meiotic slide from material **B** identify the stage with diagram.	**6**
3.	Identify and comment on **C** along with a sketch (only Karyotype).	**4**
4.	Identify and comment on slides **D** and **E** with suitable sketches	**3+3=6**
5.	Solve the Genetic Problem **F**	**5**
6.	Record and Submission	**5+3=8**

Scheme of Valuation

1. Preparation- **4** marks, identification of stage - **1** mark and diagram **1** mark
2. Preparation - **4** marks, identification of stage - **1** mark and diagram **1** mark
3. Karyotype - slide or sketch, identification-**1** mark, diagram- **1** mark, comment- **2** marks

4. Slides from meiosis and mitosis identification **0.5** mark, sketch **0.5** mark and comment **2** marks.
5. Genetic problems from
    i. Dihybrid cross and test cross
    ii. Incomplete dominance
    iii. Complementary factors
    iv. Supplementary factors
    v. Epistasis **- 5** marks

6. i. Record - **5** marks
    ii. 3 Mitotic and 3 Meiotic permanent slides ½ mark each - **3** marks

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- http/www/desica/de/plantbreeding/
- http/www/bilogyariozona.edu/mendeliangenetics/htm/

VI SEMESTER
PAPER –VIII: PLANT PHYSIOLOGY – III

39 hrs

UNIT I **ENZYMES** **13 hrs**

Nomenclature, classification, chemical composition, prosthetic groups coenzymes, cofactors , vitamins properties of enzymes , mechanism of enzymes action, enzyme kinetics, factors affecting enzyme activity, Inhibition of enzyme action (Competitive, Non Competitive, feedback), Allosteric enzyme.

Nitrogen Metabolism:

Sources of nitrogen, Nitrogen fixation, *nif* genes in relation to symbiotic fixation in *Rhizobim.* Synthesis of amino acids and Nitrogen cycle.

UNITII **BIOENERGETICS** **13hrs**

Photosynthesis – Introduction, ultra structure of the chloroplast**,** photosynthetic apparatus, principle of light absorption, Emerson's enhancement effect, photosystems I & II, Light reaction – Hill reaction, photophosphorylation (cyclic, non-cyclic), carbon reactions (Calvin Cycle, C_4 – Pathway, CAM), Factors affecting the process.

Photorespiration – Organelles involved, mechanisms and significance.

Respiration- Introduction, mechanism of aerobic respiration – glycolysis,TCA cycle, ETS and oxidative phosphorylation, mechanism of anaerobic respiration(alcoholic fermentation and lactic acid fermentation), Respiratory Quotient and its significance, factors affecting respiration.

UNIT III **PLANT GROWTH AND GROWTH REGULATORS** **13hrs**

Definitions of growth, Kinetics, Factors affecting growth, Phytohormones, Metabolism, Physiological effects, mode of action of auxins, gibberellins, cytokinins, ethylene and ABA. Applications of these hormones in agriculture and horticulture.

Plant movements – A brief account on the classification and types of movements.

Photobiology – A brief account of dormancy, Photoperiodism, phytochrome and its role, Florigen concept, Vernalization,

Defence mechanisms – A brief account of Secondary metabolites (Phenolics, Flavonoids and alkaloids) and their role in plant defence.

PRACTICAL PAPER – VIII
PLANT PHYSIOLOGY – III

Total Units : 13

1. Separation of Photosynthetic pigments by paper chromatography and measurement of Rf Values. **1 unit**
2. Determination of rate of photosynthesis at different wavelengths of light. **1 unit**
3. Determination of rate of photosynthesis at different concentrations of CO_2 **1 unit**
4. Estimation of Ascorbic acid content in a plant sample. **1 unit**
5. Determination of RQ of carbohydrates, fats and proteins. **1 unit**
6. Study of geotropism, phototropism and hydrotropism. **2 unit**
7. Evolution of O_2 during photosynthesis. **1 unit**
8. Evolution of CO_2 during respiration. **1 unit**
9. Kuhne's fermentation vessel. **1 unit**
10. Moll's half leaf Experiment. **1 unit**
11. Evolution of heat during respiration **1 unit**
12. Determination of the rate of growth using Arc Auxanometer **1 unit**
13. An industrial visit to study the manufacture of alcohol / antibiotics / enzymes. Bioinformatics/ Molecular biological lab.

PRACTICAL QUESTION PAPER – VIII
PLANT PHYSIOLOGY-III

Time: 3hours **Max Marks: 35**

1. Separate the photosynthetic pigments from sample **A** by paper chromatography and measure their Rf values. **8 marks**
2. Estimate the ascorbic acid content in the sample **B.** **8 marks**
3. Set up and comment on experiment **C**. **6 marks**
4. Identify and comment on physiological set up **D&E.** **2x 2 ½ 5 marks**
5. Record and submission **5+3 = 8 marks**

SCHEME OF VALUATION

1. A. Requirement-**1** mark, principle- **2** marks, procedure and conducting the experiment- **3** marks, Rf values- **2** marks.
2. B. Requirements- **1** mark, principle- **2** marks, procedure and conducting the experiment- **3** marks, Result- **2** marks.
3. C. Identification-**1** mark, set up- **2** marks, comments-**2** marks, labelled Diagram-**1** mark
4. D. Identification-**½** mark, comments-**1** mark, labelled diagram- **1** mark.

E. Identification- ½ mark, comments-**1** mark, labelled diagram- **1** mark.

5. Record and Submission of field report (hand written field report only) **5+3** marks

LIST OF EXPERIMENTS FOR C.

i. Evolution of O_2 during photosynthesis.
ii. Evolution of CO_2 during respiration.
iii. Moll's half leaf Experiment.
iv. Evolution of heat during respiration (Thermos flask Experiment)

LIST OF EXPERIMENTS FOR D&E.

i. Photosynthesis at different wavelengths of light
ii. Photosynthesis at different concentrations of CO_2
iii. Respirometer experiment for RQ
iv. Kuhne's fermentation vessel
v. Hydrotropism
vi. Phototropism
vii. Geotropism
viii. Arc Auxanometer

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BANGALORE UNIVERSITY

B. Sc., Chemistry Syllabus

I to VI Semesters
(w. e. f. 2014)

Department of Chemistry
Central College Campus
Bangalore - 560 001

FOREWORD

As per the directive from the Bangalore University, the Chemistry syllabus for the B. Sc., degree course (CBCS) had to be prepared. Guidelines for this were provided by the University.

In the Department of Studies in Chemistry, Central College, with the help of the Chemistry Teachers' Forum, a Core Group involving the Teachers of the University Department and affiliated colleges was constituted. This Core Group participated in work-shops held on 22.04.2014, 30.04.2014 and 19.05.2014, keeping in view the aims of the UGC Model Curriculum in developing interdisciplinary skills in students linking general studies with professional courses and allowing both vertical and horizontal mobility and also catering to local needs the syllabus was prepared.

Teachers of different branches of Chemistry, namely Inorganic, Organic, Physical and Biochemistry had separate and joint brainstorming sessions and arrived at a Draft Syllabus in Chemistry for SIX semesters. The Chemistry Teachers' Forum played a pivotal role during the drafting of the syllabus. The Draft Syllabus in chemistry was brought to the attention of a wider group of Teachers for further refinement on 23th May 2014. The final draft incorporating the suggestions was placed before the Department Council on 02. 6. 2014 and then the Board of Studies in Chemistry (UG) on 07. 6. 2014 for approval.

CHAIRMAN
Department of Studies in Chemistry
Central College Campus
Bangalore University
Bangalore-560 001

Members of the Committee for the Preparation of the Chemistry Syllabus for the B. Sc., Degree Course (Semester Scheme)

Chemistry Teachers' Forum: Bangalore University, Bangalore

Physical Chemistry Section

Dr. Girija C R	SSMRV College, Bangalore
Mr. Sripathi	Vivekananada College, Bangalore
Dr. Vasundara D E	BMS College, Bangalore
Ms. Malathi M	Rural College , Kanakapura
Mr. S. Uday Kumar	Rural College, Kanakapura

Inorganic Chemistry Section

Mr. H B Mallesh	GFGC, Channapatna
Mr. Vijaya Babu B.	GFGC, Vijayanagar
Mr. Ramanna	Kongadiappa College, Doddaballapura
Dr. Muddu Krishna K R.	Govt. First Grade College, Varthur, Bangalore
Ms. Hamsini S	GFGC Chickaballapur.
Ms. Vanitha G K	GFGC, Doddaballapur
Mr. G R Rangappa	GFGC, Kolar
C Sanjeevarayappa	GFGC, Yelahanka

Organic Chemistry Section

Dr. Shylaja S	GFGC, K R Puram, Bangalore
Dr. Rekha S	VVS First Grade College, Bangalore
Dr. Shashikala Devi K	Maharani Science College, Bangalore
Dr. Prathima Rao	Vivekananda College, Bangalore
Ms. Shamsiya Rizwana	M E S College, Bangalore
Mr. Sridhar B T	Maharani Science College, Bangalore

Biochemistry Section

Dr. Nanda N	BMS College for Women, Bangalore
Ms. Radhika R	GFGC, Channapatna
Ms. Kathyayini	National College, Gowribidanur.

Proceedings of the Meeting of Board of Studies in Chemistry (UG) held on 7th June 2014 at 10.30 am in the Department of Chemistry, Central College Campus, Bangalore-560 001.

The Chairman welcomed the members of the Board to the meeting and placed the agenda before them for discussion.

Agenda: 1. *Scrutiny and approval of the Syllabus for the B. Sc., Degree, Chemistry Course (Semester Scheme)*.

2. *Preparation of the BOE (UG) and Professional Courses for the Academic Year 2014-15.*

The Chairman informed the members that, as per the directive from the Bangalore University, the Chemistry syllabus for the B. Sc., degree has been prepared with the help of the Chemistry Teachers' Forum which constituted a Core Group form affiliated Colleges, is proposed to be introduced from 2014 onwards. In this connection, the Core Group participated in workshops held on three days: 22. 04. 2014, 30. 04. 2014 and 19. 05. 2014 and prepared a Draft syllabus. The syllabus was then finalized in a workshop conducted on 23th May 2014 in the presence of a wider group of Teachers represented by most of the colleges offering Chemistry at UG level. The draft syllabus was then placed before the Department Council on 2. 6. 2014 for approval, the approved syllabus is now placed before the Board for Scrutiny and approval.

The Board of Studies (UG) approved the Syllabus after some modifications.

The Board also prepared the BOE (UG) Chemistry and BOE Professional Course (BE., Chemistry).

The meeting ended with the vote of thanks by the Chairman.

The following members were present.

1. Dr. Shaheen Taj
2. Sri. R. Vinay Kumar
3. Sri. S. Vijay Kumar
4. Sri. H. B. Mallesh
5. Sri. G. Siddalingaiah
6. Smt. M. Malathi
7. Dr. Venkatesha, B. M (External Member)
8. Dr. Nanjundaswamy, N (External Member)
9. Dr. M. A. Pasha Chairman, (BOS, UG)

SCHEME OF EXAMINATION

Title of the paper	Contact hours/Week	Exam. hours	IA	Marks	Total Marks	Credits
First Semester						
Chemistry-I	4	3	30	70	100	2
Chemistry Practical-I	3	3	15	35	50	1
Second Semester						
Chemistry-II	4	3	30	70	100	2
Chemistry Practical-II	3	3	15	35	50	1
Third Semester						
Chemistry-III	4	3	30	70	100	2
Chemistry Practical-III	3	3	15	35	50	1
Fourth Semester						
Chemistry-IV	4	3	30	70	100	2
Chemistry Practical-IV	3	3	15	35	50	1
Fifth Semester						
Chemistry-V	3	3	30	70	100	2
Chemistry- VI	3	3	30	70	100	2
Chemistry Practical-V	3	3	15	35	50	1
Chemistry Practical-VI	3	3	15	35	50	1
Sixth Semester						
Chemistry-VII	3	3	30	70	100	2
Chemistry VIII	3	3	30	70	100	2
Chemistry Practical-VII	3	3	15	35	50	1
Chemistry Practical-VIII	3	3	15	35	50	1

B. Sc., – I Semester
Paper- I

UNIT-I

Mathematical Concepts for Chemistry **4 hours**

Logarithmic relations: Definition, some important relations like log*(m+n)*, $\log\left(m/n\right)$, *log* m^n, change of base ($\log_e 2 \rightarrow \log_e x$). Application in the calculation of pH.

Curve sketching: How a cure is sketched with a set of points: linear and non-linear (asymptotic) with a set of points, sketching both linear and non-linear curves. Calculation of slope in the case of linear curve.Extrapolation of linear curve and arriving at a limiting value.

Parabolic curve- maximum and minimum. *Differentiation*: Meaning and derivative of functions like e^x, log *x, sin x, cos x,* $1/x$, x^2, $x^x$and $\sqrt{n}$, $\frac{dy}{dx} = 0$ at maximum and minimum.

2nd *order differentiation*: for maximum and minimum (derivation from first principles not required). Rules of differentiation for $y = u + v$, $y = uv$, $y = \frac{u}{v}$ and $y = ku$, where *k* is constant.

Partial differentiation: Explanation, applications using the equation, H = U + PV and G = H − TS.

Integration: Meaning and integrals of functions like, *x, dx,*x^2, $1/x$, $1/x^2$, $1/x^3$, x^n, e^x, *sin x* and *cos x*. simple problems from I and II order kinetics.

Exact and inexact differentials: Examples from internal energy and enthalpy. *Definite integrals*.

Probability: some definitions, examples from atomic orbitals, wave functions and entropy.

Gaseous state **9 hours**

***Introduction*:** Need for Maxwell-Boltzmann distribution law, mathematical expression for both mole and molecule-explanation of the terms only. Explanation of velocity distribution curves based on this law (no derivation). Mean free path, collision frequency and collision number. Definition and expressions using SI units (no derivations). Derivation of expression for most probable speed from Maxwell-Boltzmann equation Definitions and expressions for rms velocity and average velocity, relationships between them. Problems.

Andrew's isotherm on carbon dioxide and explanation of the curves (no experimental details). Derivation of critical constants T_c, P_c and V_c from van der Waal's equation and their experimental determination by Cagniard de La Tour method for T_c and P_c. Amagat's mean density method for V_c. Problems on the calculation of T_c, P_c and V_c, *a* and *b*.

Law of corresponding states-statements, reduced equation of state and explanation, Joule-Thomson effect-explanation. Joule-Thomson co-efficient, inversion temperature-definition (no derivation).The application of Joule-Thomson effect to the liquefaction of air and hydrogen by Linde's process.

UNIT-II

Photochemistry **4 hours**

Laws of photochemistry. Grotthus-Draper law, Stark-Einstein law, differences between photophysical and photochemical processes with examples. Comparison of photochemical and thermal reactions. Quantum yield of photochemical combination of (i) H_2 and Cl_2 (ii) H_2 and Br_2 (iii) dissociation of HI (iv) dimerisation of anthracene. Photosensitization, photostationary

equilibrium. Singlet and triplet states. Fluorescence, phosphorescence, luminescence, bioluminescence and chemical sensors.

Beer-Lambert's law and its applications. Numerical problems on absorption coefficient and molar extinction coefficient.

Liquids and Solutions **9 hours**

Properties of liquids-Viscosity, Surface tension and Parachor-Definition, mathematical expression, numerical problems and factors affecting them.

Viscosity- Definition, mathematical expression, Coefficient of viscosity, effect of temperature, size, weight, shape of molecules and intermolecular forces on it.

Surface Tension-Definition, mathematical expression, effect of temperature and solute on it

Parachor-Definition, Sugen equation, calculation and applications. Numerical problems.

Liquid Mixture: Review of Raoult's law, ideal and non-ideal solutions.

Completely miscible liquids-Fractional distillation Tc curves for all the three types, azeotropic mixtures -examples.

Completely miscible liquids-Critical solution temperature (Three types), examples. Effect of addition of salt on CST of phenol-water system.

Immiscible liquids-Steam distillation and its applications.

Distribution law-Statement, partition coefficient and condition for validity of distribution of distribution law. Application-solvent extraction

Dilute solutions- Review of colligative properties and concentration terms

Determination of molecular mass of a solute by: (i) Berkeley-Hartley's method (π); (ii) Beckmann's method (ΔT_f) and (iii) Landsberger's method. Numerical problems.

UNIT-III

Periodic Table and Periodic properties **9 hours**

Review of the modern periodic table (with respect to classification of elements based on outer electronic configuration)

Periodic properties: Atomic and ionic radii, ionisation energy, electron affinity and electronegativity. Trends in the periodic properties. Applications in predicting and explaining chemical behaviour. Factors affecting the values of ionisation energy. Determination of electronegativity by Pauling's method. Diagonal relationship between beryllium and aluminium. Comparitive study of elements of alkali and alkalline earth metals, chalcogens and halogens with respect to electronic configuration, atomic and ionic radii, ionisation energy, and elecronegativity. Halides, oxides and carbonates of alkali and alkalline earth metals. Hydrides of chalcogens and halogens.

Analytical Chemistry **4 hours**

Errors: Classification, minimization of determinate errors, accuracy and precision. Significant figures and their computations.

Equivalent weights of acids, bases, salts, oxidising and reducing agents. Methods of expressing concentration of solutions in terms of Normality and Molarity. Numerical problems.

UNIT-IV

Basic concepts in organic chemistry **4 hours**

Bond cleavage – homolytic and heterolytic. Types of reagents – electrophilic and nucleophilic reagents. Reactive intermediates - generation and relative stabilities of carbocation, carbanion, carbon free radicals and carbenes – explanation for stability and reactivity based on inductive, resonance and hyperconjugation effects.

Types of reactions - addition, substitution and elimination. Concept of isomerism - structural isomerism, stereo isomerism - geometrical and optical isomerism, chiral center – definition and examples. Tautomerism (keto – enol).

Aliphatic Hydrocarbons **9 hours**

Alkanes: Sources, Nomenclature of branched chain alkanes, preparation of symmetrical and unsymmetrical alkanes- Corey- House reaction and Wurtz reaction - their merits and demerits.

Conformational analysis of n-butane - Sawhorse and Newman projection formulae to be used - Energy profile diagram.

Cycloalkanes: Nomenclature. Method of formation. Explanation for stability based on heat of hydrogenation data, Baeyer's strain theory and its limitation, Sachse - Mohr theory of strain-less rings; cyclopropane ring - banana bonds.

Alkenes: Preparation of alkenes by Wittig reaction-stereoselectivity. Addition of HX to unsymmetrical alkene - Markownikov's rule and Antimarkownikov's rule with mechanism. Reactions: Hydroboration- oxidation, reduction, oxymercuration - demercuration, epoxidation. Mechanism of oxidation with $KMnO_4$ and OsO_4.Ozonolysis- mechanism and importance.

Dienes: Classification- isolated, conjugated, cumulated. Structure of allene and butadiene.1,2 addition and 1,4 addition reactions. Diels Alder reaction-1,3-butadiene with maleic anhydride.

Alkynes: Methods of preparation - Dehydrohalogenation of vicinal and geminal dihalides; and higher alkynes from terminal alkynes. Reactions - metal ammonia reduction – significance. Oxidation with $KMnO_4$, acidic nature of terminal alkynes.

B. Sc., – II Semester
Paper- II

UNIT-I

Quantum Mechanics and Atomic Structure **13 hours**

Review of Bohr's atomic model:

Derivation of expressions of for radius, energy and ionisation energies of hydrogen like atoms. Numerical Problems.

Limitations of classical mechanics. Wave particle duality, Uncertainty principle.

New quantum mechanics-Sinusoidal wave (Explain sinusoidal wave.) equation (classical wave mechanics); Schrodinger wave equation- derivation. Postulates of quantum mechanics.

Significance of terms- (i) Hamiltonian operator; (ii) eigen function Ψ (significance of ψ and ψ^2); (iii) eigen values.

Application of Schrodinger equation: (i) to particle in one dimensional box (derivation required); (ii) to the hydrogen atom (detailed solution not required)

Expressing the solution as a product of $\psi_{n,\,l.\,m}\,(r, \theta, \phi) = \psi_{n,\,l.\,(r)}\psi_{\,l.\,m(\theta,\,\phi)}$

Explanation of quantum numbers (only qualitative). Radial probability distribution and angular probability distribution. Orbitals

UNIT-II

Chemical bonding **13hours**

Ionic bond: Lattice energy, Born-Haber cycle, Born-Lande equation (derivation not required, problems on Born-Lande expression to be worked out). Calculation of lattice energies of NaCl and MgO,effect of lattice energy on solubility of ionic compounds.

Covalent bond: Valence bond approach: hybridization and directional characteristics of sp, sp^2, sp^3, sp^2d, sp^3d^2. Shapes of $BeCl_2$, BF_3, $SiCl_4$, PCl_5, SF_6.VSEPR theory: shapes of CH_4, NH_3, NH_4^+, H_2O, BrF_3, ICl^{2-}.Molecular orbital theory: H_2, He^{2+}, Be_2, N_2, O_2, O^{2-}, O_2^{2-}, O^{2+} and CO (bond order, stability and magnetic properties to be discussed). Polarization concept, Fazan's rule, bond length, bond angle and bond energy, polar and non-polar molecules, dipole moment.

Weak interactions: i). Hydrogen bond: Intra molecular and Intermolecular types, anomalous properties of HF, H_2O, NH_3, alcohols, carboxylic acids, nitro phenols and bio molecules.

ii) van der Waal's forces: Noble gases and molecular crystals (dry ice, Iodine and solid SO_2)

Metallic bond: Band theory, electrical properties of metals, semiconductors and insulators.

UNIT-III

Silicates **2hours**

Structure of SiO_4^{4-}, Classification of silicates based on the structure. Zeolites: their structure and applications.

Noble gases **3hours**

Introduction, isolation of Helium from Natural gas, applications of Noble gases. Preparation properties and structures of fluorides and oxides of Xenon (XeF_2, XeF_4, XeF_6, XeO_3, XeO_4).

General study of d and f block elements. **8hours**

Transition elements: electronic configuration, atomic and ionic radii, ionisation energy, oxidation states, redox potentials, spectral and magnetic properties, catalytic activity, interstitial compound formation.

Lanthanides and Actinides: Electronic configuration, atomic and ionic sizes, lanthanide contraction and its consequences. Oxidation states, spectral and magnetic properties, comparison of oxidation states, complex formation and magnetic properties of d and f block elements. Ion exchange method for separation of Lanthanides.

UNIT-IV

Aromatic hydrocarbons **9 hours**

Nomenclature. Structure of benzene - using molecular orbital theory. Criteria for aromaticity-Huckel's rule (Examples: cyclopentadienyl anion, cycloheptatrieneylcation, benzene, naphthalene, anthracene and phenanthrene). Antiaromaticity.

General mechanism of aromatic electrophilic substitution. Mechanism of nitration of benzene including evidence for the formation of nitronium ion, energy profile diagram and isotopic effect. Orienting influence of substituents in toluene, chlorobenzene, nitrobenzene and phenol.

Aromatic nucleophilic substitution *via* benzyne intermediate, mechanism with evidences for the formation of benzyne by trapping with anthracene, Birch reduction.Side chain oxidation of toluene to benzaldehyde and benzoic acid. Oxidation of naphthalene, anthracene and phenanthrene. Diels-Alder reaction of anthracene with 1,2-dichloroethene.

Alkenyl benzenes: Styrene, *cis*- and *trans*-stilbenes and their preparations.
Biphenyl: Preparation-Ullmann reaction.

Organic halogen compounds **4 hours**

Alkyl halides: Nomenclature. Nucleophilic substitution reactions - S_N1 andS_N2 mechanisms with energy profile diagrams. Effect of (i) nature of alkyl groups,(ii) nature of leaving groups, (iii) nucleophiles and (iv) solvents on S_N1 and S_N2 mechanisms. Elimination reactions - E1 and E2 mechanisms; Hofmann and Saytzeff eliminations with mechanism.

Aryl halides: Preparation by halogenation. Relative reactivity of alkyl, allyl, vinyl, aryl and aralkyl halides towards nucleophilic substitution.

B. Sc., –III Semester
Paper III

UNIT-I

Chemical Kinetics **7 hours**

Review of terms –Rate, Order and Molecularity.

Derivation of expression for the rate constant of a second order reaction with $a = b$ and $a \neq b$. Expression for half-life of a second order reaction. Mean life for first order reaction to be mentioned. Problems on rate constant, half-life period, mean life period and order of reaction.

Determination of order of reaction: differential method, method of integration, method of half-life period and isolation method.

Theories of reaction rates: Effect of temperature on rate of reaction, Arrhenius equation, concept of activation energy. Problems.

Simple collisions theory based on hard sphere model, transition state theory (equilibrium hypothesis). Expression for the rate constant based on equilibrium constant and thermodynamic aspects. Steady state approximation and Lindemann's hypothesis.

Experimental determination of kinetics of: (i) inversion of cane sugar by polarimetric method, (ii) spectrophotometric method for the reaction between potassium persulphate and potassium iodide.

Thermodynamics I **6 hours**

Exact and inexact differentials. Review of terms, I law of Thermodynamics.

Work done (derivation with problems) in isothermal and adiabatic expansion and compression of an ideal gas (IUPAC sign conventions to be used).

Heat capacity of a gas at constant pressure and constant volume: relation between P, V and T in an adiabatic process to be derived. Derivation of Kirchoff's equation. Numerical problems.

Spontaneous and non-spontaneous processes.

Second law of thermodynamics: Limitations of I law of thermodynamics with illustrations. Need for II law of thermodynamics, different ways of stating II law with respect to heat and spontaneity. Other forms of II law of thermodynamics. Concept of entropy and its physical significance-illustrations with order, disorder, physical and chemical processes and probability.

Heat engine-Carnot's cycle and derivation of the expression for its efficiency. Problems based on efficiency equation. II law in terms of efficiency (η). Change in entropy in reversible and irreversible processes (derivations required) . Calculation of entropy changes in reversible isothermal and reversible adiabatic processes. Phase transitions in terms of Entropy (Fusion, vaporization, sublimation and polymorphic changes) in terms of entropy. Limitations of the entropy concept of spontaneity. Problem on Phase transitions

UNIT-II

Thermodynamics II **4 hours**

Gibb's free energy: Work function, chemical potential. Definition and relationship between free energy and work function. Criteria for equilibrium and spontaneous processes. Gibb's-Helmholtz equation-Derivation. Change of free energy with respect to temperature and pressure. Mention of temperature coefficient, van't Hoff isotherm (derivations included), $\Delta G^\circ = -RT\, ln K_p$ Problems.

Derivation of van't Hoff reaction isochore and Clausius-Clapeyron equation. Its applications to ΔT_b and ΔT_f determination (thermodynamic derivation not required).

Qualitative treatment of Nernst heat theorem and III law of thermodynamics-statement only. Elementary concept of residual entropy.

Surface chemistry **4hours**

Review of surface phenomena.

Theories of adsorption . Adsorption isotherms and BET equation (derivation included), Adsorption indicators. Surface film on liquids.

Catalysis –Types and theories ((intermediate compound theory and adsorption theory).

Heterogeneous catalysis: surface reactions, unimolecular, bi-molecular surface reactions. pH dependence of rate constant of catalysed reactions. Autocatalysis.

Organic and Inorganic Polymers **3hours**

Differences between inorganic and organic polymers.

Polymerisation: types: addition and condensation polymerisation

Molecular weight of Polymers: Expression for Weight average and Number average (experimental determination is not required)

Preparation and applications of the following types of polymers

1. Plastics: i)thermosetting plastics(Phenol-formaldehyde)
   ii) thermo softening plastics(PVC)
2. Fibers: Acrylic, polyamide, polyester types: one example for each
3. Rubber: Neoprene,
4. Fluoro Carbons: Teflon
5. Silicones.

Compounds of some Nonmetals. **2hours**

i) Boron and its compounds: Synthesis, structure and applications of Diborane, Borazole and Boron trifluride.

ii) Halogens and its Compounds: Bleaching powder: manufacture and its applications.

UNIT-III

Metallurgy **5 hours**

Ellingham's diagrams: Salient features. Selection of reducing agents using Ellingham's diagrams.Extraction of the following metals.

i) Nickel from sulphide ore
ii) Thorium from Monazite sand
iii) Uranium from Pitch blende
iv) Plutonium from Nuclear waste.

Alcohols and Thiols **8 hours**

Alcohols: Introduction and classification. Methods of preparation - (i) From carbonyl compounds - reduction of aldehydes and ketones (by Meerwein-Pondorff-Verley reaction);
(ii) from acids and esters (by reduction with $LiAlH_4$); (iii) From alkenes (by hydroboration-oxidation with alkaline peroxide); (iv) hydration of alkenes. Reactions of alcohols: Acidic nature, esterification, oxidation of alcohols with $KMnO_4$. Comparison of the reactivity of 1°, 2° and 3° alcohols- Lucas test, oxidation with $K_2Cr_2O_7$.

Glycols: Preparation from alkenes using OsO_4, $KMnO_4$ and from epoxides. Oxidation of glycols by periodic acid and lead tetraacetate with mechanisms. Pinacol-pinacolone rearrangement.

Glycerol: Preparation from propene and from oils/fats. Uses. Reactions of glycerol: (i) nitration, (ii) action of concentrated H_2SO_4 and (iii) oxidation by periodic acid.

Thiols: Nomenclature. Methods of formation and chemical reactions (with sodium, NaOH, metal oxides, formation of thioesters and oxidation with mild and strong oxidizing agents).
Uses of dithianes. Introduction of umpolung character (reversal of polarity) in carbonyl compounds.

UNIT-IV

Phenols **3 hours**

Classification. Acidic nature - Comparison of acidic strength of phenol with alcohols and monocarboxylic acids. Effect of electron withdrawing $-NO_2$ group and electron donating $-CH_3$ group on acidity of phenols at *o-*,*m-*,*p-* positions. Pechmann reaction, Mechanisms of Reimer-Tiemann and Kolbe-Schmidt reactions.
Industrial applications of phenols: Conversion of phenol to (i) aspirin, (ii) methyl salicylate, (iii) salol, (iv) salicyl salicylic acid.

Ethers and Epoxides **4 hours**

Ethers: Methods of preparation – (i) dehydration of alcohols, (ii) Williamson's ether synthesis. Reactions – Ethers as Lewis bases (complexation with metal ions), cleavage and auto-oxidation. Ziesel's method.

Epoxides: Preparation using per acids, Darzen's reaction. Reactions of mono and 1,2-disubstituted epoxides with (i) carbon nucleophiles, (ii) nitrogen nucleophiles, (iii) reduction with $LiAlH_4$.

Fertilizers **4hours**

Introduction(need of fertilizers), functions of essential plant nutrients(N,P,K),
Classification of fertilizers with examples. Nitrogeneous, Phosphatic and mixed fertilizers with suitable examples. Manufacture of urea and Super phosphate of lime, and their uses.
Fertilizer industries in India.

Organometallic compounds **2 hours**

Preparation and synthetic applications of Grignard reagents, Organolithium compounds and lithium dialkylcuprates.

B.Sc., IV -Semester
Paper –IV

UNIT-I

Phase Equilibria 7 hours

Statement and explanation of the terms with examples for phase (P), component (C) and degree of freedom (F), Definition and significance of phase rule. Derivation of phase rule. Application of phase rule to one component systems-water and sulphur, -modified form of phase rule to two component systems. Water–potassium iodide and lead-silver systems. Eutectic mixtures and their applications (examples: freezing mixtures, desilverisation of lead by Patterson's method).

Solid state 6 hours

Crystalline state, Laws of crystallography. Symmetry elements in crystals, crystal systems.Weiss and Miller indices. X-ray diffraction of crystals-derivation of Bragg's equation, . Problems
Liquid crycstals-Types with examples. Applications
Superconducting solids-High temperature superconductors. Applications.

UNIT-II

Water Technology 3hours

Types of impurities present in water. Causes for the hardness of water. Permissible levels of ions present in water. Treatment of water for domestic and Industrial purposes by the following methods.
i) Demineralisation of water by Ion exchange method.
ii) by reverse Osmosis method.

Nuclear and Radiochemistry. 8hours

Nucleus: Structure and stability, binding energy calculations. Instability of the nuclei, radioactive decay law, half life: numerical problems. Radioactive equilibrium, radioactive series. Artificial radioactivity: Nuclear reactions induced by γ-radiation,α,n,p,and d particles. Nuclear fission and fusion. Nuclear reactors, Breeder reactors, atomic energy programme in India. Isotopes- use of radio isotopes in tracer technique, agriculture, medicine, food preservation and Carbon dating-Numerical problems.

Powder metallurgy 2hours

Advantages of powder metallurgy and its applications. Methods of production of metal powders. production of Tungsten powder from Wulframite.

UNIT-III

Steel 5hours

Iron-Carbon Phase diagram, Austenite, Ferrite, Cementite and Pearlite phases.
Alloy steels: Influence of Si, Mn, Cr, Ni, Ti and W on the properties of Steel.
Ferro alloys: Production of ferro chrome, ferro manganese, and ferro silicon and their applications.
Carbon steel: classification. Heat treatment: hardening, case hardening, carbiding, nitriding, tempering and annealing.

Aldehydes and Ketones 8hours

Nomenclature. Preparation of aldehydes: from acid chlorides (Rosenmund reaction), Gattermann-Koch aldehyde synthesis. Preparation of Ketones: From nitriles, from carboxylic acids with alkyl lithium, from acid chlorides with metal alkyls.
Mechanisms of: Aldol condensation, Perkin condensation, Knoevenagel condensation, Benzoin condensation and Acetal formation. General mechanism of condensation with ammonia and its derivatives (NH_2-R; R = $-NH_2$, $-OH$, $-NH-CO-NH_2$).
Reduction: Reduction by $LiAlH_4$ and $NaBH_4$. Mannich reaction. Mechanisms of Clemmensen and Wolff-Kishner reductions.

UNIT-IV

Carboxylic acids and their derivatives. 5 hours

Nomenclature. Preparation: Acid hydrolysis of nitriles with mechanism.

Acidic strength (pK_a values) - Effect of substituents on the strength of aliphatic and aromatic carboxylic acids. (comparison of acidic strength of formic and acetic acids; acetic acid and monochloro, dichloro, trichloro acetic acids ; benzoic and p-nitrobenzoic acid; benzoic acid and p-aminobenzoic acid)

Reactions: Formation of esters, acid chlorides, amides and anhydrides. Hell-Vollhardt-Zelinski reaction, Decarboxylation and reduction (using $LiAlH_4$). (already included under preparation of alcohols from acid)

Di and tri carboxylic acids: Action of heat on dicarboxylic acids (Oxalic to Adipic acids)

Reactions of tartaric acid and citric acid. (action of heat, reduction with HI).

Reactions of acid chlorides (hydrolysis, reaction with alcohol, ammonia and lithium dialkylcuprates) .Acid anhydrides (hydrolysis, reaction with alcohol, ammonia).Esters (alkaline hydrolysis, ammonolysis and alcoholysis).Amides (hydrolysis, reduction, Hoffmann rearrangement). Mechanism of ester hydrolysis - acid and base catalysed (acyl O-cleavage: $B_{AC}2$, $A_{AC}2$; alkyl O-cleavage: $A_{AL}1$ mechanisms).

Tautomerism and Enolates 4 hours

Tautomerism in carbonyl compounds – Keto-Enol tautomerism. Acidity of α-hydrogen atoms in aldehydes, ketones and active methylene compounds (example diethyl malonate, ethyl acetoacetate and acetyl acetone). Preparation of (from acetic acid) and synthetic applications of diethyl malonate (preparation of monocarboxylic acids - butanoic acid, dicarboxylic acid - Adipic acid, unsaturated acids - cinnamic acid, ketones - butanone, cyclic compounds - barbituric acid)

Preparation of ethyl acetoacetate (from ethyl acetate). Synthetic applications of ethyl acetoacetate (preparation of monocarboxylic acids - butanoic acid, dicarboxylic acid –succinic acid, unsaturated acids - crotonic acid, ketones - butanone).

Environmental Chemistry 4hours

Depletion of ozone in the stratosphere. causes and remedial measures. The green-house effect and its consequences. Acid rain, photochemical smog. Treatment of sewage and industrial effluents. Disposal of radioactive wastes.

B.Sc., - V Semester
Paper V

UNIT-I

Stereochemistry **8hours**

Elements of symmetry in chiral and achiral molecules, chirality, stereogenic centre. Fischer projection formulae.

Enantiomers: Optical activity; use of +/–, *d/l* and D/L notations. Properties of enantiomers, chiral and achiral molecules with two stereogenic centers. Meso compounds. Cahn-Ingold-Prelog sequence rules: R, S system of nomenclature.

Diastereomers: Threo and Erythro isomers.

Racemisation and resolution. Relative and absolute configuration.

Optical isomerism due to restricted rotation about single bonds- diphenyl systems.

Geometric isomerism: Determination of configuration of geometric isomers. Cis & trans, E, Z system of nomenclature. Geometric isomerism in oximes.

Alicyclic compounds: Conformations of four to eight membered cycloalkanes and disubstituted cyclohexanes.

Bicylic systems: Nomenclature and conformations of decalins and norbornane.

UNIT-II

Amines **5hours**

Classification. Preparation of alkyl and aryl amines-reductive amination of carbonyl compounds, Gabriel phthalimde synthesis. Basicity of amines in aqueous solution: Inductive, resonance, steric and solvation effects on the basicity of amines. Reaction of amines as nucleophiles – Methylation, quarternary salts, Hoffmann elimination with mechanism. Distinguishing reactions of 1°, 2° and 3° amines.

Diazotization and synthetic applications of diazonium salts.Sandmeyer's reaction. (conversion to chlorobenzene, bromobenzene and benzonitrile), hydrolysis, reduction (to phenyl hydrazine and aniline), coupling reactions to give azo dyes (*p*-hydroxyazobenzene and 1-phenylazo-2-naphthol).

Heterocyclic compounds **4hours**

Introduction, classification, structures, resonance and aromatic character of furan, pyrrole, thiophene and pyridine. Methods of preparation and reactions of pyrrole, furan, thiophene, pyridine. Mechanism of electrophilic substitution reactions. Comparison of basicity of pyrrole, pyridine and piperidine. Preparation and reactions of indole, quinoline and isoquinoline.

UNIT-III

Chemistry of Natural Products **10hours**

Carbohydrates: Introduction and classification.

Monosaccharides: Aldoses, structures of all the D-aldohexoses. Elucidation of open chain structure of D-glucose.Mechanism of mutarotation and anomeric effect.Elucidation of ring structure of D-glucose in detail.

Ketoses: Fructose, interconversion of glucose and fructose.

Disaccharides: Glycosidic bond. Structures of maltose, lactose and sucrose-Haworth and conformational structures.

Terpenes and terpenoids: Occurrence, classification and isoprene rule. Elucidation of structure and synthesis of citral and zingiberene.Structures of limonene, menthol, α-terpineol, camphor, β-carotene, Vitamins-A and their uses.

Alkaloids: Introduction, classification and general characteristics. Structural elucidation and synthesis of nicotine.Structures and uses of ephedrine, caffeine, cocaine, atropine, quinine and morphine.

UNIT-IV

Spectroscopy of Organic compounds **8 hours**

UV-Visible spectroscopy: Introduction. Chromophores and auxochormes; blue shift and red shift. Graphical representation of spectra of 1,3-butadiene, benzene and lycopene. Influence of conjugation on UV absorption-Comparison of UV spectra of acetone and methyl vinyl ketone.

IR spectroscopy: Introduction. Stretching frequencies of −OH (free and H-bonded), alkyl −C−H, C≡C, C=C, C−C, C=O and C−O groups (by taking suitable examples). Graphical representation of IR spectra of benzoic acid and methyl benzoate.

NMR spectroscopy: Basic principles of proton magnetic resonance: Nuclear magnetic spin quantum number I, influence of the magnetic field on the spin of nuclei, spin population, saturation using radio frequency. Nuclear magnetic resonance.chemical shift (δ values), uses of TMS as reference. Nuclear shielding and deshielding effects.Equivalent and non-equivalent protons.Effect of electronegativity of adjacent atoms on chemical shift values.Spin-spin splitting and spin-spin coupling (qualitative treatment only).

Applications of NMR spectroscopy including identification of simple organic molecules. E*xamples*: Shielding and deshielding effects for (i) methane (ii) CH_3−Cl (iii) CH_2Cl_2 (iv) $CHCl_3$. Spin-spin coupling in (i) Cl_2CHCHO (ii) 1,1,2-trichloroethane (iii) CH_3CH_2Cl.

Industrial Organic chemistry **5 hours**

Synthetic dyes: Introduction and classification. Colour and constitution. Synthesis of congo red, malachite green, alizarin and indigo.

Drugs: Chemotherapy, classification of drugs. Synthesis and uses of paracetamol, diclofenac, ranitidine, sulphanilamide and chloramphenicol.

Introduction to Green Chemistry: Principles of Green chemistry and its application to the synthesis of paracetamol.

B. Sc., - V Semester
Paper VI

UNIT-I

Electrochemistry I **10 hours**

Review of electrolytes and Conductance related terms

Methods of determination of molar conductance. Conductometric titrations (only acid-base type). Transport numbers: definition – determination by moving boundary method. Causes of abnormal transport numbers observed in certain systems. Ionic mobility. Problems on transport numbers. Conductivity of water.

Kohlrausch's law and its applications: (i) evaluation of Λ_∞ from Λ_+ and Λ_-(ii) evaluation of degree of dissociation of a weak electrolyte (iii) evaluation of $\Lambda_\infty$of a weak electrolyte (iv) determination of solubility from conductance of saturated solutions of sparingly soluble salts (AgCl and $BaSO_4$). Problems based on these.

Limitations of Arrhenius theory: qualitative account of Debye-Huckel theory, Debye-Huckel-Onsagar equation for aqueous solutions of 1:1 electrolytes. Verification of DHO equation.

Galavanic cell: conventions of representing galvanic cells-reversible and irreversible cells, derivation of Nernst equation for single electrode potential (free energy concept).

UNIT-II

Electrochemistry II **5 hours**

Weston-cadmium cell:Determination of emf of a cell by compensation method. Determination of E° of Zn/Zn^{2+} and Cu/Cu^{2+}electrodes.Liquid junction potentials, elimination of liquid junction potential.

Types of electrodes: Metal and gas electrodes (chlorine), metal/metal insoluble salt electrodes, redox electrodes. Reference electrodes-standard hydrogen electrode, calomel electrode, quinhydrone electrode and glass electrode. Determination of pH using these electrodes. Numerical problems.

Concentration cells: (i) emf of concentration cells (ii) determination of solubility of sparingly soluble salts and numerical problems. Redox electrodes, emf of redox electrodes. Potentiometric titration involving only redox systems.

Ionic equilibria **3 hours**

Hydrolysis of salts of weak acids and weak bases.Ionic product of water. Relationship between K_h, K_w, K_a and K_b. Degree of hydrolysis and its relationship with K_h. Effect of temperature and dilution on degree of hydrolysis. pH of salt solutions. Problems.

Common-ion effect, buffers, buffer action and buffer capacity. pH of buffers. Henderson's equation and its derivation. Solubility product and ionic product in precipitation and in qualitative analysis.

Analytical and biological applications of buffers.

Theories of indicators.

UNIT-III

Physical properties and Molecular structures **5 hours**

Polarization and orientation of dipoles in an electric field. Dipole moment. Induced dipole moment (experimental determination of dipole moment not included). Clausius-Mossotti equation (only statement).Dipole moment and structure of molecules (planar and non-planar).

Magnetic properties-paramagnetic, diamagnetic and ferromagnetic systems. Electrical properties of solids: types of solids-metals, insulators and semiconductors. Pyroelectricity, piezoelectricity, ferroelectricity, inverse piezoelectricity. Thomson effect, Seebeck effect and Peltier effect-definition with examples.

Chemical Spectroscopy I **5 hours**

The interaction of radiation with matter. Regions of electromagnetic spectrum and associated spectroscopic techniques.

Origin of molecular spectra: Born-Oppenheimer approximation.

Rotational spectra of diatomic molecules: Relationship between internuclear distance and moment of inertia. Expression for rotational energy. Numerical problems. Criterion for absorption of radiation-selection rule.

UNIT-IV

Chemical Spectroscopy II **4 hours**

Vibrational spectroscopy*:* Hooke's law- Expression for the frequency of SHO-force constant and its significance. Expression for vibrational energy levels of SHO. Zero point energy., numerical problems. Degree of freedom of polyatomic molecules– modes of vibration for CO_2 and H_2O molecules.

Raman spectroscopy: **3 hours**

Concept of polarisability. Pure rotation, vibration, qualitative study. Stokes and anti-Stoke's lines-selection rules.

Advantages of Raman spectroscopy over IR spectroscopy.

Electronic spectroscopy: Potential energy curves for bonding and antibonding molecular orbitals. Electronic transitions –qualitative description of non-bonding orbitals and transitions between them. Selection rules and Franck-Condon principle.

Electroanalytical Methods **5 hours**

Voltammetry at a dropping mercury electrodes (DME)-Types of current obtained at DME. Ilkovic equation and its applications. Current –potential relation for a cathodic process – half wave potential.

Cyclic Voltammetry-Principles-Experimental set up-Quantitative analysis, determination of diffusion coefficients.

B.Sc., - VI Semester
Paper VII

UNIT-I

Coordination and Organometallic compounds I **10 hours**

Coordination compounds, ligands and their classification (mono, bi, tri, tetra, penta and hexa dentate ligands) and ambidentate ligands, coordination number, nomenclature of coordination compounds in detail. Theories of structure and bonding (Explanation for the formation of complexes by Werner's Theory in detail and its limitations). EAN rule, Valence bond theory-postulates, low spin and high spin complexes with examples, limitations of VBT. Crystal field theory (octahedral, tetrahedral and square planar complexes). Crystal field splitting and crystal field stabilization energies, limitations of CFT. Magnetic properties of $[CoF_6]^{3-}$, $[Co(NH_3)_6]^{3+}$, $[Fe(CN)_6]^{4-}$, $[Fe(CN)_6]^{3-}$. Spectral properties of $[Ti(H_2O)_6]^{3+}$, $[Co(H_2O)_6]^{3+}$, $[CoCl_4]^{2-}$. Isomerism-Structural: ionization, linkage, hydrate and coordination isomerism with examples. Stereoisomerism-geometrical and optical isomerism with examples.
Organometallic compounds – ligands, classification (hapticity). Synthesis and structure of $K[PtCl_3(\eta^2\text{-}C_2H_4)]$ and $[Fe(\eta^5\text{ - }C_5H_5)_2]$,

UNIT-II

Coordination and Organometallic compounds II **4 hours**

Metal carbonyls – $Cr(CO)_6$, $Co_2(CO)_8$, $Mn_2(CO)_{10}$; eighteen electron rule and its deviations with examples.
Applications of coordination/organometallic compounds: *cis*-platin in cancer therapy, Na_2Ca EDTA in the treatment of heavy metals (Pb, Hg) poisoning, Wilkinson's Catalyst in alkene hydrogenation, Monsanto acetic acid process.

Industrial Materials I **6 hours**
Refractories: Properties, classification, determination of PCE values.
Abrasives – definition and classification with examples, applications, hardness, manufacture and importance of carborundum and tungsten carbide.
Glass: Properties, types, manufacture of soda glass. Composition and applications of borosilicate, metallic glass, optical glasses and polycarbonate glass, safety glass, fire and bullet proof glasses.
Ceramics: Raw materials and their roles, varieties of clay, production of ceramic ware, glazing, ceramic insulators.
Cement: Raw materials grades, manufacture of Portland cement (by wet process), setting of cement.

UNIT-III

Industrial Materials II **7 hours**
Paints and Varnishes: Constituents of oil and emulsion paints and their role, constituents of varnishes.

Fuels: Characteristics, Calorific value and its determination using bomb calorimeter, Coal-Varieties, Gaseous fuels-advantages, constituents and their significance, production of Coal gas and composition of LPG. Octane number.
Explosives: Classification, preparation of dynamite and TNT.
Propellants: Characteristics, classification and their applications.

Bioinorganic Chemistry **3 hours**
Essential and trace elements in biological systems with reference to Na^{+}, $K^{+,}$ Ca^{2+}, Fe^{2+}, P, Cu, V and Ni. Metallo-porphyrins with special reference to haemoglobin, myoglobin and chlorophyll. Role of cobalamin (vitamin-B_{12}coenzyme) in living systems.

UNIT-IV

Chemistry of Newer materials **10hours**
Conducting polymers: Introduction, definition and examples-polyaniline, polyacetylene. Mechanism of conduction. Qualitative treatment of doping,Properties: elasticity with high electrical conductivities, Engineering and biological applications.
Super conductors: Introduction, definition, type1, type 2 and atypical. Preparation of high temperature super conductor-$\mathbf{Y_1Ba_2Cu_3O_{x\pm\delta}}$, BCS theory (qualitative treatment only) and general applications of high temperature super conductors.
Fullerenes: Introduction, definition, preparation and isolation of C_{60}. Structure and Chemical reactions (redox reactions, electrophilic aromatic substitution and bromination) of $C_{60.}$Commercial uses of $C_{60.}$Carbon nanotubes-Introduction, definition, examples and structure.
Nanomaterials: Introduction, definition and electronic structure. Different methods of production: Sol gel synthesis, inert gas condensation, mechanical alloying (ball milling), plasma synthesis, electrodeposition, and general applications.

B.Sc., - VI SEMESTER
Paper – VIII

UNIT-I

INTRODUCTION TO BIOCHEMSITRY **2hours**

Contributions of Lavosier, Wohler, Emil Fischer, Louis Pasteur, Embden, Meyerhof, Parnas. Hans Kreb, Michaelis and Menton, Watson and Crick, Chargaff, H.G. Khorana, Knoop, Pauling, Hopkins and Miescher. Elemental and biochemical composition of living organisms. Role of water in biochemical systems (mention the properties of water which makes water a solvent of life).

CARBOHYDRATES **4hours**

Structure and biological importance of derivatives of monosaccharides.

Amino sugars : β-D-glucosamine, galactosamine and their N-acetylated forms: N-acetylmuramic acid (NAMA); N-acetylneuraminic acid (NANA)

Sugar acids–structure and biological importance of D-gluconic acid, D-glucuronic acid and D-glucaric acid.

Sugar phosphates–structure and biological importance of Glucose-6-P, Fructose-6-P, Fructose-1,6-di-P, β-D-ribose-5-P and β-D-deoxyribose-5-P.

Structure and biological importance of oligosaccharides – isomaltose, cellobiose, trehalose.

Polysaccharides - source, comparative account of partial structure and biological function of starch, glycogen, cellulose, chitin and insulin.

LIPIDS **4hours**

Introduction, Classification.

Fatty acids–definition, classification as saturated and unsaturated with examples and structure (lauric, myristic, palmitic, stearic, oleic, linoleic, linolenic and arachidonic acids). Essential fatty acids – definition with examples

Triglycerides–Structure of simple and mixed glycerides, properties of triglycerides- acid and alkali hydrolysis, saponification number and its significance, iodine number and its significance, rancidity (oxidative and hydrolytic), biological importance of triglycerides.

Phosphoglycerides – general structure of 3-Sn–phosphatidic acid, lipid bilayer (as in cell membrane), micelles, liposomes and its applications, structure and biological importance of lecithin, cephalin, phosphatidylserine, phosphatidylinositol.

Cholesterol – definition, types (HDL, LDL and VLDL)

Sphingolipids–structure and biological significance of ceramide.

UNIT-II

PROTEINS **5hours**

***α*-amino acids**: Introduction, structure, classification on the basis of polarity of R-groups, essential and non essential amino acids, ionic properties and reactions of amino acids with alcohol, nitrous acid and Ninhydrin.

Levels of organizations of Protein: Primary structure, Secondary structure (α-helix, triple helix eg., Collagen and β-pleated sheet), tertiary structure and forces stabilizing it, quaternary structure.
Denaturation and renaturation: Thermal renaturation-Aufinsen's experiment with ribonuclease.
Classification of proteins based on structure, composition and biological function (enzymes, hormones, transport agents, antibodies, structural materials with examples).

NUCLEIC ACIDS **3hours**
Types–Components of nucleic acids, bases, nucleosides and nucleotides with structures. Partial structure of polynucleotide.
Structure of DNA (Watson-Crick model) and RNA. Biological roles of DNA and RNAs.
Protein-nucleic acid interaction- chromatin and viral nuclear capsid.

HORMONES **2hours**
Definition.
Classification - a) amino acid derivatives (epinephrine and thyroxine); b) peptide (oxytocin and vasopressin) and polypeptide hormones (insulin and glucagon); c) Steroid hormones (progesterone, testosterone) with functions.
Role of insulin and glucagon in glucose homeostasis.
Mediators of hormone action – Ca^{2+}, cyclic AMP.

UNIT-III

ENZYMES **4hours**
Introduction, Holo enzyme (apo enzyme and co enzyme).Active site, specificity.
Classification of enzymes (EC code number not required).
Enzyme substrate interaction- Fischer and Koshland models.
Enzyme kinetics–factors affecting rate of enzymatic reactions – enzyme concentration, substrate concentration, pH and temperature (mention M. M. equation).
Allosteric enzymes–definition and example
Enzyme inhibitions-Competitive, noncompetitive and uncompetitive inhibition with one example for each.

BIOLOGICAL OXIDATION **4hours**
Bioenergetics- Introduction-stages of energy transformation. Exergonic and endergonic reactions. Relationship between $\triangle G$ and Keq.
High energy phosphates–definition, examples, structural features of ATP that makes ATP a high energy phosphate (electro static repulsion, opposing resonance, solvation of ATP).
Examples of high energy phosphates other than ATP. Energy coupling in biological reactions (explain the concept with suitable examples).
Biological oxidation – comparison of oxidation with combustion using glucose as an example. Redox potentials of some biological important half reactions. Calculation of energy yield from biological redox reaction (oxidation of NADH by oxygen, reduction of acetaldehyde by NADH). Mitochondrial electrotransport chain, oxidative phosphorylation. Substrate level phosphorylation.

BIOCHEMICAL TECHNIQUES **2hours**

Principle and applications of:

- Paper chromatography and TLC.
- Electrophoresis–cellulose acetate membrane electrophoresis and PAGE.

UNIT-IV

METABOLISM **6hours**

Catabolism and anabolism (explanation with an example) – Carbohydrate metabolism, glycolysis, fate of pyruvate. TCA cycle, energetic.

Gluconeogenesis–definition, synthesis of glucose from lactate.

Fatty acid metabolism–activation of fatty acids, role of carnitine, β-oxidation pathway, energetics.

Protein metabolism–general aspects of amino acid degradation – transamination, deamination and decarboxylation. Urea cycle.

MOLECULAR BIOLOGY **4hours**

Central dogma of molecular biology–semi conservative replication and mechanism of DNA replication, transcription, translation.

DNA finger printing – Definition and its applications.

SUGGESTED BOOKS

Inorganic Chemistry

1. Advanced Inorganic Chemistry, 6th Edition
   F. A. Cotton, G. Wilkinson, C. A. Murillo and M. Bochmann-John Wiley & Sons, 1999.
2. Concise Inorganic Chemistry, 5th Edition
   J. D. Lee, Blackwell Science, 2001.
3. Inorganic Chemistry, 4th Edition
   J. E. Huhee, E. A. Keiter and R. I. Keiter, Pearson Education Asia, 2000
4. Inorganic Chemistry, ELBS 2nd Edition
   D. F. Shriver, P. W. Atkins and C. H. Langford, Oxford Univ. Press 2002.
5. Environmental Chemistry
   A. K. De, Wiley Eastern Ltd., 1999.
6. Nuclear and Radiation Chemistry
   Sharma B. K, Goel Publishing House, 1987.
7. Modern Inorganic Chemistry
   W. L. Jolly, McGraw Hill Co.
8. Principles of Inorganic Chemistry
   B. R. Puri and L. R. Sharma, Jauhar S. P-S. N. Chand & Co., 1998
9. Inorganic Chemistry, 3rd Edition (ISE)
   A G Sharpe, Addison Wesley, 1989.
10. Basic Inorganic Chemistry, 3rd Edition
    F. A. Cotton, G. Wilkinson, P. L. Gaus-John Wiley & Sons, 1995.
11. Essential Chemistry, International Edition
    R. Chang, McGraw Hill Co, 1996.
12. University Chemistry, 4th Edition (ISE)
    B. H. Mahan & R. J. Myers, Addison Wesley, 1989.
13. Essential Trends in Inorganic Chemistry
    C. M. P. Mingos, Oxford Univ Press, 1998
14. Chemistry, 3rd Edition
    P. Atkins &L.Jones, W. H. Freeman & Company, 1997.
15. Modern Chemistry, 4th Edition
    D. W. Oxicby, H. P. Gills & N. H. Nachtrieb, Saunders College Publishing, 1998.
16. Fundamental Concepts of applied Chemistry,
Jayashree Ghosh, S Chand Publications.
17. Industrial Chemistry,
    B. K. Sharma, Goel Publishing House

Organic Chemistry

1. Organic Chemistry, Paula YurkanisBruice, Prentice Hall, 2005.
2. Advanced Organic Chemistry
   F. A. Carey and R. J. Sundberg, Plenum, 1990.

3. Organic Chemistry, Vol I & II
I. L. Finar, ELBS, 1986, 1991, 2005
4. Organic Chemistry
R. T. Morrison and R. N. Boyd, Prentice Hall, 1991
5. Organic Chemistry, Maitland Jones, Jr., W. W. Norton & Company
6. Advanced Organic Chemistry
O. S. Bahl and A. Bahl., S. Chand & Co. 1995
7. Advanced Organic Chemistry
J. March, John Wiley & Sons, 2008.
8. Understanding Organic Reaction Mechanisms
A. Jacobs, CambridgeUniv Press, 1998.
9. Organic Chemistry
M. K. Jain, Nagin& Co., 1987
10. A Guide to Mechanism in Organic Chemistry
P. Sykes, Orient Longman, 2005.
11. Organic Spectroscopy
V. R. Dani, Tata McGraw Hill, 1998.
12. Organic Spectroscopy
W. Kemp, ELBS IV Edition, 1998.
13. Synthetic Drugs
G. R. Chatwaal, Himalaya Publications, 2000.
14. Steriochemistry of Organic Compounds ,
Ernest L. Eliel, Samuel H. Wilen, Wiley India Edition,1994

Physical Chemistry

1. Physical Chemistry, 7th Edition
P. W. Atkins and Julio de Paula, Oxford Univ. Press, 2002.
2. The Elements of Physical Chemistry, 3rd Edition
Peter Atkins, OxfordUniv. Press, 2000.
3. Physcial Chemistry – A molecular Approach
Donal A. Mcquarrie and John D. Simon, Viva Low-priced Student Edition, 2001.
4. Introduction to Physical Chemistry, 3rd Edition
Mark Ladd, Cambridge Low-Priced Edition, 1999.
5. Text Book of Physical Chemistry
S. Glasstone, MacMillan India Ltd., 1998.
6. Principles of Physical Chemistry, 4th Edition
B. R. Puri and L. R. Sharma and M. S. Pathania, S. L. N. Chand & Co., 1987
7. Text Book of Physical Chemistry
P. L. Soni., S. Chand & Co., 1993.
8. Physcial Chemistry
Alberty R. A. and Silbey R. J. John Wiley & Sons, 1992.
9. Physical Chemistry
G. M. Barrow, McGraw Hill, 1986.
10. Physical Chemistry, 3rd Edition
Gibert W. Castellan, Narora Publishing House, 1985.

11. Text Book of Polymer Science
Billmeyer, Dr. F. W. John Wiley & Sons, 1984.
12. Basic Physical Chemistry
Walter J. Moore, Prentice Hall, 1972.

Biochemistry

1. Concise Text Book of Biochemistry
T. N. Pattabhiraman, All India Publishers, 2000.
2. Biochemistry
A. L. Lehningeret. al., CBS, 2000.
3. A Text Book of Biochemistry
A. V. S. S. Rama Rao, UBSPD, 1998.
4. Biochemistry
P. C. Champe and R. A. Harvey, J. B. Lipincott& Co, 1982.
5. Fundamentals of Biochemistry
J. L. Jain, S. Chand & Co., 1983.
6. Biochemistry
COSIP-ULP, Bangalore University, 1981.
7. Outlines of Biochemistry
Conn E. E and Stumpf P. K., John Wiley & Sons, 1978.
8. General Biochemistry
Weil J. H., Wiley Eastern
9. BiochemistryCampbell M. K., Harcourt Brace & Co.

Chemistry Practicals for B. Sc., Course

I Semester: Practical 1 (General Chemistry) 3 hours per week

1. Calibration of glass wares: (i) Pipette (ii) Burette (iii) Volumetric flask
2. Estimation of potassium permanganate using standard sodium oxalate solution.
3. Estimation of ferrous ammonium sulphate using standard potassium dichromate solution with potassium ferricyanide as an external indicator.
4. Estimation of ferrous ammonium sulphate using standard potassium dichromate solution with diphenyl amine as an internal indicator. (Change to ferroin indicator?)
5. Estimation of sodium thiosulphate using standard potassium dichromate solution.
6. Estimation of iodine using sodium thiosulphate and standard potassium dichromate solution.
7. Determination of the percentage of available chlorine in the given sample of bleaching powder.
8. Determination of percentage of manganese dioxide from pyrolusite ore.
9. Estimation of chloride by Mohr's method (using potassium chromate as an adsorption indicator).
10. Estimation of chloride by Volhard's method.
11. Estimation of ferrous and ferric iron in a given mixture using standard potassium dichromate solution.
12. Estimation of nitrogen in an ammonium salt using sodium hydroxide solution and standard oxalic acid.
13. Estimation of carbonate and bicarbonate in a given mixture.

Note: ***Standard solutions to be prepared for experiments 2 to 6***.

II Semester: Practical II (Physical Chemistry) 3 hours per week

1. Determination of the density using specific gravity bottle and viscosity of a liquid using Ostwald's viscometer.
2. Determination of percentage composition of a binary liquid mixture by viscosity method.
3. Determination of molar mass of polymer by viscosity method.
4. Determination of the density using specific gravity bottle and surface tension of a liquid using Stalagmometer.
5. Determination of molar mass of a non-electrolyte by Walker-Lumsden method.
6. Determination of degree of dissociation of an electrolyte by ebullioscopic method.
7. Determination of transition temperature of a salt hydrate by thermometric method.
8. Determination of distribution coefficient of acetic acid between water and butanol.
9. Determination of distribution coefficient of benzoic acid between water and toluene.
10. Effect of surfactants on the surface tension of water (Stock solution to be given).

III Semester: Practical III (Organic Chemistry) 3 hours per week

Preparation and purification of organic compounds

1. Recrystallisation and determination of melting point of solids (mixed melting point determination and its importance may be mentioned).
2. Simple distillation and determination of boiling point of liquids.
3. Purification of solids by sublimation.

One stage preparation

(Preparation, recrystallization and melting point determination of the recrystallised sample)

4. Preparation of aspirin from salicylic acid.
   (*Note: Acetic anhydride is to be prepared freshly by distilling acetyl chloride and sodium acetate mixture*).
5. Preparation of paracetamol from *p*-aminophenol.
6. Preparation of dibenzalacetone from benzaldehyde (using acetone-alcoholic sodium hydroxide).
7. Preparation of *p*-aminobenzoic acid from *p*-nitrobenzoic acid.
8. Preparation of *m*-dintrobenzene from nitrobenzene.
9. Preparation of benzoic acid from benzaldehyde.

Two stage preparations

10. Preparation of *p*-bromoaniline from acetanilide.
11. Preparation of *p*-nitroaniline from acetanilide.
12. Preparation of *m*-nitrobenzoic acid from methyl benzoate.
13. Preparation of methyl orange/methyl red by diazotization and coupling.

Chromatography

14. **Paper chromatography**: Extraction of spinach (using 1 : 1 alcohol and Whatmann filter paper)
15. **Thin layer chromatography**: Separation of green leaf pigments/separation of a mixture of two organic compounds.
16. **Column chromatography**: Separation of a mixture of two organic compounds

IV Semester: Practical IV (Inorganic Chemistry) 3 hours per week

1. Systematic semi-micro qualitative analysis of a mixture of two simple salts (with no interfering radicals).
2. Separation of metal ions (Cu^{2+}, Co^{2+}, Ni^{2+}, Fe^{2+})using paper chromatography and calculation of R_f values (To be performed by the students)
3. Separation of Mg(II) and Fe(II) by solvent extraction technique.
4. Effluent analysis.

V Semester: Practical V (Organic Chemistry) 3 hours per week

1. Organic qualitative analysis of mono functional organic compounds through functional group analysis. Determination of physical constant. Preparation and characterization of a suitable derivative.
2. Isolation of lycopene from tomatoes.
3. Isolation of caffeine from tea leaves.

V Semester: Practical VI (Physical Chemistry) 3 hours per week

1. Determination of velocity constant for acid catalysed hydrolysis of methyl acetate and determination of energy of activation.
2. Determination of velocity constant for the saponification of ethyl acetate ($a = b$).
3. The study of kinetics of potassium persulphate and potassium iodide colorimetrically.
4. Determination of equivalent conductivity of 0.1 N sodium chloride and verification of DHO equation.
5. Determination of dissociation constant of monochloroacetic acid by conductivity method.
6. Conductometric titration of hydrochloric acid with sodium hydroxide.
7. Potentiometric titration of potassium dichromate with ferrous ammonium sulphate.
8. Determination of Critical Micellar Concentration (CMC) by conductivity method.
9. Determination of pK_a of a weak acid by pH metric method.
10. To construct the phase diagram of two component system (Ex. diphenylamine-benzophenone) by cooling curve method.
11. Determination of percentage of sodium chloride by miscibility temperature method.
12. Estimation of Cu^{2+} colorimetrically and verification of Beer-Lambert's law.
13. Determination of Oxidation and Reduction potential of $K_4Fe(CN)_6/K_3Fe(CN)_6$ system by cyclic voltammetry.

VI Semester: Practical VII (Inorganic Chemistry) 3 hours per week

1. Estimation of percentage of iron in haematite using bariumdiphenylamine sulphonateas an internal indicator.
2. Estimation of calcium in lime stone.
3. Estimation of copper in brass.
4. Estimation of zinc using EDTA.
5. Estimation of total hardness of water using EDTA.
6. Gravimetric estimation of barium as barium sulphate.
7. Gravimetric estimation of nickel as nickel dimethyl glyoximate.
8. Preparation of cuprammoniumsulphate and determination of λ_{max} and hence CFSE.
9. Preparation of sodium trioxalatoferrate (III) and estimation of iron.
10. Estimation of nickel using EDTA and standard zinc sulphate.
11. Preparation of ferrous oxalate and its analysis (both iron and oxalate).

VI Semester: Practical VIII (Biochemistry) 3 hours per week

1. Preparation of buffers and determination of their pH values using pH meter.
2. Estimation of reducing sugars by Hegdorn-Jensen method.
3. Estimation of lactose in milk by Nelson-Somyogi's method.
4. Estimation of creatinine by Jaffe's method.
5. Estimation of inorganic phosphate by Fiske-Subbarow method.
6. Estimation of total reducing sugars by DNS (dinitrosalicylic acid) method.
7. Isolation of lactose and casein from milk and estimation of lactose by colorimetric method.
8. Estimation of α-amino acids using ninhydrin by colorimetric method.
9. Determination of blood group.
10. Separation of α-amino acids by paper chromatography.
11. Isolation of DNA from onions.
12. Estimation of cholesterol by colorimetric method.

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Proposed Syllabus for B.Sc. Mathematics paper for 6 semesters under Choice Based Credit Scheme (CBCS)

Effective from the academic year 2014-2015

Department of Mathematics
Bangalore University

BANGALORE UNIVERSITY
DEPARTMENT OF MATHEMATICS

Date: 13-6-2014

PROCEEDINGS OF THE BOS (UG) IN MATHEMATICS

The meeting of the Board of Studies in UG Mathematics for the year 2014-15 was held on Friday, June 13, 2014 at 2-00 p.m. in the chambers of the Chairman. The following members attended the meeting:

1. Dr. Pradeep G. Siddheshwar	Chairman	
2. Dr. Gayatri Nataraj	Member	
3. Dr. Sudhakar H. R.	Member	
4. Shri Ashwartha Reddy M.	Member	
5. Shri Thajmull Pasha B.	Member	ABSENT
6. Shri Ramakrishnappa V.	Member	
7. Shri Narasimhamurthy A. G.	Member	
8. Smt. Madhulatha Moses	Member	
9. Shri Sethuram H. R.	Member	
10. Dr. S. Pranesh	External Member	
11. Shri Vittal V. Kulkarni	External Member	13/6/14

Agenda and resolution:

1. Discussion on the syllabus of mathematics papers of B.Sc. course

   The BOS had a discussion on the draft syllabus for three years of B.Sc. (six semesters) prepared by teachers and approved the same with a practical component (mathematics practicals with FOSS tools for programming). Further, the BOS authorizes the BOS (PG - mathematics) to deliberate and decide on the contents of the syllabus of B.Sc.(Honours) which is the same as that of I M.Sc. (Mathematics).
   The BOS also resolved to change the list of practical experiments each year.

2. Panel of examiners of UG (Mathematics) and UG (Engineering Mathematics).

   The committee approved the updated panel of examiners of the two UG courses.

CHAIRMAN

Copy to:
1. The PS to the Registrar, Bangalore University, Bangalore.

2. The PS to the Vice-chancellor, Bangalore University, Bangalore.

Structure of B.Sc. / B.Sc.(Hons.) – Mathematics papers

Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
				IA	Exam	Total	
I Semester							
Mathematics paper with practicals of 3credits	Theory Prac.	4 3	3 3	30 15	70 35	100 50	2 1
II Semester							
Mathematics paper with practicals of 3credits	Theory Prac.	4 3	3 3	30 15	70 35	100 50	2 1
III Semester							
Mathematics paper with practicals of 3credits	Theory Prac.	4 3	3 3	30 15	70 35	100 50	2 1
IV Semester							
Mathematics paper with practicals of 3credits	Theory Prac.	4 3	3 3	30 15	70 35	100 50	2 1
V Semester							
Two Mathematics papers with practicals of 3 credits each	Theory Prac. Theory Prac.	3 3 3 3	3 3 3 3	30 15 30 15	70 35 70 35	100 50 100 50	2 1 2 1
VI Semester							
Two Mathematics papers with practicals of 3 credits each	Theory Prac. Theory Prac.	3 3 3 3	3 3 3 3	30 15 30 15	70 35 70 35	100 50 100 50	2 1 2 1

Note: The structure of the syllabus of mathematics paper of B. Sc. (Hons.) is included in the structure of M.Sc. (Mathematics) syllabus.

MISSION AND VISION OF THE NEW SYLLABUS IN MATHEMATICS

Mission

- Improve retention of mathematical concepts in the student.
- To develop a spirit of inquiry in the student.
- To improve the perspective of students on mathematics as per modern requirement.
- To initiate students to enjoy mathematics, pose and solve meaningful problems, to use abstraction to perceive relationships and structure and to understand the basic structure of mathematics.
- To enable the teacher to demonstrate, explain and reinforce abstract mathematical ideas by using concrete objects, models, charts, graphs, pictures, posters with the help of FOSS tools on a computer.
- To make the learning process student-friendly by having a shift in focus in mathematical teaching, especially in the mathematical learning environment.
- Exploit techno-savvy nature in the student to overcome math-phobia.
- Propagate FOSS (Free and open source software) tools amongst students and teachers as per vision document of National Mission for Education.
- To set up a mathematics laboratory in every college in order to help students in the exploration of mathematical concepts through activities and experimentation.
- To orient students towards relating Mathematics to applications.

Vision

- To remedy Math phobia through authentic learning based on hands-on experience with computers.
- To foster experimental, problem-oriented and discovery learning of mathematics.
- To show that ICT can be a panacea for quality and efficient education when properly integrated and accepted.
- To prove that the activity-centered mathematics laboratory places the student in a problem solving situation and then through self exploration and discovery habituates the student into providing a solution to the problem based on his or her experience, needs, and interests.
- To provide greater scope for individual participation in the process of learning and becoming autonomous learners.
- To provide scope for greater involvement of both the mind and the hand which facilitates cognition.
- To ultimately see that the learning of mathematics becomes more alive, vibrant, relevant and meaningful; a program that paves the way to seek and understand the world around them. A possible by-product of such an exercise is that math-phobia can be gradually reduced amongst students.
- To help the student build interest and confidence in learning the subject.

Support system for Students and Teachers in understanding and learning FOSS TOOLS:

As a national level initiative towards learning FOSS tools, IIT Bombay for MHRD, Government of India is giving free training to teachers interested in learning open source softwares like scilab, maxima, octave, geogebraand others.

(website: http://spoken-tutorial.org ; email: contact@spoken-tutorial.org ; info@spokentutorial.org)

NEW SYLLABUS
FIRSTSEMESTER
MATHEMATICS – I

(4 lecture hours per week+3 hours of practicals/week per batch of not more than 10 students)

(56 HOURS)

THEORY

1. ALGEBRA - I

Matrices

Elementary row and column transformations(operations), equivalent matrices, theorems on it. Row- reduced echelon form, Normal form of a matrix , Rank of a matrix, Problems.

Homogeneous and Non – Homogeneous systems of *m* linear equations in *n* unknowns consistency criterion – criterion for uniqueness of solutions. Solution of the same by elimination method.

Eigenvalues and Eigenvectors of a square matrix of order 2 and 3,standard properties, Cayley-Hamilton theorem (with proof). Finding A^{-1}, A^{-2} and A^2, A^3, A^4

(14 lecture hours**)**

2. CALCULUS - I

a) Differential Calculus

Successive Differentiation - n^{th} derivatives of the functions: e^{ax} , $(ax + b)^n$, log(ax + b), sin(ax + b) , cos(ax + b), $e^{ax}sin(bx+ c)$, $e^{ax}\cos(bx + c)$ – Problems

Leibnitz theorem (with proof) and its applications.

Partial differentiation –Function of two and three variables - First and higher derivatives - Homogeneous functions – derivatives- Euler's theorem and its extension (with proof) - Total derivative and differential - Differentiation of implicit functions and composite functions – Problems - Jacobians – Properties of Jacobians problems.

b) Integral Calculus

Reduction formulae for $\int \sin^n x\,dx$, $\int \cos^n x\,dx$, $\int \tan^n x\,dx$, $\int \cot^n x\,dx$, $\int \sec^n x\,dx$, $\int \operatorname{cosec}^n x\,dx$, $\int \sin^m x \cos^n x\,dx$, with definite limit. Differentiation under integral sign by Leibnitz rule.

(28 lecture hours)

3.GEOMETRY

Analytical Geometry Of Three Dimensions

Recapitulation of elements of three dimensional geometry - Different forms of equations of straight line and plane.

Angle between two planes - Line of intersection of two planes - Plane coaxal with given planes - Planes bisecting the angle between two planes - Angle between a line and a plane - Coplanarity of two lines - Shortest distance between two lines.

Equation of the sphere in general and standard forms - equation of a sphere with given ends of a diameter.Tangent plane to a sphere, orthogonallity of spheres.

Standard equations of right circular cone and right circular cylinder.

(14 lecture hours)

Note: All the derivations (book works) must be through vector methods with reduction to corresponding Cartesian equivalents.

Suggested distribution of lecture hours

1.Matrices: 1 hour perweek

2.Differential Calculus and Integral Calculus: 2 hours perweek

3. Analytic Geometry of three dimensions: 1 hour perweek.

Text Books/open source materials

1. Shanti Narayan and P K Mittal , Text book of *Matrices*, 5th edition, New Delhi, S Chand and Co. Pvt. Ltd.,2013.
2. Shanthi Narayan and P K Mittal, *Differential Calculus*, Reprint. New Delhi: SChand and Co. Pvt. Ltd., 2014.
3. Shanthi Narayan and P K Mittal, *Integral Calculus*, Reprint. New Delhi: S. Chand and Co. Pvt. Ltd., 2013.
4. Shanthi Narayan and P K Mittal, *Analytical Solid Geometry*. New Delhi: S. Chand and Co. Pvt. Ltd., 2014.
5. www.scilab.org.
6. **wxmaxima**.sourceforge.net
7. www.geogebra.org

Reference Books

1. B S Vatssa, *Theory of Matrices*, New Delhi: New Age International Publishers, 2005.
2. A R Vashista, Matrices, Krishna Prakashana Mandir, 2003.
3. G B Thomasand R L Finney, *Calculus and analytical geometry,Addison Wesley, 1995*.

4. J Edwards, *An elementary treatise on the differential calculus: with applications and numerous example*, Reprint. Charleston, USA: BiblioBazaar, 2010.
5. N P Bali, *Differential Calculus*, India: Laxmi Publications (P) Ltd.., 2010.
6. S Narayanan & T. K. Manicavachogam Pillay, *Calculus*.: S. Viswanathan Pvt. Ltd., vol. I & II1996.
7. Frank Ayres and Elliott Mendelson, *Schaum's Outline of Calculus*, 5th ed. USA: Mc. Graw Hill., 2008.
8. S.P.Mahajan & Ajay Aggarwal, *Comprehensive Solid Geometry* , 1st ed.: Anmol Publications , 2000.

Useful web links:

1. http://www.cs.columbia.edu/~zeph/3203s04/lectures.html
2. http://home.scarlet.be/math/matr.htm
3. http://www.themathpage.com/
4. http://www.abstractmath.org/
5. http://ocw.mit.edu/courses/mathematics/
6. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
7. http://ocw.mit.edu/OcwWeb/Mathematics/18-01Fall-2005/CourseHome/index.htm
8. http://mathworld.wolfram.com/Calculus.html
9. http://ocw.mit.edu/courses/mathematics/
10. http://www.univie.ac.at/future.media/moe/galerie.html
11. http://mathworld.wolfram.com/AnalyticGeometry.html

PRACTICALS – I

Mathematics practicals with F*ree* and O*pen*S*ource* S*oftware* (FOSS) tools for computer programs
(3 hours/ weekper batch of not more than 10 students)

LIST OF PROBLEMS

1. Introduction to Scilab and commands connected with matrices.
2. Computations with matrices.
3. Row reduced echelon form and normal form.
4. Establishing consistency or otherwise and solving system of linear equations.
5. Introduction to Maxima and commands for derivatives and n^{th} derivatives.
6. Scilab and Maxima commands for plotting functions.
7. n^{th} derivative without Leibnitz rule.
8. n^{th} derivative with Leibnitz rule.
9. Obtaining partial derivative of some standard functions
10. Verification of Euler's theorem, its extension and Jacobian.
11. Maxima commands for reduction formula with or without limits.

12. Implementing vector form of line.
13. Implementing vector form of plane.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics).

SECOND SEMESTER
MATHEMATICS – II

(4 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

(56 HOURS)

THEORY

1. ALGEBRA - II

Group Theory

Binary operation, algebraic structure-problems on finding identity and inverse. Definitions of semigroup and group, abelian group – problems on finite and infinite groups. Properties of group with proof – standard problems on groups – A finite semigroup with both the cancellation laws is a group – Any group of order less than five is abelian – permutation groups.

Subgroups- theorems on subgroups (with proof)- problems.

(14 lecture hours)

2. CALCULUS - II

a) Differential Calculus

Polar coordinates - Angle between the radius vector and the tangent - Angle of intersection of curves (polar form) polar sub-tangent and polar subnormal- perpendicular from pole on the tangent - Pedal equations. Derivative of an arc in Cartesian, parametric and polar forms.

Curvature of plane curves - formula for radius of curvature in Cartesian, parametric, polar and pedal forms - centre of curvature - evolutes. Singular points – Asymptotes – Envelopes. General rules for tracing of curves.

b) Integral Calculus

Applications of Integral Calculus: computation of length of arc, plane area and surface area and volume of solids of revolutions for standard curves in Cartesian and Polar forms.

(28 lecture hours)

4.DIFFERENTIAL EQUATIONS – I

Solutions of ordinary differential equations of first order and first degree:

(i) Linear equations, Bernoulli equation and those reducible to these.

(ii) Exact equations(excluding reducible to Exact)

Equations of first order and higher degree – non linear first order, higher degree – (Mention) solvable for p - solvable for y - solvable for x - Clairaut's equation -

singular solution - Geometric meaning.Orthogonal trajectories in Cartesian and polar forms.

(14 lecture hours)

Suggested distribution of lecture hours

1. Algebra-II (Group theory) : 1 hour / week
2. Calculus-II (Differential calculus & Integral Calculus): 2 hours / week.
3. Differential Equations-I: 1 hour / week.

Text Books/open source materials

1. Herstein I N, *Topics in Algebra*, 4th ed. New Delhi, India: Vikas Publishing House Pvt. Ltd, 1991.
2. Shanthi Narayan and P K Mittal, *Differential Calculus*, Reprint. New Delhi: S Chand and Co. Pvt. Ltd., 2014.
3. Shanthi Narayan and P K Mittal, *Integral Calculus*, Reprint. New Delhi: S. Chand and Co. Pvt. Ltd., 2013.
4. M D Raisinghania, Ordinary and Partial Differential Equations, S Chand and Co. Pvt. Ltd., 2014.
5. www.scilab.org.
6. **wxmaxima**.sourceforge.net
7. www.geogebra.org

Reference Books

1. Michael Artin, *Algebra*, 2nd ed. New Delhi, India: PHI Learning Pvt. Ltd., 2011.
2. Vashista, *A First Course in Modern Algebra*, 11th ed.: Krishna Prakasan Mandir, 1980.
3. John B Fraleigh, *A First course in Abstract Algebra*, 3rd ed.: Narosa Publishing House., 1990.
4. R Balakrishan and N.Ramabadran, *A Textbook of Modern Algebra*, 1st ed. New Delhi, India: Vikas publishing house pvt. Ltd., 1991.
5. G B Thomasand R L Finney, *Calculus and analytical geometry, Addison Wesley, 1995*.
6. J Edwards, *An elementary treatise on the differential calculus: with applications and numerous example*, Reprint. Charleston, USA: BiblioBazaar, 2010.
7. N P Bali, *Differential Calculus*, New ed. New Delhi, India: Laxmi Publications (P) Ltd.., 2010.
8. S Narayanan & T. K. Manicavachogam Pillay, *Calculus*.: S. Viswanathan Pvt. Ltd., vol. I & II, 1996.

9. Frank Ayres and Elliott Mendelson, *Schaum's Outline of Calculus*, 5th ed. USA: Mc. Graw Hill., 2008.
10. E Spiegel, *Schaum's Outline of AdvancedCalculus*, 5th ed. USA: Mc. Graw Hill., 2009.
11. M D Raisinghania, Advanced Differential Equations, S Chand and Co. Pvt. Ltd., 2013.
12. F Ayres, *Schaum's outline of theory and problems of Differential Equations*, 1st ed. USA: McGraw-Hill, 2010.
13. S Narayanan and T K Manicavachogam Pillay, *Differential Equations*.: S V Publishers Private Ltd., 1981.
14. G F Simmons, *Differential equation with Applications and historical notes,* 2nd ed.: McGraw-Hill Publishing Company, Oct 1991.

Useful web links:

1. http://www.themathpage.com/
2. http://www.abstractmath.org/
3. http://ocw.mit.edu/courses/mathematics/
4. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
5. http://ocw.mit.edu/OcwWeb/Mathematics/18-01Fall-2005/CourseHome/index.htm
6. http://mathworld.wolfram.com/Calculus.html
7. http://ocw.mit.edu/courses/mathematics/
8. http://www.univie.ac.at/future.media/moe/galerie.html
9. http://tutorial.math.lamar.edu/classes/de/de.aspx
10. http://www.sosmath.com/diffeq/diffeq.html
11. http://www.analyzemath.com/calculus/Differential_Equations/applications.html

PRACTICALS –II

Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Creating a Scilab program (simple examples).
2. Creating a Maxima program (simple examples).
3. i. Verifying whether given operator is binary or not.
   ii. To find identity element of a group.
   iii.To find inverse element of a group.
4. Finding all possible subgroups of a finite group.
5. Plotting of standard Cartesian curves using Scilab/Maxima.
6. Plotting of standard Cartesian curves using Scilab/Maxima.

7. Plotting of standard Polar curves using Scilab/Maxima.
8. Plotting of standard parametric curves using Scilab/Maxima.
9. Scilab/Maxima programs for area and volume.
10. Solution of Differential equation using Scilab/Maxima and plotting the solution-I.
11. Solution of Differential equation using Scilab/Maxima and plotting the solution-II.
12. Solution of Differential equation using Scilab/Maxima and plotting the solution-III.
13. Solution of Differential equation using Scilab/Maxima and plotting the solution-IV.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics).

THIRD SEMESTER
MATHEMATICS-III

(4 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

(56 HOURS)

THEORY

1. ALGEBRA - III

Groups

Order of an element of a group – properties related to order of an element- subgroup generated by an element of a group –coset decomposition of a group, Cyclic groups- properties- modulo relation- index of a group –Lagrange's theorem- consequences.

(14 lecture hours)

2. ANALYSIS – I

a) Sequences Of Real Numbers

Definition of a sequences-Bounded sequences- limit of a sequences- convergent, divergent and oscillatory sequences- Monotonic sequences and their properties- Cauchy's criterion.

b) Series Of Real Numbers

Definition of convergence, divergence and oscillation of series -properties of Convergence series - properties of series of positive terms – Geometric series Tests for convergence of series -p- series - comparison of series Cauchy's root Test -D Alembert's test. Raabe's test ,- Absolute and conditional convergence-D' Alembert test for absolute convergence - Alternating series - Leibnitz test.

Summation of binomial, exponential and logarithmic series.(28 lecture hours)

3. CALCULUS - III

Differential Calculus

Recapitulation of Equivalence Class and partition of a set. Definition of the limit of a function in ε-δ form –continuity- types of discontinuities. Properties of continuous function on a closed interval (boundedness, attainment of bounds and taking every value between bounds). Differentiability -Differentiability implies Continuity – Converse not true. Rolle's Theorem- Lagrange's and Cauchy's First Mean Value Theorem (Lagrange's form) - Maclaurin's expansion. Evaluation of limits by L' Hospital's rule (14 lecture hours)

Suggested distribution of lecture hours

1. Algebra – III (Groups): 1 hour / week.
2. Analysis-I (sequences of real numbers and series of real numbers):2 hours /week
3. Calculus - III(differential calculus): 1 hour / week.

Text Books/open source materials

1. Herstein I N, *Topics in Algebra*, 4th ed. New Delhi, India: Vikas Publishing House Pvt. Ltd, 1991.
2. Boumslag and Chandler, *Schaum's outline series on groups*, 2010.
3. S.C.Malik and Savita Arora, *Mathematical Analysis*, 2nd ed. New Delhi, India: New Age international (P) Ltd., 1992
4. Shanthi Narayan and P K Mittal, *Differential Calculus*, Reprint. New Delhi: SChand and Co. Pvt. Ltd., 2014.
5. www.scilab.org.
6. **wxmaxima**.sourceforge.net
7. www.geogebra.org

Reference Books

1. Michael Artin, *Algebra*, 2nd ed. New Delhi, India: PHI Learning Pvt. Ltd., 2011.
2. Vashista, *A First Course in Modern Algebra*, 11th ed.: Krishna Prakasan Mandir, 1980.
3. John B Fraleigh, *A First course in Abstract Algebra*, 3rd ed.: Narosa Publishing House., 1990.
4. R Balakrishan and N.Ramabadran, *A Textbook of Modern Algebra*, 1st ed. New Delhi, India: Vikas publishing house pvt. Ltd., 1991.
5. Richard R Goldberg, *Methods of Real Analysis*, Indian ed. New Delhi, India: Oxford and IBH Publishing Co., 1970.

6. G B Thomasand R L Finney, *Calculus and analytical geometry, Addison Wesley, 1995.*
7. J Edwards, *An elementary treatise on the differential calculus: with applications and numerous example*, Reprint. Charleston, USA: BiblioBazaar, 2010.
8. N P Bali, *Differential Calculus*, New ed. New Delhi, India: Laxmi Publications (P) Ltd.., 2010.
9. S Narayanan & T. K. Manicavachogam Pillay, *Calculus*.: S. Viswanathan Pvt. Ltd., vol. I & II1996.
10. Frank Ayres and Elliott Mendelson, *Schaum's Outline of Calculus*, 5th ed. USA: Mc. Graw Hill., 2008.
11. E Spiegel, *Schaum's Outline of AdvancedCalculus*, 5th ed. USA: Mc. Graw Hill., 2009.

Usefulweb links:

1. http://www.themathpage.com/
2. http://www.abstractmath.org/
3. http://ocw.mit.edu/courses/mathematics/
4. http://www.math.unl.edu/~webnotes/contents/chapters.htm
5. http://www-groups.mcs.st-andrews.ac.uk/~john/analysis/index.html
6. http://web01.shu.edu/projects/reals/index.html
7. http://www.mathcs.org/analysis/reals/index.html
8. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
9. http://ocw.mit.edu/OcwWeb/Mathematics/18-01Fall-2005/CourseHome/index.htm
10. http://mathworld.wolfram.com/Calculus.html
11. http://ocw.mit.edu/courses/mathematics/

PRACTICALS –III
Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Examples to verify Lagrange's theorem.
2. Examples for finding left and right coset and finding the index of a group.
3. Illustration of convergent, divergent and oscillatory sequences using Scilab/Maxima.
4. Illustration of convergent, divergent and oscillatory series using Scilab/Maxima.
5. Scilab/Maxima programs to find the sum of the series and its radius of convergence.
6. Using Cauchy's criterion to determine convergence of a sequence (simple examples).
7. Using Cauchy's criterion on the sequence of partial sums of the series to determine convergence of a series.

8. Testing the convergence of binomial, exponential and logarithmic series and finding the sum.
9. Scilab/Maxima programs to illustrate continuity of a function.
10. Scilab/Maxima programs to illustrate differentiability of a function and unequal left hand and right hand limits for discontinuous functions.
11. Scilab/Maxima programs to verify Rolle's theorem and Lagrange's theorem.
12. Scilab/Maxima programs to verify Cauchy's mean value theorem and finding Taylor's theorem for a given function.
13. Evaluation of limits by L'Hospital's rule using Scilab/Maxima.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics). Geogebra/Octave may also be used in place of scilab/maxima.

FOURTH SEMESTER

MATHEMATICS - IV

(4 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

(56 HOURS)

THEORY

1. ALGEBRA –IV

Groups

Normal subgroups-examples and problems –Quotient group-Homomorphism and Isomorphism of groups-Kernel and image of a homomorphism-Normality of the Kernel-Fundamental theorem of homomorphism- properties related to isomorphism-Permutation group-Cayley's theorem.

(14 lecture hours)

2. ANALYSIS -II

Fourier Series

Trigonometric Fourier series of functions with period 2π and period $2L$ – Half range Cosine and sine series.

(9 lecture hours)

3. CALCULUS - IV

Differential Calculus

Continuity and differentiability of a function of two and three variables – Taylor's Theorem and expansion of functions of two variables- Maxima and Minima of functions Of two variables. Method of Lagrange multipliers. (9 lecture hours)

4. MATHEMATICAL METHODS - I

Definition and basic properties Laplace transform of some common functions and Standard results –Laplace transform of periodic functions- Laplace transforms ,of derivatives And the integral of function- Laplace transforms, Heaviside function

convolution theorem (statement only) Inverse Laplace transforms.

(10 lecture hours)

5. DIFFERENTIAL EQUATIONS –II

Second and higher order ordinary linear differential equations with constant Coefficients- complementary function- particular integrals (standard types) Cauchy-Euler differential equation. Simultaneous linear differential equations (two variables) with constant coefficients. Solutions of second order ordinary linear differential equations with variables coefficients by the following methods.

(i). When a part of complementary function is given
(ii). Changing the independent variable
(iii). Changing the dependent variable
(iv). Variation of parameters
(v). Conditions for exactness and the solution when the equation is exact.

(14 lecture hours)

Suggested distribution of lecture hours

1. Algebra – IV (Rings ,Fields and Integal domains): 1 hour / week
2. Analysis – II (Fourier series), Calculus-IV (Differential Calculus) and Mathematical methods-I (Laplace transform): 2 hours / week.
3. Differential Equations II: 1 hour / week.

Text Books/open source materials

1. Herstein I N, *Topics in Algebra*, 4th ed. New Delhi, India: Vikas Publishing House Pvt. Ltd, 1991.
2. Boumslag and Chandler, *Schaum's outline series on groups*, 2010.
3. Erwin Kreyszig, *Advanced Engineering Mathematics*, 8th ed. New Delhi, India: Wiley India Pvt. Ltd., 2010.
4. Shanthi Narayan and P K Mittal, *Differential Calculus*, Reprint. New Delhi: S Chand and Co. Pvt. Ltd., 2014.
5. M D Raisinghania, Ordinary and Partial Differential Equations, S Chand and Co. Pvt. Ltd., 2014.
6. www.scilab.org.
7. **wxmaxima**.sourceforge.net
8. www.geogebra.org

Reference Books

1. Michael Artin, *Algebra*, 2nd ed. New Delhi, India: PHI Learning Pvt. Ltd., 2011.

2. Vashista, *A First Course in Modern Algebra*, 11th ed.: Krishna Prakasan Mandir, 1980.
3. John B Fraleigh, *A First course in Abstract Algebra*, 3rd ed.: Narosa Publishing House., 1990.
4. R Balakrishan and N.Ramabadran, *A Textbook of Modern Algebra*, 1st ed. New Delhi, India: Vikas publishing house pvt. Ltd., 1991.
5. G B Thomasand R L Finney, *Calculus and analytical geometry, Addison Wesley, 1995.*
6. J Edwards, *An elementary treatise on the differential calculus: with applications and numerous example*, Reprint. Charleston, USA: BiblioBazaar, 2010.
7. N P Bali, *Differential Calculus*, Laxmi Publications (P) Ltd.., 2010.
8. S Narayanan & T. K. Manicavachogam Pillay, *Calculus*.: S. Viswanathan Pvt. Ltd., vol. I & II1996.
9. Frank Ayres and Elliott Mendelson, *Schaum's Outline of Calculus*, 5th ed. USA: Mc. Graw Hill., 2008.
10. E Spiegel, *Schaum's Outline of AdvancedCalculus*, 5th ed. USA: Mc. Graw Hill., 2009.
11. Raisinghania M.D., *Laplace and Fourier Transforms*. New Delhi, India: S. Chand and Co. Ltd. , 1995.
12. M D Raisinghania, Advanced Differential Equations, S Chand and Co. Pvt. Ltd., 2013.
13. FAyres, *Schaum's outline of theory and problems of Differential Equations*, 1st ed. USA: McGraw-Hill, 2010.
14. S Narayanan and T K Manicavachogam Pillay, *Differential Equations*.: S V Publishers Private Ltd., 1981.
15. G F Simmons, *Differential equation with Applications and historical notes*, 2nd ed.: McGraw-Hill Publishing Company, Oct 1991.

Useful web links:

1. http://www.themathpage.com/
2. http://www.abstractmath.org/
3. http://www.fourier-series.com/
4. http://mathworld.wolfram.com/
5. http://www.princeton.edu/~rvdb
6. http://www.zweigmedia.com/RealWorld/Summary4.html
7. http://ocw.mit.edu/courses/mathematics/
8. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
9. http://ocw.mit.edu/OcwWeb/Mathematics/18-01Fall-2005/CourseHome/index.htm
10. http://mathworld.wolfram.com/Calculus.html
11. http://ocw.mit.edu/courses/mathematics/
12. http://www.univie.ac.at/future.media/moe/galerie.html
13. http://tutorial.math.lamar.edu/classes/de/de.aspx
14. http://www.sosmath.com/diffeq/diffeq.html
15. http://www.analyzemath.com/calculus/Differential_Equations/applications.html

PRACTICALS –IV
Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Illustrating homomorphism and isomorphism of groups.
2. Verification of Normality of a given subgroup.
3. Verifying Cayley's theorem and isomorphism theorems.
4. To plot periodic functions with period 2π and 2L.
5. To find full range trigonometric Fourier series of some simple functions with period 2π and 2L.
6. Plotting of functions in half-range and including their even and odd extensions.
7. To find the half-range sine and cosine series of simple functions.
8. Finding maxima/minima of functions of two variables.
9. Finding the Laplace transforms of some standard functions.
10. Finding the inverse Laplace transform of simple functions.
11. Implementing Laplace transform method of solving ordinary linear differential equations of first and second order with constant coefficient.
12. Finding complementary function and particular integral of constant coefficient second and higher order ordinary differential equations.
13. Finding complementary function and particular integral of constant coefficient second and higher order ordinary differential equations.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics). Geogebra/Octave may also be used in place of scilab/maxima.

FIFTH SEMESTER

MATHEMATICS V

(3 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

THEORY(42 hours)

1. ALGEBRA - IV

Rings, Integral Domains, Fields

Rings, Types of Rings properties of rings – Rings of integers modulo n – Subrings – Ideals ,Principal, Prime and Maximal ideals in a commutative ring – examples and standard properties following the definition – Homomorphism, Isomorphism – Properties – Quotient rings – Integral Domain- Fields - properties following the definition – Fundamental Theorem of Homomorphism of Rings - Every field is an integral domain – Every finite integral domain is a field – Problems.

(14 lecture hours)

2. CALCULUS - V

Differential Calculus Of Scalar And Vector Fields

Scalar field – gradient of a scalar field, geometrical meaning – directional derivative – Maximum directional derivative – Angle between two surfaces - vector field – divergence and curl of a vector field – solenoidal and irrotational fields – scalar and vector potentials – Laplacian of a scalar field – vector identities. Standard properties, Harmonic functions, Problems.

(14 lecture hours)

3. NUMERICAL METHODS - I

Finite differences – Definition and properties of $\Delta, \nabla, \delta, \mu$ and E, the relation between them – The nth differences of a polynomial, Factorial notations, separation of symbols, divided differences and related theorems.

Newton –Gregory forward and backward interpolation formulae – Lagrange's and Newton's interpolation formulae for unequal intervals - Inverse interpolation.

Numerical Integration: Quadrature formula – Trapezoidal rule -Simpon's 1/3 and 3/8 rule(without proofs) and problems.

(14 lecture hours)

Suggested distribution of lecture hours.

1. Algebra IV: 1 hour /week.
2. Calculus-V (Differential calculus of scalar and vector fields): 1 hours/week
3. Numerical Methods I : 1 hours/week

Text Books/open source materials

1. Herstein I N, *Topics in Algebra*, 4th ed. New Delhi, India: Vikas Publishing House Pvt. Ltd, 1991.
2. Shanthi Narayan and P K Mittal, *Differential Calculus*, Reprint. New Delhi: S Chand and Co. Pvt. Ltd., 2014.
3. M D Raisinghania, *Vector calculus*,S Chand Co. Pvt. Ltd., 2013.
4. M K Jain, S R K Iyengar, and R K Jain, *Numerical Methods for Scientific and Engineering Computation*, 4th ed. New Delhi, India: New Age International, 2012.
5. www.scilab.org.
6. **wxmaxima**.sourceforge.net
7. www.geogebra.org

Reference Books

1. Michael Artin, *Algebra*, 2nd ed. New Delhi, India: PHI Learning Pvt. Ltd., 2011.

2. Vashista, *A First Course in Modern Algebra*, 11th ed.: Krishna Prakasan Mandir, 1980.
3. John B Fraleigh, *A First course in Abstract Algebra*, 3rd ed.: Narosa Publishing House., 1990.
4. R Balakrishan and N.Ramabadran, *A Textbook of Modern Algebra*, 1st ed. New Delhi, India: Vikas publishing house pvt. Ltd., 1991.
5. G B Thomasand R L Finney, *Calculus and analytical geometry, Addison Wesley, 1995.*
6. B Spain,*Vector Analysis* , ELBS, 1994.
7. D E Bournesand, P C Kendall, *Vector Analysis*, ELBS, 1996.
8. S S Sastry, *Introductory methods of Numerical Analysis*, Prentice Hall of India,2012.

Useful web links:

1. http://www.themathpage.com/
2. http://www.abstractmath.org/
3. http://ocw.mit.edu/courses/mathematics/
4. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
5. http://ocw.mit.edu/OcwWeb/Mathematics/18-01Fall-2005/CourseHome/index.htm
6. http://mathworld.wolfram.com/Calculus.html
7. http://www.univie.ac.at/future.media/moe/galerie.html
8. http://www.math.gatech.edu/~harrell/calc/
9. http://www.amtp.cam.ac.uk/lab/people/sd/lectures/nummeth98/index.htm
10. http://math.fullerton.edu/mathews/numerical.html
11. http://www.onesmartclick.com/engineering/numerical-methods.html

PRACTICALS –V
Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Examples on different types of rings.
2. Examples on integral domains and fields.
3. Examples on subrings, ideals and subrings which are not ideals.
4. Homomorphism and isomorphism of rings- illustrative examples.
5. To demonstrate the physical interpretation of gradient, divergence and curl.
6. Writing gradient, divergence, curl and Laplacian in cylindrical coordinates.
7. Writing gradient, divergence, curl and Laplacian in spherical coordinates.
8. Using cyclic notations to derive different vector identities.
9. Using cyclic notations to derive some more vector identities.
10. Scilab/Maxima programs on Interpolations with equal intervals.
11. Scilab/Maxima programs on Interpolations with unequal intervals.

12. Scilab/Maxima programs to evaluate integrals using Simpson's $\frac{1}{3}^{rd}$ rule.

13. Scilab/Maxima programs to evaluate integrals using Simpson's $\frac{3}{8}^{th}$ rule.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics). Geogebra/Octave may also be used in place of scilab/maxima.

FIFTH SEMESTER
MATHEMATICS – VI

(3 lecture hours per week+ 3 hours of practicals/week per batch of not more than 10 students)

(42 HOURS)

THEORY

1. MATHEMATICAL METHODS - II

Calculus Of Variation

Variation of a function $f = f(x, y, y')$ – variation of the corresponding functional – extremal of a functional – variational problem – Euler's equation and its particular forms – Examples – standard problems like geodesics, minimal surface of revolution, hanging chain, Brachistochrone problem –Isoperimetric problems.

(14 Lecture hours)

2. CALCULUS – VI

a). Line And Multiple Integrals

Definition of line integral and basic properties examples evaluation of line integrals.

Definition of double integral – its conversion to iterated integrals .Evaluation of double integrals by change of order of integration and by change of variables – computation of plane and surface areas ,volume underneath a surface and volume of revolution using double integrals.

Definitionof triple integral and evaluation – change of variables – volume as a triple integral .

(18lecture hours)

b). Integral Theorems

Green's theorem (with proof) - Direct consequences of the theorem.The Divergence theorem (with proof) - Direct consequences of the theorem.The Stokes' theorem (with proof) - Direct consequences of the theorem.

(10 lecture hours)

Suggested distribution of lecture hours

1. Mathematical Methods II (Calculus of variation): 1 hour /week.
2. Calculus VI (Line and Multiple Integrals and Integral theorems): 2 hours/week

Text Books/open source materials

1. R Weinstock,*Calculus of Variation,* Dover, 1970.
2. M. D. Raisinghania, *Vector Calculus*, S Chand Co. Pvt. Ltd., 2013.
3. www.scilab.org
4. **wxmaxima**.sourceforge.net
5. www.geogebra.org

Reference Books

1. F B Hildebrand, *Methods in Applied Mathematics*,
2. B Spain,*Vector Analysis* , ELBS, 1994.
3. D E Bournesand, P C Kendall, *Vector Analysis*, ELBS, 1996.

Useful web links:

1. http://ocw.mit.edu/courses/mathematics/
2. http://planetmath.org/encyclopedia/TopicsOnCalculus.html
3. http://mathworld.wolfram.com/Calculus.html
4. http://www.univie.ac.at/future.media/moe/galerie.html
5. http://www.math.gatech.edu/~harrell/calc/

PRACTICALS –VI

Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Example on Euler's equation in full form.
2. Example on particular forms of Euler's equation.
3. Examples on minimum surface of revolution and Brachistochrome problem.
4. Examples on Isoperimetric problems.
5. Evaluation of the line integral with constant limits.
6. Evaluation of the double integral with constant limits.
7. Evaluation of the triple integral with constant limits.
8. Evaluation of the line integral with variable limits.
9. Evaluation of the double integral with variable limits.
10. Evaluation of the triple integral with variable limits.
11. Verifying Green's theorem.
12. Verifying Gauss divergence theorem.
13. Verifying Stokes' theorem

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SIXTH SEMESTER
MATHEMATICS - VII

(3 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

(42 HOURS)

THEORY

1. ALGEBRA –V

Linear Algebra

Vector space – Examples – Properties – Subspaces – criterion for a subset to be a subspace –linear span of a set - linear combination – linear independent and dependent subsets – Basis and dimensions– Standard properties – Examples illustrating concepts and results.

Linear transformations – properties – matrix of a linear transformation – change of basis – range and kernel – rank and nullity – Rank – Nullity theorem – Non-singular and singular linear transformations - Standard properties – Examples.

(14 lecture hours)

2. DIFFERENTIAL EQUATIONS III

a). Orthogonal Curvilinear Coordinates

Definition of orthogonal curvilinear coordinates. Fundamental vectors or base vectors, Scale factors or material factors - quadratic differential form. Spherical curvilinear system : Cartesian, Cylindrical – conversion of Cylindrical to orthogonal Spherical polar coordinates. Theorem: The Spherical coordinate system is orthogonal curvilinear coordinate system. (without proof) No problems on conversions of one system to another.

b). Partial Differential Equations

Total differential equations-Necessary condition for the equation $Pdx+ Qdy+Rdz= 0$ to be integrable-Simultaneous equations of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$

Formation of partial differential equation .Equations of First Order Lagrange's linear equation – Charpit's method, Standard types of first order non-linear partial differential equation (By known substitution).

Solution of second order linear partial differential equations in two variables with constant coefficients by finding complementary function and particular integral

Solution of one – dimensional heat equations, Solution of one – dimensional wave equations using Fourier series.

(28 lecture hours)

Suggested distribution of lecture hours:

1. Algebra-V (Linear Algebra) : 1 hours / week.
2. Differential Equations III: 2 hours / week

Text Books/open source materials

1. Krishnamoorty V K and Mainra V P and Arora J L, *An Introduction to Linear Algebra*, Reprint. New Delhi, India: Affiliated East West Press Pvt. Ltd., 2003.
2. M. D. Raisinghania, *Vector Calculus,* S Chand Co. Pvt. Ltd., 2013.
3. M D Raisinghania, Ordinary and Partial Differential Equations, S Chand and Co. Pvt. Ltd., 2014.
4. www.scilab.org
5. **wxmaxima**.sourceforge.net
6. www.geogebra.org

Reference Books

1. G Strang, MIT open courseware (http://ocw.mit.edu/courses).
2. B Spain, *Vector Analysis*, ELBS, 1994.
3. D E Bournes and, P C Kendall, *Vector Analysis*, ELBS, 1996.
4. Frank Ayres, *Schaum's outline of theory and problems of Differential Equations*, 1st ed. USA: McGraw-Hill, 1972.
5. GF Simmons, *Differential equation with Applications and historical notes*, 2nd ed.: McGraw-Hill Publishing Company, Oct 1991.
6. S Narayanan & T K Manicavachogam Pillay, *Differential Equations*.: S V Publishers Private Ltd., 1981.
7. I N Sneddon, *Elements of Partial Differential Equations*, 3rd ed.: Mc. Graw Hill., 1980.

Useful web links:

1. http://ocw.mit.edu/courses/mathematics/
2. http://mathworld.wolfram.com/Calculus.html
3. http://www.math.gatech.edu/~harrell/calc/
4. http://tutorial.math.lamar.edu/classes/de/de.aspx
5. http://www.sosmath.com/diffeq/diffeq.html
6. http://www.analyzemath.com/calculus/Differential_Equations/applications.html

PRACTICALS –VII

Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. i. Vector space, subspace – illustrative examples.
   ii. Expressing a vector as a linear combination of given set of vectors.
   iii. Examples on linear dependence and independence of vectors.
2. i. Basis and Dimension – illustrative examples.
   ii. Verifying whether a given transformation is linear.

3. i. Finding matrix of a linear transformation.
   ii. Problems on rank and nullity.
4. Plotting of cylinder and cone using orthogonal curvilinear coordinates.
5. Plotting of sphere using orthogonal curvilinear coordinates.
6. Solutions to the problems on total and simultaneous differential equations.
7. Solutions to the problems on different types of Partial differential equations.
8. Solving second order linear partial differential equations in two variables with constant coefficient.
9. Solving some more second order linear partial differential equations in two variables with constant coefficient.
10. Solution of one dimensional heat equation using Fourier series with Dirichlet condition.
11. Solution of one dimensional heat equation using Fourier series with Neumann condition.
12. Solution of one dimensional wave equation using Fourier series with Dirichlet condition.
13. Solution of one dimensional wave equation using Fourier series with Neumann condition.

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SIXTH SEMESTER
MATHEMATICS - VIII

(3 lecture hours per week+ 3 hours of practicals /week per batch of not more than 10 students)

(42 HOURS)

THEORY

1. ANALYSIS - III

Complex Analysis

Complex numbers-Cartesian and polar form-geometrical representation-complex-Plane-Euler's formula- $e^{i\theta} = \cos\theta + i\sin\theta$.Functions of a complex variable-limit, continuity and differentiability of a complex function. Analytic function Cauchy-Riemann equations in Cartesian and Polar forms-Sufficiency conditions for analyticity(Cartesian form only)-Harmonic function-standard properties of analytic functions-construction of analytic function when real or imaginary part is given-Milne Thomson method.

Complex integration-the complex integration –properties-problems.Cauchy's Integral theorem-proof using Green's theorem- direct consequences.Cauchy's Integral formula with proof-Cauchy's generalised formula for the derivatives with proof and

applications for evaluation of simple line integrals - Cauchy's inequality with proof – Liouville's theorem with proof. Fundamental theorem of algebra with proof.

Transformations – conformal transformation – some elementary transformations namely Translation,rotation,magnification and inversion - examples.

The bilinear transformation (B.T.)-cross ratio-invariant points of a B.T.-properties-

(i) B.T. sets up a one to one correspondence between the extended z-plane and the extended w-plane.

(ii) Preservation of cross ratio under a B.T.

(iii) A B.T. transforms circles onto circles or straight lines.

Problems on finding a B.T., and finding images under a B.T.and invariant points of a B.T. Discussion of transformations $w = z^2$, $w = \sin z$, $w = \cosh z$ and $w = e^z$.

(28 lecture hours)

2. NUMERICAL METHODS – II

Numerical solutions of algebraic and Transcendental equations – method of successive bisection - method of false position – Newton-Raphson method. Numerical solutions of non-Homogeneous system of linear algebraic equations in three variables by Jacobi's method and Gauss-Seidel method.Computation of largest Eigen value of a square matrix by power method.

Solutions of initial value problems for ordinary linear first order differential equations by Taylor's series,Euler's and Euler's modified method and Runge-Kutta 4th ordered method.

(14 lecture hours)

Suggested distribution of lecture hours:

1. Analysis-III (Complex Analysis): 2 hours / week.
2. Numerical Methods-II: 1 hour / week

Text Books/open source materials

1. S Shanthinarayan, *Complex Analysis*, S Chand Co. Pvt. Ltd., 2012.
2. M K Jain, S R K Iyengar, and R K Jain, *Numerical Methods for Scientific and Engineering Computation*, 4th ed. New Delhi, India: New Age International, 2012.
3. www.scilab.org
4. **wxmaxima**.sourceforge.net
5. www.geogebra.org

Reference Books

1. R V Churchil & J W Brown, *Complex Variables and Applications*, 5th ed.: McGraw Hill Companies., 1989.
2. L V Ahlfors, *Complex Analysis*, 3rd ed.: Mc Graw Hill. , 1979.
3. A R Vashista, *Complex Analysis*, Krishna Prakashana Mandir, 2012.
4. S S Sastry, *Introductory methods of Numerical Analysis*, Prentice Hall of India, 2012.

Useful web links:

1. http://www.mathcs.org/analysis/reals/index.html
2. http://www.amtp.cam.ac.uk/lab/people/sd/lectures/nummeth98/index.htm
3. http://math.fullerton.edu/mathews/numerical.html
4. http://www.onesmartclick.com/engineering/numerical-methods.html

PRACTICALS –VIII
Mathematics practicals with FOSS tools for computer programs
(3 hours/ week per batch of not more than 10 students)

LIST OF PROBLEMS

1. Some problems on Cauchy-Riemann equations (polar form).
2. Implementation of Milne-Thomson method of constructing analytic functions(simple examples).
3. Illustrating orthogonality of the surfaces obtained from the real and imaginary parts of an analytic function.
4. Verifying real and imaginary parts of an analytic function being harmonic (in polar coordinates).
5. Illustrating the angle preserving property in a transformation.
6. Illustrating that circles are transformed to circles by a bilinear transformation.
7. Examples connected with Cauchy's integral theorem.
8. Solving algebraic equation (Bisection method).
9. Solving algebraic equation (Regula-Falsiand Newton-Raphson methods).
10. Solving system of equations (Jacobi and Gauss-Seidel methods).
11. Solving for largest eigenvalue by Power method.
12. Solving ordinary differential equation by modified Euler's method.
13. Solving ordinary differential equation by Runge-Kutta method of 4th order.

Note: The above list may be changed annually with the approval of the BOS in UG (Mathematics). Geogebra/Octave may also be used in place of scilab/maxima.

BANGALORE UNIVERSITY

REGULATIONS, SCHEME AND SYLLABUS

For the course

I to VI Semesters

BACHELOR OF SCIENCE IN COMPUTER SCIENCE (BSc(CS))

(Choice Based Credit System (Semester Scheme) –Y2K14 Scheme)

Revised w.e.f.

Academic Year 2014-2015 and onwards

Regulations, Scheme of study and Examination for B Sc Degree Course
Under Choice Based Credit System - Semester System (Y2K14 SCHEME)
(Revised w.e.f. 2014 -2015)

R1.

a) Title of the course: **B. Sc in Computer Science**
b) Duration of the Course: Durations of the undergraduate programmes shall extend over FOUR semesters (TWO academic years) for the Associate Degree(Advance Diploma), SIX semesters (Three academic years) for the regular Bachelor Degree.
c) Scheme of study:
    i) There shall be one theory paper and one practical from first semester to fourth semester. The practical paper corresponds to theory papers.
    ii) There shall be two theory papers and two practical during fifth and sixth semesters.
    iii) Medium of Instruction: The medium of instruction shall be English.
d) Scheme of Examination: At the end of each semester there shall be University examination of three hours duration in each of the theory and practical papers.

The question paper pattern for theory paper has two sections. (70 Marks)

Section –A contains 12 questions, students has to attend 10 questions. Each carries 2 Marks (10 * 2 = 20)

Section – B contains 8 questions (question may contain sub questions), students has to attend 5 questions. each carries 10 Marks (5 * 10 = 50)

R2. Each semester shall be of 90 working days from the date of commencement of the each Semester.

R3. Attendance: As per Bangalore University regulations in force for science degree courses.

R4. POWER TO REMOVE DIFFICULTIES

If any difficulty arises in giving effect to the provisions of these regulations, the Vice – Chancellor may by order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty. Every order made under this rule shall be subject to ratification by the appropriate University Authorities.

Title of Papers, Scheme of Study and Examination for B Sc in Computer Science, Revised w.e.f. 2014–2015.

Sem	Paper	Title of the paper	Hours/ Week	Marks			Credits
				IA	Exam	Total	
I	CS1T	Programming Concepts using C	4	30	70	150	3
	CS1P	C Programming Lab	3	15	35		
II	CS2T	Data Structures	4	30	70	150	3
	CS2P	Data Structures Lab	3	15	35		
III	CS3T	Database Management System and Software Engineering	4	30	70	150	3
	CS3P	DBMS Lab	3	15	35		
IV	CS4T	Operating System and UNIX	4	30	70	150	3
	CS4P	UNIX Programming Lab	3	15	35		
V	CS5T1	Object Oriented Programming using JAVA	3	30	70	150	3
	CS5P1	Java Programming Lab	3	15	35		
	CS5T2	Visual Programming	3	30	70	150	3
	CS5P2	Visual Programming Lab	3	15	35		
VI	CS6T1	Web Programming	3	30	70	150	6
	CS6P1	Web Programming Lab	3	15	35		
	CS6T2	Computer Networks	3	30	70	150	
	CS6P2	Project Lab	3	15	35		

I Sem B Sc

CS1T: PROGRAMMING CONCEPTS USING C

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, Algorithms and Flowcharts with examples. Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, Data types, Variables, Constants, Symbolic Constants , Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions.

[12 Hours]

Unit-II

Managing Input and Output Operation: Formatted and Unformatted I/O Functions
Decision making, branching and looping: Decision Making Statements - if Statement, if–else statement, nesting of if-else statements, else–if ladder, switch statement, ?: operator, Looping - while, do-while, for loop, Nested loop, break, continue, and goto statements. Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions.

[12 Hours]

Unit-III

Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions. Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions. Storage Classes - Automatic, External, Static and Register Variables.

[12 Hours]

Unit-IV

Structures - Declaring and Initializing, Nested structure, Array of Structure, Passing structures to functions, Unions, typedef, enum, Bit fields. Pointers – Declarations, Pointer arithmetic, Pointers and functions, Call by value, Call by reference, Pointers and Arrays, Arrays of Pointers, Pointers and Structures. Meaning of static and dynamic memory allocation, Memory allocation functions.

[12 Hours]

Unit-V

Files - File modes, File functions, and File operations, Text and Binary files, Command Line arguments. C Preprocessor directives, Macros – Definition, types of Macros, Creating and implementing user defined header files.

[12 Hours]

TEXT BOOKS

1. E. Balaguruswamy, “Programming In ANSI C”, 4th edition, TMH Publications, 2007
2. Ashok N. Kamthane, “Programming with ANSI and Turbo C”, Pearson Education, 2006

REFERENCES BOOKS

1. Ashok N. Kamthane et. al., “Computer Programming and IT”, Pearson Education, 2011
2. Mahapatra, “ Thinking In C ”, PHI Publications, 1998.
3. Yashwant Kanetkar, “Let Us C”, 13th Edition, PHP, 2013.

CS1P: C PROGRAMMING LAB

PART – A

1) Write a C program to accept employee number, employee name, basic pay and calculate gross salary, deduction and find the net salary of an employee for the following details.

Dearness Allowance	40% of Basic Pay
House Rent Allowance	20% of Basic Pay
Provident Fund	12% of Basic Pay
Income Tax	4% of Basic Pay

2) Write a C Program to find the roots of the given quadratic equation using if-else if statement.
3) Write a menu driven C program to find ,

(i) Reverse of a number (ii) Factorial of N (Use Switch case)

4) Write a C program to find Sin(x). [$x - x^3/3! + x^5/5! - \ldots\ldots x^n/n!$]
5) Write a C program to arrange the given set of numbers in ascending and descending order.
6) Write a C program to find product of two N x M matrices.
7) Write a C program to calculate NCR= N!/ R! * (N-R)! Using function.
8) Write a C program to display Fibonacci series using recursive function.
9) Write a C program to compare two strings using pointers.
10) Write a C program to demonstrate the user defined header file.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

II Sem B Sc

CS2T: DATA STRUCTURES

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms. String Processing: Definition, Storing Stings, String as ADT, String

operations, word/text processing, Pattern Matching algorithms.

[12 Hours]

Unit-II

Arrays: Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays, Matrices and Sparse matrices.

[12 Hours]

Unit-III

Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly liked list; Doubly liked list, Header liked list, Circular linked list.

[12 Hours]

Unit-IV

Stacks – Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue , Priority queue, Operations on Queues, Applications of queues.

[12 Hours]

Unit-V

Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph. Tree – Definitions, Binary trees, Representing binary trees in memory, Traversing binary trees

[12 Hours]

TEXT BOOKS

1. Seymour Lipschutz: Data Structures with C, Schaum's ouT*lines*, Tata McGraw-Hill, 2011.

REFERENCES BOOKS

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2013.
2. Robert Kruse, C.L.Tondo, Bruce Leung, Shashi Mogalla, "Data Structures and Program Design using C", Pearson Education, 2009.
3. Forouzan, "A Structured Programming Approach using C", 2nd Edition, Cengage Learning India, 2008.

CS2P : DATA STRUCTURES USING C LAB

PART - A

1. Write a menu driven C program to perform the following string operations without using string functions: (i) String Length (ii) String Concatenation (ii) String Reverse
2. Write a C program to search for an element in an array using Binary search
3. Write a C program to sort a list of N elements using Bubble Sort Algorithm
4. Write a C program to demonstrate the working of stack using an array.
5. Write a C program for Towers of Hanoi problem.
6. Write a C program to find GCD of two numbers using recursion

7. Write a C program to convert and print a given valid fully parenthesized infix arithmetic expression to post fix expression, the expression consists of single character (letter or digit) as operands and +,-,*, / as operators, assume that only binary operators are allowed in the expression.
8. Write a C program to simulate the working of Circular Queue using an array.
9. Write a C program to construct a singly linked list and perform following operations
   a. LINSERT Inserting a node in the front of the list
   b. LDELETE Deleting the node based on value
   c. LSEARCH Searching a node based on value
   d. LDISPLAY Displaying all the nodes in the list
10. Write a C program to create and traverse a binary search tree.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

III Sem B Sc

CS3T: DATABASE MANAGEMENT SYSTEM AND SOFTWARE ENGINEERING

Total Teaching Hours: 60 No of Hours / Week : 04

1. DATA BASE MANAGEMENT SYSTEM

Unit - I

Introduction: Data, Database, DBMS, Characteristics of Database Approach, Database Users, Advantages of DBMS. Database System Concepts and Architecture: Data Models, Schemas, and Instances, DBMS Architecture and Data Independence, Database languages and interfaces, The Database system Environment, Classification of Database Management Systems. Data Modeling Using the Entity-Relationship Model: High level Conceptual Data Models for Database Design with an example, Entity types, Entity sets, Attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs.

[12 hours]

Unit - II

RDBMS: Relational database concepts – attribute, tuple, types of attributes – single, multi-valued, stored, derived etc., keys – primary, index, candidate, alternate, foreign, Relationships, Relational algebra operations– UNION, INTERSECTION,

DIFFERENCE, CARTESIAN PRODUCT, SELECTION, PROJECTION, JOIN, DIVISION, relational calculus, Domain, Domain integrity, Integrity rules – Entity integrity, referential integrity, Normalization and its properties, I, II and III Normal forms.

[12 hours]

Unit - III

DDL and DML in SQL: DDL commands - create table/views/index, drop, alter, DML commands – select, insert, delete, update, etc., DCL commands – grant, revoke, commit, TCL commands, SQL – query, sub-query, nested query, Joins – natural, inner, outer join, aggregate functions in SQL. PL / SQL: Introduction, Exceptions & Cursor Management, Database Triggers, Functions,

[12 hours]

2. SOFTWARE ENGINEERING

Unit - IV

Software and Software Engineering: Defining Software, Software Application Domains, Software Engineering, Software Process, Software Engineering Practice, Software Myths. Process Models: A Generic Process Model, Process Assessment and Improvement, Prescriptive Process Models, Specialized Process Models, Agile Development: Agility, Agility and the cost of change, Agile Process, Extreme Programming, Other Agile Process Models. Understanding Requirements: Requirements Engineering, Establishing the Groundwork, Eliciting Requirements, Developing the use cases, Building the Requirements Model, Negotiating Requirements, Validating Requirements.

[12 Hours]

Unit - V

Requirements Modeling: Requirements Analysis, Scenario-Based Modeling, UML Models that Supplement the Use Case, Data Modeling Concepts, Class-Based Modeling, Flow-Oriented Modeling, Creating a Behavioral Model, Design Concepts: The Design Process, Design Concepts, The Design Model, Architectural Design, Component-Level Design, User Interface Design, Pattern-Based Design, Quality Concepts: Software Quality, Review Techniques, Software Quality Assurance Software Testing Strategies: A Strategic Approach to Software Testing, Strategic Issues, Test Strategies for Conventional Software, System Testing, The Art of Debugging, Software Testing Fundamentals, White box Testing, Block-Box Testing.

[12 hours]

Text Books

1. Remez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems", 5th Edition, Pearson Education, 2007.
2. Roger S. Pressman – Software Engineering, A Practitioner's approach, 7th Edition, McGRAW-HILL Publication, 2010.

Reference Books

1. Pankaj Jalote, "An integrated approach to Software Engineering", 3rd Edition, Narosa Publishing House, 2013.
2. Abrahamsi. Silberschatz, Henry. F. Korth, S. Sudarshan, "Database System Concepts" 6th Edition, McGraw Hill, 2012.
3. C.J.Date, "Introduction to database systems", Eight Edition, Addison Wesley, 2003.
4. Ian Sommerville – Software Engineering, 9th Edition, Pearson Education Ltd, 2010.

CS3P : DATA BASE MANAGEMENT SYSTEM LAB
PART - A

1. The STUDENT detail databases has a table with the following attributes. The primary keys are underlined. STUDENT(regno: int, name: string, dob: date, marks: int)

i) Create the above table.

ii) Remove the existing attributes from the table.

iii) Change the date type of regno from integer to string.

iv) Add a new attribute phoneno to the existing table.

v) Enter five tuples into the table.

vi) Display all the tuples in student table.

2. A LIBRARY database has a table with the following attributes.

LIBRARY(bookid:int, title:string, author:string, publication:string, yearpub:int, price:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the tuples in student table.

iv) Display the different publishers from the list.

v) Arrange the tuples in the alphabetical order of the book titles.

vi) List the details of all the books whose price ranges between Rs. 100 and Rs. 300

3. The SALARY database of an organization has a table with the following attributes.

EMPSALARY(empcod:int, empnamee:string, dob:date, department:string, salary:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the number of employees working in each dapartment.

iv) Find the sum of the salaries of all employees.

v) Find the sum and average of the salaries of employees of a particular department.

vi) Find the least and highest salaries that an employee draws.

4. Consider the insurance database given below. The primary keys are underlined and the data types are specified.

PERSON(driver-id-no: string, name: string, address:strong)

CAR(regno: string, model: string, year: int)

ACCIDENT(report-no: int, date: date, location: String)

OWNS(driver-id-no: string, regno: string)

PARTICIPATED(driver-id-no: string, regno: string, report-no: int, damage-amount: int)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you

   a) Update the damage amount for the car with a specific regno in the accident with report no 12 to 25000.

   b) Add a new accident to the database.

iv) Find total number of people who owned cars that were involved in accidents in 2002

v) Find the number of accidents in which cars belonging to a specific model were involved

5. Consider the following database of students enrollment in courses and books adopted for each course.

STUDENT(regno: string, name: string, major: strong, bdate: date)

COURSE(course-no: int cname: string, dept: string)

ENROLL(reg-no: string, course-no: int, sem: int, marks: int)

BOOK-ADOPTION(course-no: int, sem: int, book-isbn: int)

TEXT(book-isbn: int, book-title: string, publisher: string, author: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

iv) Produce a list of text books (include Course-no, book-isbn, book-title) in the alphabetical order for courses offered by the 'Compute Science' department that use more than two books.

v) List any department that has all its adopted books published by a specific publisher.

6. The following tables are maintained by a book dealer

AUTHOR(author-id: int, name: string, city: string, country: string)

PUBLISHER(publisher-id: int name: string, city: string, country: string)

CATLOG(book-id: int, title : string, author-id: int, publisher-id: int, category: int, year: int, price: int)

CATEGORY(category-id: int, description: string)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i) Create above tables by properly specifying the primary keys and the foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2010.

iv) Find the author of the book which has maximum sales.

v) Demonstrate how to increase price of books published by specific publisher by 10%

7. Consider the following database for BANK.

BRANCH(branch-name: string, branch-city: string, assets: real)

ACCOUNT(accno: int, banch-name: string, balance: real)

DEPOSITOR(customer-name: string, accno: int)

CUSTOMER(customer-name: string, customer-street: string, customer-city: string)

LOAN(loan-no: int, branch-name: string, amount: real)

ORROWER(customer-name: string, loan-no: int)

i) Create the above tables by properly specifying the primary keys and foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Find all the customers who have atleast two accounts at the main branch.

iv) Find all customer who have an account at all the branches located in a specific city.

v) Demonstrate how t0 delete all account tuples at every branch located in specific city.

8. Consider the following database for ORDER PROCEESING.

CUSTOMER(cust-no: int, cname: string, city: string)

ORDER(orderno: int, odate: date, ord-amt: real)

ORDER_ITEM(orderno: int, itemno:int, qty: int)

ITEM(itemno: int, unitprice: real)

SHIPMENT(orderno: int, warehouseno: int, ship-date: date)

WAREHOUSE(warehouseno: int, city: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) List the order number and ship date for all orders shipped from particular warehouse.

iv) Produce a listing: customer name, no of orders, average order amount

v) List the orders that were not shipped within 30 days of ordering

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 8 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

IV SEM B Sc

CS4T1: OPERATING SYSTEM AND UNIX

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction: Definition, Types of Operating Systems, Functions of Operating System, services, system components System call. Process Management: Process Concept, Process Scheduling, Inter process communication, CPU Scheduling Criteria, Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution.

[12 Hours]

Unit – II

Process Synchronization and deadlocks: The Critical Section Problem, Synchronization hardware, Semaphores, Classical problems of synchronization, Critical regions, monitors, Dead locks – system model, Characterization, Dead lock prevention, avoidance and detection, Recovery from dead lock, Combined approach to deadlock handling.

[12 Hours]

Unit - III

Memory management: Functions, single contiguous, Partitioned memory management: multiple relocatable partitioned memory management, paging segmentation, demand paging virtual memory management. File Management: Concept, access methods, directory structures, allocation methods, free space management, secondary storage structure. Disk Management: Disk Structure & Scheduling methods, Disk management, Swap – Space management.

[12 Hours]

Unit-IV

History of Unix, salient features, Unix Components, types of shell, Internal and External commands, Files and File Organization- Categories of files, Unix file system, directories, file related commands, Directory related commands, wild cards, Printing and Comparing files. Ownership of files, File attributes File permissions and Manipulations, Standard I/O, Redirection, pipe, filter.

[12 Hours]

Unit-V

Introduction to vi editor, The three modes of the vi editor, Invoking vi editor, Configuring the vi environment, Regular expressions, the grep command, The process - parent and child process, process creation, process related commands, Shell Programming - shell script features, shell variables, writing and executing a shell script, positional parameters, Branching control structures- if, case etc., Loop control structures

– while, until, for, etc., Jumping control structures – break, continue, exit, etc., Integer and Real arithmetic in shell programs, Debugging scripts.

[12 Hours]

TEXT BOOKS

1. Abraham Silberschatz and Peter Baer Galvin, "Operating System Concepts", 7th Edition, Pearson Education, 2002.
2. M.G.Venkateshmurthy, "Introduction to UNIX & SHELL Programming", First Edition, Pearson Education, 2004.

REFERENCE BOOKS

1. Forouzan,"Unix and Shell Programming", 1st Edition,2008 Cengage Learning India
2. H.M.Deitel, "Operating Systems", Pearson Learning Solutions, 3rd Edition, 2003.
3. William Stallings, "Operating Systems", 6th Edition, Pearson Education, 2010.

CS4P1: Shell Programming in Unix Lab

PART - A

1. Write a menu driven program to calculate (i) Simple interest (ii) Compound interest
2. To print all prime numbers between m and n (m<n).
3. Reverse a given number and check whether it is palindrome or not.
4. Shell script to find maximum and minimum of given set
5. To count the number of vowels in a given string.
6. Create a file containing the following fields: student No., student name, age, sex, height and weight. Print all the details in a neat format.
7. Write a C program to generate and print the GCD and LCM of two integers.
8. Shell script to take two numbers as arguments and output their sum using (i) bc (ii) expr. Include error checking to test whether two arguments were entered.
9. Find out the occurrences of three consecutive and identical word characters (like aaa or bbb) using (i) grep and (ii) sed.
10. Shell script to display all the file permissions.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 (5 Marks each)
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

V Sem B Sc

CS5T1: VISUAL PROGRAMMING

Total Teaching Hours: 52 No of Hours / Week : 03

Unit - I

Introduction to Visual Programming: The integrated Development Environment – menu bar, tool bar, from designer, project explorer, properties window, from layout window,

The VB editor. The form object: Properties, events and methods pf forms; Properties – Name, Captain, Backcolor, Borderstyle, controlbox, maxbutton, minbutton, moveable, startup position, height, width, left, top, scalemode, window, state; Events –load, unload, Clerk, Activate, Deactivate, Resize, methods – Show, hide, cls, Unload, print, Controls – Properties and events of different controls such as command buttons, labels, textboxes image controls, timer, horizontal and vertical scroll bars, option buttons, check boxes, frames lists and combo boxes. Predefined Dialog Boxes – MsgBox and InputBO

[13 Hours]

Unit - II

Programming: Data types, variables; declaration and scope arithmetic operations, Study of form and code modules, private and public procedures, Main procedure, Sub and Functions. Mathematical and string Functions; Branching and Looping Statement; If – Then, if –Then –Else and Nested If Statements; Select Case –different forms; For – Next, While – Wend and Do – Loops statements; Arrays- declaration. Static and dynamic arrays. Array Function, menus and toolbars-Creating menus and toolbars, Working with the menu editor, Designing Multiple Document interface forms. Microsoft common controls.

[13 Hours]

Unit - III

OOP methods and properties of an object, class Modules, Encapsultation and Inheritance characteristics Dynamic Link Libraries (DLLs) and Windows API; Designing Help files; File handling – Sequential ,Random access and Binary files, Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.

[13 Hours]

Unit – IV

Visual C++ Programming: Objects-Classes-VC++Components – Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls – Files – MFC File Handling – Document View Architecture – Serialization. Interfacing Other Applications – Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC.

[13 Hours]

Text Books:

1. Gurumit Singh, "Visual Basic 6", First Edition, Firewall Media, 2007.

Reference Books:

1. Charles Petzold, "Windows Programming", 5th Edition, Microsoft Press, 1999.
2. Steve Holzner, "Visual C++ Programming", Second Edition, PHI, 1994.
3. Go ttfried, "Programming with Visual Basic 6", PHI, 2000.

CS5P1 : Visual Programming Lab

PART - A

1. Write a VB Program to design a simple calculator to perform addition, subtraction, multiplication and division(Use functions for the calculations).
2. Design a User Interface (UI) to accept the student details such as name, department and total marks. Validate the input data and calculate the percentage and division.
3. Design a VB application which has MDI and Child forms. Create a menu having the items such as file (New, Open),Format (Font, Regular, Bold ,Italic) and Exit in the MDI form. Also create a text box and use a Common Dialog Box control for changing the font, fore color and back color of the text box.

4. VB program to Encrypt and Decrypt a string. (Use Rnd() to generate the Encryption and Decryption keys).
5. Design a small Alarm Clock Application.
6. Write a VB Program to Validate the username and password form the database and display the appropriate message.(Use Data Control)
7. Design a VB application to record the employee details such as EmpId, EmpName, Designation and BaiscPay. Calculate the DA, HRA, Deduction and Gross Salary.(Make the necessary assumptions)Use Select .. case for decision making.
8. VB program to calculate the simple interest and compound interest. Use DLLs for the calculation.
9. VC++ program to create a Dialog box and display the position of mouse pointer within the dialog box.
10. VC++ program to create and load a simple menu in a Window.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

CS5T2: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Teaching Hours : 52 No of Hours / Week : 03

Unit - I

Introduction to JAVA: JAVA Evolution: Java History, Java Features, How Java Differs from C and C++, Java and Internet, Java and World Wide Web, Web Browsers, Hardware and Software Requirements, Java Support Systems, Java Environment. Overview of JAVA Language: Introduction, Simple Java program, More of Java Statements, Implementing a Java Program, Java Virtual Machine, Command Line Arguments, Programming Style. Constants, Variables, and Data Types: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Values to Variables, Scope of Variables, Symbolic Constants, Type Casting, Getting Values of Variables, Standard Default Values, Operators and Expressions: Introduction, Arithmetic Operators, Relational Operators Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Procedence of Arithmetic Operators, Type Conversion and Associativity, Mathematical Functions. Decision Making and Branching: Introduction, Decision Making with if Statement, Simple if Statement, The if…..else Statement, Nesting of if..else Statements, The else if Ladder, The Switch Statement, The ? : Operator. Decision Making and Looping: Introduction. The while

Statement, The do Statement, The for Statement, Jumps in Loops Labeled Loops.

[13 hours]

Unit -II

Classes, Arrays, Strings, Vectors and Interfaces: Classes, Objects and Methods: Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods, Inheritance: Extending a Class Overriding Methods, Final Variables and Methods, Finalizer methods, Abstract Methods and Classes, Visibility Control. Arrays, Strings and Vectors: Arrays, One-dimensional Arrays, Creating an Array, Two - Dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors, Wrapper Classes. Interfaces: Multiple Inheritance: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables.

[13 Hours]

Unit - III

Packages, and Multithreaded Programming:

Packages: Putting Classes together: Introduction, Java API Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes. Multithreaded Programming: Introduction, Creating Threads, Extending the Thread Class, Stopping and Blocking a thread, Life Cycle of a thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface. Managing Errors and Exceptions: Introduction, Types of Exception Handling Code, Multiple Catch Statements, Using Finally Statement, Throwing Our Own Exceptions, Using Exceptions for Debugging.

[13 Hours]

Unit - IV

Applet Programming, Graphics Programming, Input/Output:: Introduction, How Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle, Creating an Executable applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, running the Applet, More About HTML Tags, Displaying Numerical Values, Getting Input from the User. Graphics Programming: Introduction, The Graphics Class, Lines and rectangles, circles, and Ellipses, Drawing Arcs, Drawing Polygons, Lines Graphs, Using Control Loops in Applets, Drawing Bar Charts. Managing Input/Output Files in JAVA: Introduction, Concept of Streams, Stream Classes, Byte Stream Classes, Character Stream Classes, Using Streams, Other Useful I/O Classes, Using the File Class, Input / Output Exceptions, Creation of Files, Reading / Writing Characters, Reading / Writing Bytes, Handling Primitive Data Types, Concatenating and Buffering Files, Interactive Input and output, Other Stream Classes.

[13 Hours]

Text Books:

1. A.Balaguruswamy, "Programming with JAVA", A Primer, TMH, 1999.

Reference Books:

1. Thomas Boutel, "CGI programming in C and Perl", Addison – Wesley, 1996.
2. Jefry Dwight et al, Using CGI, Second Edition, Prentice Hall, India, 1997.
3. Patrick Naughton & Herbert Schildt, JAVA 2: The Complete Reference, THM, 1999.
4. Schildt, "JAVA The Complete Reference", 7th Edition.

CS5P2: JAVA PROGRAMMING LAB

PART - A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to display all prime numbers between two limits.
3. Write a program to sort list of elements in ascending and descending order and show the exception handling.
4. Write a program to implement all string operations.
5. Write a program to find area of geometrical figures using method.
6. Write a program to implement constructor overloading by passing different number of parameter of different types.
7. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
8. Write a program to calculate bonus for different departments using method overriding.
9. Write a program to implement thread, applets and graphics by implementing animation of moving ball.
10. Write a program to implement mouse events and keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

VI Sem B Sc

CS6T1: WEB PROGRAMMING

Total Teaching Hours : 52 No of Hours / Week : 03

Unit - I

Fundamentals of Web: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. XHTML: Origins and evolution of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables, Forms, Frames, Syntactic differences between HTML and XHTML.

[13 Hours]

Unit - II

Java Script: Overview of JavaScript; Object orientation and JavaScript; General syntactic characteristics; Primitives, Operations, and expressions; Screen output and keyboard input; Control statements; Object creation and Modification; Arrays;

Functions; Constructor; Pattern matching using expressions; Errors in scripts; Examples.
[13 Hours]

Unit - III

Java Script and HTML Documents, Dynamic Documents with JavaScript, The JavaScript execution environment; The Document Object Model; Element access in JavaScript; Events and event handling; Handling events from the Body elements, Button elements, Text box and Password elements; The DOM 2 event model; The navigator object; DOM tree traversal and modification. Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts; Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements; Dragging and dropping elements.

[13 Hours]

Unit - IV

CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The Box model, Background images, The and tags, Conflict resolution. XML: Introduction; Syntax; Document structure; Document Type definitions; Namespaces; XML schemas; Displaying raw XML documents; Displaying XML documents with CSS; XSLT style sheets; XML Processors; Web services.

[13 Hours]

Text Books

1. Robert W Sebesta, "Programming the World Wide Web", 4th Edition, Pearson Education, 2008.

Reference Books

1. M.Deitel, P.J.Deitel, A.B.Goldberg, "Internet & World Wide Web How to program", 3rd Edition, Pearson Education / PHI, 2004.
2. Chris Bates, "Web Programming Building Internet Applications", 3rd Edition, Wiley India, 2006.
3. Xue Bai et al, "The Web Warrior Guide to Web Programming", Thomson, 2003.
4. Sklar, "The Web Warrior Guide to Web Design Technologies", 1st Edition, Cengage Learning India.

CS5P2: WEB PROGRMMING LAB

PART - A

1. Create a form having number of elements (Textboxes, Radio buttons, Checkboxes, and so on). Write JavaScript code to count the number of elements in a form
2. Create a HTML form that has number of Textboxes. When the form runs in the Browser fill the textboxes with data. Write JavaScript code that verifies that all textboxes has been filled. If a textboxes has been left empty, popup an alert indicating which textbox has been left empty.
3. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
4. Create a page with dynamic effects. Write the code to include layers and basic animation.
5. Write a JavaScript code to find the sum of N natural Numbers. (Use user-defined function)
6. Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.

8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a two Multiple choice lists and one single choice list
    a) The first multiple choice list, displays the Major dishes available.
    b) The second multiple choice list, displays the Starters available.
    c) The single choice list, displays the Soft drinks available.
10. Create a web page using two image files, which switch between one another as the mouse pointer moves over the image. Use the on Mouse Over and on Mouse Out event handlers.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note:

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

CS6T2 : COMPUTER NETWORKS

Total Teaching Hours : 52 No of Hours / Week : 03

Unit - I

Introduction: Growth of computer networking, Complexity in network system,
Motivation and Tools: Resource sharing, Growth of the internet, probing the internet, interpreting the ping response, tracing a route. Transmission Media: Copper wires, glass fibers, radio, satellite, Geosynchronous satellites, low earth orbit satellites, Low earth orbit satellite arrays, Microwave, Infrared, Light from a laser. Local Asynchronous Communications: Introduction, the need for asynchronous communications, using electric current to send bits, standards for communication, baud rate, Framing and errors, Half and Full duplex asynchronous communication, the effect of noise on communication. Long distance Communication: Sending signals across long distances, Modem hardware used for Modulations and Demodulation, Leased analog data circuites, optical, radio frequency and dialup Modems, carrier frequencies and Multiplexing, baseband and bradband technologies, wave length division multiplexing, spread spectrum, time division multiplexing [13 hours]

Unit - II

Packets, Frames and Error Detection: Concept of Packets, packets and Time-division Multiplexing, Packets and Hardware Frames, byte Stuffing, transmission errors, Parity bits and Parity checking, error detection, Detecting errors with checksums, detecting errors with CRC, Burst errors, frame formats and error detection mechanism. LAN Technologies and Network Topologies: Direct point-to-point communications, Shared Communications channels, LAN Topologies, Ethernet, Carries sense on CSMA,

Collision Detection and Backoff wih CSMA/CD, Ring Topology and Token Passing, Self-Healing Token Passing Networks, ATM. Hardware addressing and Frame Type Identification: specifying a recipient, How LAN hardware uses addresses to filer packets, format of a physical addresses, broadcasting, Multicast addressing, identifying packet contents, frame headers and frame format. LAN Wiring, Physical Topology and Interface Hardware: speeds of LANs and computers, Network Interface Hardware, The connection between a NIC and a network, original thick Ethernet wiring, connection multiplexing, thin Ethernet wiring, twisted pair Ethernet, Network interface cards and wiring schemes, categories of wires. [13 hours]

Unit - III

Extending LANs: Fiber Optic Extensions, Repeaters, bridges, frame filtering, switching, Long-distance and Local Loop Digital Technologies: Digital telephony, Synchronous communication, SONET, ISDN, Asymmetric Digital Subscriber Line Technology, other DSL technologies, cable modem technology, upstream communication, Broadcast Satellite systems. WAN technologies and Routing: Large Networks and Wide Areas, Packet switches, forming a WAN, store and forward, Physical addressing in a WAN, Next-Hop forwarding, Source independence, Routing Table Computation, Shortest path computation in a Graph, distance vector routing, like-state routing, Example of WAN technologies. Network Characteristics: Network ownership, Network performance characteristics, Jitter. Protocols and Layering: the need for protocols, the seven layers, Stacks: Layered Software. [13 hours]

Unit - IV

Internetworking: internet architecture, A virtual Network, Layering and TCP/IP protocols. Internet Protocol Addresses, APR, IP Datagram's and Datagram Forwarding, IP Encapsulation, Fragmentation, and Reassembly, IPv6, ICMP, UDP, TCP, Internet routing, DNS, WWW, MAIL. [13 hours]

Text Books:

1. Douglas E Comer and M.S.Narayana, "Computer Networks and Internets", 5th edition, Pearson Education, 2013.

Reference Books:

1. Andrew S.Tanenbaum, "Computer Networks", Fifth Edition, Prentice Hall, 2012
2. Behrouz Ferouzan, "Introduction to Data Communications and Networking", TMH, 1999.
3. S. Keshav, "An Engineering Approach to Computer Networks", Pearson Education, 2nd Edition.

CS6P2: PROJECT LAB

Total Practical hours / week: 03 hours

Students are required to take up a problem and develop a system by making use of the existing infrastructure available in their respective colleges.

Scheme of Evaluation is as follows:

Project Demo	- 15 Marks
Project VIVA	- 15 Marks
Project Report	- 5 Marks
Total	**- 35 Marks**

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BANGALORE UNIVERSITY
Syllabus, Scheme of Instruction & Examination for
B.Sc., Physics Semester Scheme (from 2014- 15)

Serial Number	Paper Number	Teaching hours per week	Examination duration	Maximum marks		Maximum total marks
				Final exam	IA	
01	PHY 101	4	3 hours	70	30	100
02	PHY 102	3	3 hours	35	15	50
03	PHY 201	4	3 hours	70	30	100
04	PHY 202	3	3 hours	35	15	50
05	PHY 301	4	3 hours	70	30	100
06	PHY 302	3	3 hours	35	15	50
07	PHY 401	4	3 hours	70	30	100
08	PHY 402	3	3 hours	35	15	50
09	PHY501	3	3 hours	70	30	100
10	PHY502	3	3 hours	35	15	50
11	PHY503	3	3 hours	70	30	100
12	PHY504	3	3 hours	35	15	50
13	PHY601	3	3 hours	70	30	100
14	PHY602	3	3hours	35	15	50
15	PHY603	3	3 hours	70	30	100
16	PHY604	3	3hours	35	15	50
				Grand total		1200

Note-I:

- The paper number is a three digit number with ' **0** ' in the middle
- The digit to the left of ' **0** ' indicates the semester number
- Odd number to the right of ' **0** ' indicates a theory paper
- Even number to the right of ' **0** ' indicates a practical paper

Note-II:

The marks distribution for the final practical examination is as follows:

1. Writing formula, Explanation, Figure/circuit diagram 05 Marks
2. Setting up of the experiment & entering the observations in the tabular column. 20 Marks
3. Calculation / Graph, Results with units 05 Marks
4. Class Records (to be valued at the time of practical examination) 05 Marks

Total for the practical examination – 35 marks

Note-III:

A minimum of **EIGHT** (8) experiments must be performed in each practical paper

Syllabus for I Sem BSc, (Physics)
PHY-101: Mechanics, Oscillations and Properties of matter

Unit -1

Motion & Friction

Newton's laws of motion with illustrations (review); Enumeration of II law - Motion in a resistive medium; Examples of drag force, concept of terminal velocity; role of static and dynamic friction; Motion along inclined plane with and without frictional force; Use of free body diagrams

6 hours

Frames of reference

Inertial and Non inertial frames of reference; Galilean relativity; Postulates of special theory of relativity; Lorentz transformation equation (no derivation) ; mass energy equivalence; length contraction and time dilation

7 hours

Unit -2

Planetary & Satellite motion

Motion along a curve - radial and transverse components of acceleration; Newton's law of gravitation, Kepler's laws (statements only); Escape velocity and orbital velocity; Launching of artificial Satellite; Geostationary and geosynchronous satellites

5 hours

Work & Energy

Work done by a constant and variable force; Work energy theorem; Work and potential energy; examples of potential energy; Work done by gravitational force; Work done by a spring force; Conservative and non conservative force; Conservation of energy

4 hours

Surface tension

Molecular interpretation of surface tension; Surface energy; Angle of contact and wetting; Pressure difference across a curved surface; Interfacial tension; Drop weight method with necessary theory; Factors affecting surface tension

4 hours

Unit - 3

System of particles

Centre of mass of rigid bodies; Newton's law for a system of particles; Linear momentum for a particle and a system of particles; Conservation of linear momentum; System with varying mass; Rocket motion; Elastic and inelastic collisions (oblique)

5 hours

Moment of inertia

Review of rotational motion of Rigid bodies; Kinetic energy of rotation-Moment of Inertia of a body; Theorem of Moment of Inertia-Parallel and perpendicular axes theorem with proofs (2-D case); Calculation of moment of inertia of a disk, annular ring, solid sphere and rectangular bar; Conservation of angular momentum with illustrations

8 hours

Unit - 4

Oscillation

SHM; Simple and compound pendulum; damped oscillations; forced oscillations - concept of resonance; coupled oscillators

5 hours

Elasticity

Review of elastic properties; Relationship between three elastic constants; Poisson's ratio; Work done in stretching a wire; Bending of beams; Bending moment, Theory of single cantilever, Couple per unit twist, Torsional oscillations

8 hours

References

1. Fundamentals of Physics- RResnik, and D Halliday, Wiley 2001
2. Physics-Classical and Modern, FJKeller, EGettys and JJSkove, McGraw Hill Second Edition
3. Classical Mechanics-KNSreenivasaRao, Universities Press- Orient Longman
4. Concepts of Physics Vol (1)-HC Verma, Bharathi Bhavan Publishers, 2004 Edition
5. University Physics- FWSears, MW Zemansky & HDYoung, Narosa Publications- Delhi
6. Mechanics- JCUpadhaya, Ramprasad & Co, Agra
7. Mechanics- Berkeley Physics Course Vol(1)- Mittal, Knight & Rudermann, TMH Delhi, 1981
8. Mechanics- EMPurcell, McGraw Hill
9. Oscillations and Waves – DPKhandelwal, Himalaya Publishing House
10. Elements of Properties of matter - DSMathur, Shamlal Charitable Trust, Delhi, 1996
11. Properties of Matter - Brijlal & Subramanyam, SChand & Co, 1982
12. Newtonian Mechanics- APFrench, Nelson & Sons UK, 1971
13. Mechanics & Thermodynamics, GBasavaraju & Dipan Ghosh, TMH Publishing Limited, New Delhi
14. A treatise on general properties of matter, Sengupta and Chatterjee, (Fifth edition -2001) New Central Book Agency, Calcutta
15. Waves & Oscillations, PKMittal & Jai Dev Anand, Hari Anand Publications (1994)

PHY-102: Practical Physics – I

List of Experiments

1. Atwood machine – with photogate
2. Torsional pendulum – to determine C and Rigidity modulus
3. Spring mass- (a) static case to determine 'k'
   (b) dynamic case to determine 'k'
   (c) 'k' as a function of L of spring
4. Bar pendulum – effective length and T
5. Rigid pendulum – T and decay of amplitude
6. Coupled oscillator – string coupled with change of tension
7. Simple pendulum - dependence of T on amplitude
8. Rolling dumb bell - on parallel inclined rails
9. Verification of parallel and perpendicular axis theorem
10. Searle's double bar
11. Work done by variable force
12. Cantilever of negligible mass to find Young's modulus
13. q- by Stretching
14. Fly wheel
15. Verification of principle of conservation of energy
16. Determination of coefficients of static, kinetic and rolling frictions
17. q by uniform bending
18. q by single cantilever

Note: A minimum of EIGHT (8) experiments must be performed

Referenc

1. BSaraf etc, - Physics through experiments, Vikas Publications
2. DPKhandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vani Publications
3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London
4. An Advanced Course in Practical Physics , D Chattopadhyay, PC Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, 2002
5. BSC, Practical Physics, CLArora, SChand & Co, New Delhi, 2007 Revised Edition

Syllabus for II Sem BSc (Physics)
PHY-201: Thermal physics and Statistical mechanics

Unit - 1

Kinetic Theory of Gases

Basic assumptions of kinetic theory; Derivation of $pV = \frac{1}{3}mnc^2$ - deduction of perfect gas equation; Maxwell's law of distribution of velocity *(without derivation)* ; Calculation of most probable velocity, mean velocity and root mean square velocity; Derivation of expression for mean free path; Degrees of freedom and principle of equipartition of energy; Derivation of $U = \frac{3}{2}RT$, Specific heats of an ideal gas, atomicity of gases

7 hours

Transport Phenomena

Viscosity and thermal conduction in gases *(with derivation)* ; Relation between coefficient of viscosity and coefficient of thermal conductivity of a gas

2 hours

Real Gases

Derivation of van der Waal's equation of state; Andrews experiments on Carbon dioxide; Derivation of the critical constants; Comparison of van der Waal's isotherms with Andrew's isotherms

4 hours

Unit – 2

Basic Concepts and the Zeroth law of thermodynamics

Macroscopic and microscopic descriptions of a system; Thermal Equilibrium - Zeroth Law of Thermodynamics; Concept of temperature; Thermodynamic equilibrium; Thermodynamic coordinates - extensive and intensive; Equations of state; Various processes - PVT indicator diagrams

3 hours

First Law of Thermodynamics

The first law of Thermodynamics; Sign convention for heat and work; Work done in an isothermal process for an ideal gas; Internal energy as a state function; Application of the first law for (i) Cyclic Process (ii) Adiabatic Process (iii) Isochoric Process (iv) Isobaric Process and (v) Isothermal Process

3 hours

Second Law of Thermodynamics

Reversible and irreversible processes; Carnot Cycle and its efficiency (with derivation); Second law of thermodynamics (Kelvin's & Clausius' statements and their equivalence); Carnot Engine; Practical internal combustion engines - Otto and Diesel Cycles (qualitative treatment); Carnot theorem; The thermodynamic temperature scale; Refrigerator- Coefficient of performance

3 hours

Entropy

The concept of entropy; Entropy of an ideal gas; Entropy - reversible process, Entropy - irreversible process; Entropy and the second law; Clausius inequality; Principle of increase of entropy; Entropy change in (i) adiabatic process (ii) free expansion (iii) cyclic process (iv) isobaric process; TdS diagram of a Carnot cycle; Entropy and disorder

4 hours

Unit - 3

Thermodynamic potentials

Internal Energy; Enthalpy; Helmholtz free energy; Gibbs free energy and their significance; Maxwell's thermodynamic relations and their significance; TdS relations; Energy equations and Heat Capacity equations; Third law of thermodynamics (Nernst Heat theorem)

4 hours

Phase transitions of the first order

Melting, vaporization and sublimation; Condition of equilibrium of phases in terms of Gibbs potential; Clausius-Clapeyron equation - elevation of boiling point, depression of freezing point; Equilibrium between phases - triple point

3 hours

Classical Equilibrium Statistical Mechanics

Specification of the state of the system; Phase space; Microstates and macrostates; Thermodynamic probability and its calculation; Basic postulates; Entropy and thermodynamic probability; Calculation of temperature from statistical mechanics

6 hours

Unit - 4

Low Temperature Physics

Methods of producing low temperatures: (i) Joule Thomson (Joule Kelvin / Throttling / Porous plug) experiment, Joule Thomson Coefficient, inversion temperature (ii) Adiabatic demagnetization - working and theory

4 hours

Liquefaction of gases

Cascade process; Regenerative cooling coupled with Joule Thomson cooling; Adiabatic expansion with Joule Thomson cooling (qualitative)

3 hours

Black Body Radiation

Block body radiation and its spectral energy distribution; Kirchhoff s law, Stefan-Boltzmann's law, Wien¯s displacement law, Rayleigh-Jeans law, Derivation of Planck'¯s law, Radiation pressure (qualitative), Solar constant and its determination; Estimation of the surface temperature of the sun

6 hours

References

1. Fundamentals of Physics- RResnik, D Halliday and KS Krane, Asian Books Private Limited, New Delhi, 1994
2. Heat and Thermodynamics- M M Zemansky,(International Edition) McGraw Hill New Delhi, 1981
3. Heat & Thermodynamics, MWZemansky & RHDittman, McGraw Hill Book company, Fifth Print 1986
4. Heat and Thermodynamics- Brij Lal and N Subramanyam, SChand & Co, New Delhi -1985
5. Concepts of Physics Vol (1) and (2)- HC Verma, Bharathi Bhavan Publications, New Delhi, 1996
6. Heat and Thermodynamics - DS Mathur, SChand & Co, New Delhi, 5th Edition(2004)
7. Heat, Thermodynamics & Stastical Mechanics, BrijLal & Subramanyam, SChand & Company
8. Thermodynamics & Statistical Physics, Sharma & Sarkar, Himalaya Publishing House, Third Edition(1991)
9. Thermodynamics, Kinetic theory & Statistical Thermodynamics, FWSears & GLSalinger, Narosa Publishing House (Third Edition)
10. Mechanics & Thermodynamics, GBasavaraju & Dipan Ghosh, TMH Publishing Limited, New Delhi, 1984
11. Fundamentals of Classical Thermodynamics, Gordon J V Wylen & Richard E Sonntag, Wiley Eastern Limited
12. Thermal Physics, S C Garg, R M Bansal & C K Ghosh, TMH Publishing Company, New Delhi
13. Statistical Physics, Thermodynamics & Kinetic theory, V S Bhatia, SChand & Co, (5th Edition-1993)
14. Perspectives of Modern Physics, Arthur Beiser, McGraw hillo Book Company, Fourth Edition, 1987
15. Thermal Physics, BKAgarwal, Lokbharathi Publications, Allahabad, Third Edition 1993
16. Elements of Statistical Mechanics, Kamal Singh & SPSingh, SChand & Co, (IInd Edition, 1992)

17. Theory & Problems of Thermodynamics, Michael M Abbott & Hendrick C Van Ness, Schaum's Outline Series, McGraw Hill International Book Company, Singapore
18. University Physics-Sears & MW Zemansky
19. Fundamentals of Statistical and Thermal Physics -F Reif
20. Mechanics and Thermodynamics, C Basavaraju and D Ghosh
21. Thermal Physics- *C* Kittel
22. Thermal Physics - Chakraborthy

PHY-202: Practical Physics – II

List of Experiments

1. Specific heat by Newton's law of cooling
2. Specific heat of water using a thermistor
3. Thermal conductivity of a bad conductor by Lee's and Charlton's method
4. Thermal conductivity of rubber
5. Determination of thermal conductivity of a good conductor by Angstrom method / Searle's method
6. Thermal behavior of a torch filament
7. γ- by measuring velocity of sound- using CRO
8. Verification of Newton's law of cooling and Stefan's law of radiation
9. Determination of Stefan's constant by emissivity method
10. Calibration of thermocouple for Temperature measurement
11. Verification of Clausius-Clapeyron equation using pressure cooker
12. Determination of Solar constant
13. Monte Carlo experiment & error analysis
14. Verification of Maxwell's distribution of velocity
15. Maxwellian distribution of velocities for electron using EZ81vacuum diode
16. Dice experiment – to study statistical nature of results

Note: A minimum of EIGHT (8) experiments must be performed

References:

1. BSaraf etc, - Physics through experiments, Vikas Publications
2. DPKhandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vani Publications
3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London
4. An Advanced Course in Practical Physics , D Chattopadhyay, PC Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, 2002
5. BSC, Practical Physics, CLArora, SChand & Co, New Delhi, 2007 Revised Edition

Syllabus for III Sem BSc (Physics)
PHY-301: Electricity and Magnetism

Unit - 1

Electric field and potential Review:
Electrostatic field and intensity; Electrostatic potential; Relation between field and potential

1 hour

Electric dipole, potential and intensity at any point due to a dipole

2 hours

Network theorems
Superposition theorem; Thevenin's theorem; Norton's theorem; Maximum power transfer theorem (for dc circuits - with problems)

5 hours

Magnetic fields and forces

Motion of charged particles in a magnetic field; Magnetic force on a current carrying conductor; Force and torque on a current loop, Concept of dead beat; Theory of a BG, Determination of high resistance by leakage

5 hours

Unit - 2

Source of magnetic field
Magnetic field due to moving charge, Biot and Savart's law; Magnetic field due to a straight current carrying conductor; Force between parallel conductors; Definition of ampere; Magnetic field of a circular loop; Theory of HTG; Field on the axis of a solenoid, Ampere's law, Application of Ampere's law to straight wire, solenoid and toroid

10 hours

Electromagnetic induction
Faraday's laws; Lenz's law; Expression for induced emf; motional emf; eddy currents and applications

3 hours

Unit - 3

Transient currents
Self inductance; Magnetic field energy stored in an inductor; Growth and decay of current in RC, LR, LCR circuits; Damped, under-damped and over-damped conditions

5 hours

Scalar and vector fields
Gradient of a scalar function; Relation between field and potential; Divergence and curl product rules; Line, surface and volume integrals; Fundamental theorem of divergence and curl (statements only)

3 hours

Electromagnetic waves
Maxwell's equations (derivation and significance) ; Electromagnetic waves - Derivation of wave equation, Velocity of em waves, Relation between refractive index and permittivity, Plane em waves, Energy and momentum, Significance of Poynting vector

5 hours

Unit - 4

Alternating current
Alternating current circuits, Resistance, Reactance and Impedance; LCR series and parallel circuits (vector method), Resonance, Power in ac circuits, Representation of sinusoids by complex numbers, ac bridge - Maxwell bridge

6 hours

Thermoelectricity
Seebeck effect; Thermoelectric series; Neutral temperature; Laws of thermoelectricity; Peltier effect, Demonstration of Peltier effect, Peltier coefficient; Thomson effect, Demonstration of Thomson effect, Thomson coefficient; Theory of thermoelectric circuits using thermodynamics; Thermoelectric diagrams and uses; Applications of thermoelectricity - Boy's radio micrometer, thermopile and thermoelectric pyrometer

7 hours

References

1. Electricity and magnetism by Brij Lal and N Subrahmanyam, Rathan Prakashan Mandir, Nineteenth Edition, 1993
2. Principles of Electronics by VK Mehta and Rohit Mehta, SChand & Company, Eleventh Edition, 2008
3. Feynman Lecture series, VolII, RPFeynnman et al, Narosa Publishing House, New Delhi
4. Electricity & Magnetism, NSKhare & SSSrivastava, AtmaRam & Sons, New Delhi
5. Electricity & Magnetism, DLSehgal, KLChopra, NKSehgal, SChand & Co, Sixth Edition, (1988)
6. Electricity & Electronics, DCTayal, Himalaya Publishing House, Sixth Edition(1988)
7. Basic Electronics & Linear Circuits, NN Bhargava, DC Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint,1999
8. Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition,1994
9. Introduction to Electrodynamics by DJ Griffiths
10. Electromagnetism by BB Laud
11. Electrical Networks, Theraja
12. Electrical Networks, Malvino

PHY - 302: Practical Physics – III

List of Experiments

1. To find L and C by equal voltage method
2. Energy consumption in an electrical circuit - to find power factor
3. Resonance in LCR series circuit
4. Resonance in LCR parallel circuit
5. Mirror galvanometer- figure of merit
6. High resistance by leakage using BG
7. Thermoelectric circuit - find Seebeck coefficients
8. Study of thermo emf as a heat pump
9. Black box - identify & measure R, L and C
10. Verification of Thevenin's theorem
11. Verification of Superposition theorem
12. Verification of maximum power transfer theorem
13. Maxwell's impedance bridge
14. Desauty's bridge
15. Anderson's bridge

Note: A minimum of EIGHT (8) experiments must be performed

References:

1. Physics through experiments, BSaraf etc,Vikas Publications
2. Advanced practical physics, Chauhan & Singh, Pragathi Publications
3. Practical Physics, DChattopadhyaya et al, Central Publications
4. An Advanced Course in Practical Physics , D Chattopadhyay, PC Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, 2002
5. Practical Physics, TCTayal

Syllabus for IV Sem BSc (physics)

PHY- 401: Physical Optics, Lasers and Fibre optics

Unit - 1

Wave Theory

Huygens' wave theory of light; Huygens' Principle; Construction Huygens' wave front; Laws of reflection and refraction using spherical wave front at a plane surface

3 hours

Interference – a Review:

Coherent sources and their production; Conditions for observing interference; Conditions for constructive and destructive interference

1 hour

Coherent sources by wavefront division

Biprism-theory and working, experiment to determine wavelength; Effect of thin film in the path of one of the beams; Calculation of thickness of the film

5 hours

Coherent sources by amplitude division:

Interference at thin films - reflected and transmitted light Colours of thin films; Theory and experiment of air wedge; Theory and experiment of Newton's rings

4 hours

Unit - 2

Diffraction - Fresnel diffraction

Division of wavefront into Fresnel's half period zones; Theory of rectilinear propagation using these ideas; Construction and working of Zone plate; Comparison of Zone plate with lens; Theory of diffraction at a straight edge

7 hours

Fraunhoffer diffraction

Theory of single slit diffraction; Theory of grating - normal and oblique incidence - Experimental determination of wavelength; Discussion of Dispersive power; Resolution, Rayleigh's criterion; Expression for resolving power of grating and telescope; Comparison of prism and grating spectra

6 hours

Unit - 3

Lasers

Introduction; Spontaneous and stimulated emission; Einstein's coefficients and optical amplification; Population inversion; Main components of a laser; Lasing action; Ruby Laser - construction and working - energy level diagram; He-Ne Laser - construction and working - energy level diagram; Fiber Laser - Master Oscillator power amplifier; Solid State Laser - construction and working; Applications of Lasers - Holography, bloodless surgery (principles only)

7 hours

Polarization

Review of plane polarized light and method of production; Double refraction at crystals; Huygens' explanation of double refraction; Theory of retarding plates - Quarter wave plates and Half wave plates; Production and detection of linearly , elliptically and circularly polarized light; Optical activity - Fresnel's explanation Laurent's half shade polarimeter

6 hours

Unit - 4

Optical Fibres

Optical fiber-principle, description and classification; Why glass fibers? Coherent bundle; Numerical aperture of fiber; Attenuation in optical fibers - limit Multimode optical fibers; Ray dispersion in multi-mode step index fibers; Dispersion due to material; Dispersion and maximum bit rates; Fiber optic sensors

8 hours

Modes in fibres

Introduction; Modes in fibers Symmetric step index planar waveguide TE modes; Propagation constants; Field distribution; Physical understanding of modes; TM modes of a symmetric step index planar wave guide

5 hours

References

1. Introduction to Modern Optics, Tata McGraw Hill Publications (2009)
2. Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition, 1994
3. A K Ghatak and K Thyagarajan, Contemporary Optics, Macmillan
4. Jenkins and White, Optics, McGraw Hill
5. Optics, BrijLal and Subramaniam, SChand & Company, 22nd Edition, 1994
6. Principles of Optics, B K Mathur, Gopal Printing Press, Kanpur, 6th Edition,1996
7. An Introductions to LASERS-Theory & Applications, MNAvadhanulu, SChand & Co, (2001)
8. Introduction to Fibre Optics, Ajoy Ghatak & K Thyagarajan, Cambridge University Press, First Edition Reprint,2002
9. Optical Fibre Communications, Gerd Keiser, McGraw Hill, 3rd Edition, 2000
10. Fibre Optic Communication, DCAgarwal, Wheeler Publications, Second Edition Reprint,1996
11. Optics, Klein and Furtak, Wiley Publications
12. B B Laud, Lasers, Wiley Eastern

PHY-402: Practical Physics – IV

List of Experiments

1. Verification of Brewster's law
2. Refractive index of a liquid by parallax method
3. Biprism – determination of wavelength of light
4. Air wedge – determination of thickness of object
5. Newton's rings – determination of radius of curvature of lens surface
6. Diffraction grating in minimum deviation position
7. Diffraction grating in normal incidence position
8. Resolving power of telescope
9. Diffraction at straight edge
10. Polarimeter – determination of specific rotation of a solution
11. Diffraction of LASER at a wire
12. Measurement of numerical aperture of an optical fibre
13. Fraunhoffer diffraction of LASER at single slit
14. Diffraction of LASER at graduations of a metal scale

Note: A minimum of EIGHT (8) experiments must be performed

References:

1. An Advanced Course in Practical Physics , D Chattopadhyay, PC Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, 2002
2. Practical Physics, Experiments with He-Ne laser, RSSirohi
3. Advanced Practical Physics, Wirsnop & Flint
4. BSc, Practical Physics, CLArora, SChand & Company, New Delhi, Revised Edition, 2007

General References:

1. College Physics, Raymond A Serway & Jerry S Faughn, Thomson Brooks / Cole (sixth Edition)
2. Scientia Physics, Avinash Sharma, CBS Publishers & Distributors, New Delhi(First Edition 2000)
3. Principles of Physics, Frederick J Bueche & David A Jerde, McGraw Hill Inc (Sixth Edition)
4. University Physics, Hugh D Young & Roger A Fredman, Addision Wesley Longman Inc, (Ninth Edition) , Pinnacle Distributors, NewDelhi
5. Understanding Physics, Karen Cummings, Priscilla Laws, Edward Redish & Patrick Cooney, Wiley India, 2006 Reprint
6. College Physics, Serway

Syllabus for V Sem. B.Sc. (Physics)
PHY 501: Quantum Statistical Physics, Quantum Mechanics-I and II

Unit-1: Statistical Physics

Maxwell – Boltzmann distribution function (with derivation) **1 hour**

Bose-Einstein Statistics

B-E distribution law (with derivation), Bose-Einstein condensation properties of liquid He (qualitative description). Radiation as photon gas. Bose's derivation of Planck's law, Rayleigh-Jeans law, Wein's law, Thermodynamic functions of photon gas. Specific Heat capacity of metals. **9 hours**

Fermi – Dirac Statistics

Fermi-Dirac distribution function (with derivation), Fermi sphere and Fermi energy, Fermi gas, Electronic heat capacity in metals.

Comparison of Maxwell – Boltzmann, Bose – Einstein and Fermi – Dirac distribution functions. **5 hours**

Unit-2: Quantum Mechanics-I

Introduction to quantum mechanics : Planck's quantum theory, failure of classical physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photo electric effect, Compton effect and specific heat of solids . Explanation of the above effects on the basis of quantum mechanics. **5 hours**

De Broglie's hypothesis of matter waves, Thomson's experiment, Davisson and Germer's experiment – normal incidence method, concepts of packets for quantum particle, group velocity and phase velocity, relation between particle velocity and group velocity. Heisenberg's uncertainty principle - different forms, Gamma ray microscope experiment, applications. **10 hours**

Unit-3: Quantum mechanics-II

The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function. Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions. Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation of Eigen values and Eigen function – extension to three dimensional box; Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state. **15 hours**

References :

1. Quantum Mechanics, ***B.H. Bransden and C.J. Joachain***, 2nd Edition, Pearson Education (2004)
2. Introduction to Quantum Mechanics, ***David J. Griffiths***, 2nd Edition, Pearson Education ,(2005)
3. Modern Quantum Mechanics, ***J.J. Sakurai***, Pearson Education, (2000)
4. Principles of Quantum Mechanics, ***Ghatak and Lokanathan***, Macmillan, (2004)
5. Statistical Mechanics, An Introduction, **Evelyn Guha**, Narosa (2008)
6. Statistical Mechanics, ***R.K.Pathria***, 2nd edition, Pergamon Press (1972)
7. Statistical and Thermal physics, ***F.Reif***, McGraw Hill International(1985)
8. Statistical Mechanics, ***K.Huang***, Wiley Eastern Limited, New Delhi (1975)

PHY-502: Practical Physics V (A)

1. Analysis of X-ray diffraction pattern obtained by powder method to determine properties of crystals.
2. Determination of Fermi energy of a metal.
3. Determination of thermal conductivity of a metal by Forbe's method.
4. Measurement of heat capacity of metals.
5. Characteristics of a photo cell-determination of stopping potential.
6. Determination of Planck's constant.
7. Characteristics and spectral response (selenium photocell)
8. Hysteresis loop for iron and finding energy loss per cycle
9. Applications of CRO in the (a) study of Lissajous figures (b) calculation of rms voltage (c) calculation of frequency of AC.
10. Regulated power supply (using zener diode).
11. Determination of transistor h-parameters.
12. Frequency response of a CE amplifier.
13. Transistor as a switch and active device.
14. Construction of RFO or AFO - using transistor
15. Emitter follower

Note: A minimum of EIGHT experiments must be performed.

References :

1. Worsnop and Flint , Advanced practical physics for students, Asia Pub.(1979)
2. Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (1976)
3. Misra and Misra, Physics Lab. Manual, South Asian publishers (2000)
4. Gupta and Kumar, Practcal physics, Pragati prakashan, (1976)
5. Ramalingom & Raghuopalan : A Lab. Course in Electronics
6. Bharagav et al : Electronics, TTI

PHY- 503: Astrophysics, Solid State Physics and Semiconductor Physics

Unit-1: Astrophysics

Parallax and distance: Helio-centric parallax, Definition of parsec (pc), Astronomical unit (AU), light year (ly) and their relations.

Luminosity of stars: Apparent brightness, Apparent magnitude - scale of Hipparchus. Absolute magnitude - distance - modulus relationship. Distinction between visual and bolometric magnitudes, Radius of a star. **3 hours**

Stellar classification: Pickering classification and Yerke's luminosity classification. H-R diagram, Main sequence stars and their general characteristics.

Gravitational potential energy or self energy of a star based on the linear density model, Statement and explanation of Virial theorem.

Surface or effective temperature and color of a star : Wien's displacement law. Expressions for - average temperature, core temperature, hydrostatic equilibrium, core pressure of a star based on the linear density model of a star. Photon diffusion time (qualitative), Mass – Luminosity relationship and expression for lifetime of a star. **7 hours**

Evolution of stars: Stages of star formation (GMC – Protostar- T-Tauri) and main sequence evolution, White dwarfs, Pulsars, Neutron stars and Black holes, Variable stars, Supernova explosion- its types, Chandrasekhar limit. Event horizon, singularity and Schwarzchild's radius (qualitative) **5 hours**

Unit-2: Solid State Physics

Crystal systems and X-rays: Crystal systems-Bravais lattice; Miller indices– Spacing between lattice planes of cubic crystals, Continuous and characteristic X-ray spectra; Moseley's law, Scattering of X-rays - Compton effect, Bragg's law. **4 hours**

Free electron theory of metals : Electrical conductivity- classical theory (Drude-Lorentz model) ; Thermal conductivity; Wiedemann - Franz's law; Density of states for free electrons; Fermi-Dirac distribution function and Fermi energy; Expression for Fermi energy and Kinetic energy at absolute zero. Hall Effect in metals **5 hours**

Band theory of solids: Elementary ideas regarding formation of energy bands; Bloch theorem; One dimensional Kroning-Penney model; Effective mass; Energy gap. **4 hours**

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect ,Type I and type II superconductors– BCS Theory (qualitative). **2 hours**

Unit-3: Semiconductor Physics

Semiconductors: Distinction between metals, semiconductors and insulators based on band theory. Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration and electrical conductivity – extrinsic semiconductors – impurity states in energy band diagram and the Fermi level.

Semiconductor devices: Formation of P-N junction, depletion region, Biased P-N junction, variation of width of the depletion region, drift and diffusion current –expression for diode current. **6 hours**

Special Diodes: Zener diode – characteristics and its use as a voltage regulator.
Photo diodes, Solar cells and LED (principle, working and applications). **4 hours**

Transistors: Transistor action, Characteristics (CE mode), Biasing, Load line analysis - Transistor as an amplifier(CE mode). h-parameters **5 hours**

References

1. Astronomy : Fundamentals and Frontiers – **Jastrow & Thompson**
2. Chandrashekhar and his limit – **G. Venkataraman**
3. An introduction to Astrophysics – **Baidyanath Basu**
4. Astrophysics Concepts, ***M. Herwit***: John Wiley, 1990.
5. Astrophysics. ***Krishnaswamy*** (ed)
6. Introduction to solid State Physics, ***Charles Kittel***, VII edition, 1996.
7. Solid State Physics- **A J Dekker**, MacMillan India Ltd, (2000)
8. Elementary Solid State Physic, **J P Srivastava**,PHI,(2008)
9. Essential of crystallography**, M A Wahab**, Narosa Publications (2009)
10. Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (1976)
11. Solid State Physics-**S O Pillai**-New Age Int. Publishers (2001)

PHY –504: Practical Physics V (B)

1. Parallax Method – Distance of objects using trigonometric parallax.
2. HR Diagram & the physical properties of stars.
3. Analysis of stellar spectra.
4. Determination of temperature of a star (artificial) using filters.
5. Analysis of sunspot photographs & solar rotation period.
6. Mass luminosity curve – Estimation of mass of a star.
7. Mass of binary stars.
8. Resistivity of a material by four probe method.
9. Semiconductor temperature sensor.
10. Temperature coefficient of resistance and energy gap of thermistor.
11. LED characteristics and spectral response.
12. LDR characteristics – dark resistance – saturation resistance.
13. Solar cell characteristics – Open circuit voltage – short circuit current – efficiency.
14. Study of Hall effect in a metal.
15. Characteristics of LASER diode.
16. Spectral response of a photodiode and its I – V characteristics.

Note: A minimum of EIGHT experiments must be performed.

References :

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976
7. Ramalingom & Raghuopalan : A Lab. Course in Electronics
8. Bharagav et al : Electronics, TTI

Syllabus for VI Sem. B.Sc. (Physics)
PHY- 601: Atomic and Molecular Physics, Nuclear Physics and Material Science

Unit-1: Atomic and Molecular Physics

Vector Model of the Atom

Review of Bohr's theory of hydrogen atom, Sommerfeld's modification of the Bohr atomic model (qualitative). Spatial quantization and spinning electron. Different quantum numbers associated with the vector atom model, Spectral terms and their notations, Selection rules, Coupling schemes(*l*-s and j-j coupling in multi electron systems), Pauli's Exclusion Principle, Expression for maximum number of electrons in an orbit. Spectra of alkali elements (sodium D-line), Larmor precession, Bohr magneton, Stern-Gerlach Experiment**.** Zeeman Effect-Experimental study, theory of normal and anomalous Zeeman effect based on quantum theory. **10 hours**

Molecular Physics: Pure rotational motion, Spectrum and selection rules; Vibrational motion, vibrational spectrum and selection rules; Rotation-Vibration spectrum; Scattering of light-Tyndall scattering, Rayleigh scattering and Raman scattering. Experimental study of Raman effect, Quantum theory of Raman effect - Applications. **5 hours**

Unit-2: Nuclear Physics

Alpha particle scattering: Rutherford's theory of alpha scattering (assuming the path to be hyperbolic).

Alpha decay: Gamow's theory of alpha decay, Q-value of alpha decay, Exact energy of alpha particle emitted, characteristics of alpha spectrum. Geiger- Nuttal law.

Beta decay : Types of beta decay (electron, positron decay and electron capture). Characteristics of beta spectrum and Pauli's neutrino hypothesis. **8 hours**

Detectors : Variation of ionization current with applied voltage in a gas counter, GM Counter. **2 hours**

Particle accelerators: Cyclotron, Electron Synchrotron. **2 hours**

Nuclear reactions: Types of Nuclear reactions. Conservation laws. Expression for Q value of a nuclear reaction - Endoergic and Exoergic reactions, threshold energy. **3 hours**

Unit-3: Material Science

Nanomaterials - Synthesis techniques(Top down & bottom up)- Electron confinement-Size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Distinct properties of nano materials. Classification of Nanosystems - quantum dots, nanowires and nanofilms. Multilayered materials- Graphene, Fullerene, Carbon Nano Tube (CNT), Mention of applications of nanomaterials. **5 hours**

Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric breakdown, electrostriction (qualitative), electrets. Piezo electric effect, cause, examples and applications. **5 hours**

Liquid Crystals : Classification-Thermotropic and lyotropic. Properties - anisotropy in dielectric constant, electrical conductivity, magnetic susceptibility, refractive index and elasticity. Applications: construction and operation of twisted nematic display and thermography.

5 hours

References

1. Concepts of Modern Physics, **Beiser** 3rd edition, Student edition, New Delhi (1981).
2. Introduction to Atomic Physics – **H.E. White**
3. Introduction to Modern Physics – **H.S. Mani, G.K. Mehta**-West Press (1989).
4. Principles of Modern Physics, **A.P. French**, John Wiley, London (1958).
5. Modern Physics - **S.N. Ghosal**, Part 1 and 2 S. Chand and Company (1996).
6. Physics of the Atom, **Wehr et. al**. McGraw Hill
7. Atomic and Nuclear Physics, **S. N. Ghoshal**: Vol. II. (2000).
8. Alpha, beta and gamma spectroscopy, **K. Seighbahn**: Vol. I and II, John Wiley (1967)
9. N. Rudraiah (Ed) : Modelling of Nano and smart materials
10. Introduction to solid State Physics, ***Charles Kittel***, VII edition(1996).
11. Solid State Physics- **A. J. Dekker**, MacMillan India Ltd. (2000).
12. Elementary Solid State Physics, **J. P. Srivastava**,PHI (2008).
13. Modern physics, **Murugeshan et al**.
14. Nano materials, **K. P. Bandopadhyay**.
15. Nanocrystals, **C. N. Rao, P. John Thomas**.
16. Nanotubes and wires, **C. N. Rao, A. Govindaraj**.

PHY- 602: Practical Physics VI (A)

1. Study of hydrogen spectrum.
2. Sommerfeld's fine structure constant determination.
3. Determination of e/m by Thomson's method.
4. Characteristics of GM counter.
5. Verification of inverse square law using GM counter (with a radioactive source).
6. Determination of mass absorption coefficient of gamma rays.
7. Determination of half-life of K^{40}.
8. Millikan's Oil drop experiment
9. Determination of phase transition temperature of liquid crystal and Identification of mesophases.
10. Analysis of band spectrum of PN molecule.
11. Analysis of rotational spectrum of nitrogen.
12. Analysis of rotational vibrational spectrum of a diatomic molecule (HBr).
13. Absorption spectrum of $KMnO_4$.
14. Determination of dielectric constant.
15. Determination of dipole moment of organic liquid

Note: A minimum of EIGHT(8) experiments must be performed.

References:

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976

PHY-603: Atmospheric Physics, Electronics and Computational Physics

Unit-1: Atmospheric Physics and Earth's Atmosphere

Origin and composition of atmosphere:
Fixed and variable gases, Mechanism of production and destruction of atmospheric constituents, Different layers of atmosphere. **2 hours**

Temperature structure of the atmosphere:
Vertical profile and horizontal distribution, Pressure (over land and ocean), Variation of pressure with altitude, hydrostatic equation, Relative and Absolute humidity, Density (over land and ocean), wind (speed and direction). **3 hours**

Sun's Radiation
Spectrum of radiation (EM spectrum, Visible range, diffuse radiation), Black body radiation (Planck's law, emission curves from Sun and Earth atmosphere), Absorption of solar radiation by earth's atmosphere (absorption and emission of radiation by molecules, absorptivity, emissivity, Kirchoff's law, reflectivity and transmittivity), Beer's law (derivation), Global energy balance for earth – atmosphere system, Green house effect. **4 hours**

Atmospheric motions
Atmosphere dynamics – Eulerian and Lagrangian approaches;
Accelerated rotational frames of reference – Centripetal and Coriolis force, Gravity and pressure gradient forces (with derivation); Applications of Coriolis force – Formation of trade winds, cyclones, erosion of river banks. **6 hours**

Unit–2: Electronics

Integrated circuits
Monolithic IC - description of discrete IC - Techniques of manufacturing thin film and thick film IC. **2 hours**

Operational amplifiers
Ideal OP amplifier characteristics. The basic op-amp circuits, Inverting amplifier, Non-inverting amplifier; Applications of op-amp – summer, integrator, differentiator. **3 hours**

Oscillators
Feedback concepts - oscillator circuits - Feedback amplifier - oscillator operation – Barkhausen Criterion - phase and frequency considerations- phase shift oscillator and Wien bridge oscillator (using op amp). **3 hours**

Digital Electronics
Logic states; Voltage range of high and low logic states; Number codes; Hexadecimal representation; BCD; signed numbers; Arithmetic 1's and 2's complement; Gray code.
Logic gates and truth tables; OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR. **5 hours**

Combination logic: Adders (full and half adder) & Subtractors (full and half).
2 hours

Unit–3: Computational Methods in Physics (using C-program)

Basics of C Language:
Program structure in C, Constants and Variables, Input and output statements, Arithmetic and conditional operations, conditional structure, Looping structures, one dimensional Arrays, programs to solve linear and quadratic equations. **3 hours**

Algorithms: modeling and simulation in physics: Errors in numerical calculations. **1 hours**

Roots of an equation : Newton-Raphson method and Bisection method. Application using Bisection method for LCR transient circuit (to determine R for given values of L and C for a pre-specified rate of dissipation of energy), program in C. **3 hours**

Numerical Integration: Simpson's 1/3 rule, Simpson's 3/8 rule, Applications - calculation of time period of a simple pendulum, rms current of ac, work done by variable force. **2 hours**

Numerical Differentiation: Newton – Forward and Backward formulae. Application: Problem on heat current: $H = -kA\frac{dT}{dx}$ **2 hours**

Ordinary Differential equation: Euler's method, Runge – Kutta II and IV order methods. Applications: Freely falling body in a resistive medium with resistance proportional to velocity, Projectile motion, LCR transient circuit, solution to Schrödinger wave equation for Harmonic potential (plotting wave function only). **4 hours**

References

1. Basics of Atmospheric Science by **A Chandrashekar**, PHI Publications (2010).
2. Weather, climate and atmosphere by **Siddartha**.
3. Atmospheric Science by **John M Wallace and Peter V Hobbs**, Elsevier Publications (2006).
4. Introduction to Atmospheric Science by **Turberick and Lutzens**, Elsevier Publications
5. Computational Physics, An Introduction by **R C Verma, Ahluwalia, Sharma**
6. A first Course in Computational Physics by **Paul L. DeVries, Javier E. Hasbun**
7. Numerical Methods for Engineers by **Steven C. Chapra, Raymond P Canale**
8. C-Programming Language, ***Balaguruswamy E,*** Tata McGraw Hill (1999).
9. C-Programming Language, ***Xavier C***, New Age International (2000).
10. Computer Programming in C**, V RajaRaman,** PHI Learning Pvt. Ltd. (2004).

PHY-604: Practical Physics VI (B)

1. Low pass filter using Op-amp
2. High pass filter using Op-amp
3. Band pass filter using Op-amp
4. Op-amp inverting and non-inverting amplifier.
5. Op-amp-summer, integrator, differentiator.
6. Phase shift oscillator using op –amp
7. Wien-bridge Oscillator using op – amp
8. Digital Half-adder & Full-adder circuits.
9. Temperature of atmospheric air - by using Thermograph (Bimetallic type)- Plotting the graph of temperature Vs time.
10. Relative humidity using hair hygrometer
11. Estimation of relative humidity using wet and dry bulb thermometer
12. Wind speed and direction by Hand held anemometer and wind wane
13. Estimation of height from the given pressure data

Execution of computer programs using C for the following problems.

14. (a) Determination of R in LCR transient circuit using Bisection method
    (b) Freely falling body in a resistive medium using Euler method / Runge – Kutta method
15. (a) Cooling of a body due to radiation – Stefan – Boltzmann Law using Euler method
    (b) rms current of ac using Simpson's rule
16. (a) Problem on heat flow using Newton Forward formula
    (b) Projectile motion with resistance using Euler method/Runge – Kutta method
17. (a) Work done by a variable force using Simpson's rule
    (b) LCR transient circuit – analysis – using Euler method
18. Schrödinger wave equation – Harmonic potential – Wave function plot only

Note : A Minimum of EIGHT experiments must be performed

References

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976
7. Ramalingom & Raghuopalan : A Lab. Course in Electronics
8. Bharagav et al : Electronics, TTI
9. Computational Physics, An Introduction by **R C Verma, Ahluwalia, Sharma**
10. A first Course in Computational Physics by **Paul L. DeVries, Javier E. Hasbun**
11. Numerical Methods for Engineers by **Steven C. Chapra, Raymond P Canale**

BANGALORE UNIVERSITY

Department of Physics

Jnana Bharathi Campus, Bangalore – 560 056

V and VI Semester

B.Sc., PHYSICS SYLLABUS

From 2013-14 onwards

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15 JUN 2013
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19/6

Recd on 18/6/13

BANGALORE UNIVERSITY
DEPARTEMNT OF PHYSICS

Proceedings of the BOS (UG) meeting held on 28th April 2012 at 11.00 in the Conference Hall, Dept. of Physics, Bangalore University, Bangalore

The Chairman welcomed all the members of the BOS (UG) and the agenda were taken up for discussion one by one.

Item No. 1: Confirmation of the previous meeting held on 01.03.2011
The Chairman read the proceedings and the same were confirmed.

Item No. 2. Approval of V and VI Semester B.Sc Physics Sullabus.
The members deliberated the discussion on the proposed B.Sc (Physics) syllabus of V and VI Semester. The board after thorough discussion unanimously approved V and VI syllabus by incorporating a few changes. The new B.Sc Physics syllabus has come into effect from 2011-12.

Item No 3: Panel of Examiners: The Board constituted the BOE for 2012-13 as under.

BOE: Chairman
1. **Prof. B.A. Srikanta, RBNMS College, Bangalore**

Reserve:
2. **Prof. V.G.Bhagirath, VV Puram College, Bangalore**
3. **Prof. M.Mookambika, BMS College for women, Bangalore**

Members:
1. **Prof. C. Nanjundagowda, KR Puram, Bangalore**
2. **Prof. B.Basavaraju, SJRC College, Bangalore**
3. **Prof. M.Shivaram, VV Puram College, Bangalore**
4. **Prof. Md.Muneer, Al-Ameen College, Bangalore**
5. **Prof. N.B.Shigihalli, KLE College, Bangalore**
6. **Prof. N.Kala, MLA College, Bangalore**
7. **Prof. B.Shankuntala , Govt College for women, Ramanagara**
8. **Prof. Veena Kawathekar, VVS College for women**

External Members:
1. **Prof. M.N.Chandrashekar, Seyhadri Science college, Shimoga-577203**
2. **Dr.M.K.Aralakkanavar, PC Jabin Science College. Hubli-580031**

Additional Members:
1. **Prof. A.H.Farooq, Govt College, KR Puram, Bangalore**
2. **Prof. J.Viswanath, MES College, Bangalore**
3. **Prof. Ganni Shahib, Al-Ameen College, Bangalore**
4. **Prof. Malliga.S, KGF**
5. **Prof. Rangappa**
6. **Meera Ramani, MES College, Bangalore**

The Board constituted the following BOE for B.E.Engineering Physics(Professional Board) for 2012-13 examinations.

Members present

Sl.No	Name	Signature
1	Dr R V Anavekar Chairman BOS (UG)	
2	Prof N B Shigihalli	
3	Dr J Vishwanath	
4	Dr P Ramachandra	Absent
5	Smt D R Sudha	Absent
6	Smt R Neelambal	R. Neelambal 28/4/12
7	Sri M Krishnappa	Absent
8	Smt H S Jayanthi	
9	Sri K H Pandurangappa (External)	
10	Dr G B Kalkoti (External)	

BANGALORE UNIVERSITY

Syllabus, Scheme of Instruction & Examination for B.Sc., Physics

Semester Scheme (from 2011- 12)

Serial Number	*Paper Number*	*Teaching hours per week*	*Examination duration*	*Maximum marks* Final exam	*Maximum Total marks*
01	PHY 101	4	3 hours	70	100
02	PHY 102	3	3 hours	30	
03	PHY 201	4	3 hours	70	100
04	PHY 202	3	3 hours	30	
05	PHY 301	4	3 hours	70	100
06	PHY 302	3	3 hours	30	
07	PHY 401	4	3 hours	70	100
08	PHY 402	3	3 hours	30	
09	PHY501	3	3 hours	70	100
10	PHY502	3	3 hours	30	
11	PHY503	3	3 hours	70	100
12	PHY504	3	3 hours	30	
13	PHY601	3	3 hours	70	100
14	PHY602	3	3 hours	30	
15	PHY603	3	3 hours	70	100
16	PHY604	3	3 hours	30	
				Grand total	**800**

Note-I:

- The paper number is a three digit number with ' **0** ' in the middle
- The digit to the left of ' **0** ' indicates the semester number
- Odd number to the right of ' **0** ' indicates a theory paper
- Even number to the right of ' **0** ' indicates a practical paper

Note-II:

The marks distribution for the final practical examination is as follows:

1. Writing formula, Explanation, Figure/circuit diagram — 05 Marks
2. Setting up of the experiment & entering the observations in the tabular column. — 15 Marks
3. Calculation / Graph, Results with units — 05 Marks
4. Class Records (to be valued at the time of practical examination) — 05 Marks

Total for the practical examination **30** marks

Note-III:

*A minimum of **EIGHT** (8) experiments must be performed in each practical paper*

PHY-502: PRACTICAL PHYSICS V (A)

Analysis of X-ray diffraction pattern obtained by powder method to determine properties of crystals.
Determination of Fermi energy of a metal.
Determination of thermal conductivity of a metal by Forbe's method.
Measurement of heat capacity of metals.
Characteristics of a photo cell-determination of stopping potential.
Determination of Planck's constant.
Characteristics and spectral response (selenium photocell)
Hysteresis loop for iron and finding energy loss per cycle
Applications of CRO in the (a) study of Lissajous figures (b) calculation of rms voltage (c) calculation of frequency of AC.
Regulated power supply (using zener diode).
Determination of transistor h-parameters.
Frequency response of a CE amplifier.
Transistor as a switch and active device.
Construction of RFO or AFO - using transistor
Emitter follower

Note: A minimum of EIGHT experiments must be performed.

ferences :

Worsnop and Flint , Advanced practical physics for students, Asia Pub.(1979)
Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (1976)
Misra and Misra, Physics Lab. Manual, South Asian publishers (2000)
Gupta and Kumar, Practcal physics, Pragati prakashan, (1976)
Ramalingom & Raghuopalan : A Lab. Course in Electronics
Bharagav et al : Electronics, TTI

HY- 503: ASTROPHYSICS, SOLID STATE PHYSICS AND SEMICONDUCTOR PHYSICS

Unit-1: Astrophysics

arallax and distance: Helio-centric parallax, Definition of parsec (pc), Astronomical unit (AU), light ear (ly) and their relations.

Luminosity of stars: Apparent brightness, Apparent magnitude - scale of Hipparchus. Absolute magnitude - distance - modulus relationship. Distinction between visual and bolometric magnitudes, Radius of a star. **3 hours**

Stellar classification: Pickering classification and Yerke's luminosity classification. H-R diagram, Main sequence stars and their general characteristics.

Gravitational potential energy or self energy of a star based on the linear density model, Statement and explanation of Virial theorem.

Surface or effective temperature and color of a star : Wien's displacement law. Expressions for - average temperature, core temperature, hydrostatic equilibrium, core pressure of a star based on the linear density model of a star. Photon diffusion time (qualitative), Mass – Luminosity relationship and expression for lifetime of a star. **7 hours**

PHY –504: Practical Physics V (B)

5 Parallax Method – Distance of objects using trigonometric parallax.
HR Diagram & the physical properties of stars.
Analysis of stellar spectra.
Determination of temperature of a star (artificial) using filters.
Analysis of sunspot photographs & solar rotation period.
Mass luminosity curve – Estimation of mass of a star.
Mass of binary stars.
Resistivity of a material by four probe method.
Semiconductor temperature sensor.
Temperature coefficient of resistance and energy gap of thermistor.
LED characteristics and spectral response.
LDR characteristics – dark resistance – saturation resistance.
Solar cell characteristics – Open circuit voltage – short circuit current – efficiency.
Study of Hall effect in a metal.
Characteristics of LASER diode.
Spectral response of a photodiode and its I – V characteristics.

Note: A minimum of EIGHT experiments must be performed.

References :

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
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4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976
7. Ramalingom & Raghuopalan : A Lab. Course in Electronics
8. Bharagav et al : Electronics, TTI

Syllabus for VI Sem. B.Sc. (Physics)

PHY- 601: Atomic and Molecular Physics, Nuclear Physics and Material Science

Unit-1: Atomic and Molecular Physics

Vector Model of the Atom : Review of Bohr's theory of hydrogen atom, Sommerfeld's modification of the Bohr atomic model (qualitative). Spatial quantization and spinning electron. Different quantum numbers associated with the vector atom model, Spectral terms and their notations, Selection rules, Coupling schemes(*l*-s and j-j coupling in multi electron systems), Pauli's Exclusion Principle, Expression for maximum number of electrons in an orbit. Spectra of alkali elements (sodium D-line), Larmor precession, Bohr magneton, Stern-Gerlach Experiment. Zeeman Effect- Experimental study, theory of normal and anomalous Zeeman effect based on quantum theory. **10 hours**

Molecular Physics: Pure rotational motion, Spectrum and selection rules; Vibrational motion, vibrational spectrum and selection rules; Rotation-Vibration spectrum; Scattering of light-Tyndall scattering, Rayleigh scattering and Raman scattering. Experimental study of Raman effect, Quantum theory of Raman effect - Applications. **5 hours**

PHY- 602: PRACTICAL PHYSICS VI (A)

1. Study of hydrogen spectrum.
2. Sommerfeld's fine structure constant determination.
3. Determination of e/m by Thomson's method.
4. Characteristics of GM counter.
5. Verification of inverse square law using GM counter (with a radioactive source).
6. Determination of mass absorption coefficient of gamma rays.
7. Determination of half-life of K^{40}.
8. Millikan's Oil drop experiment
9. Determination of phase transition temperature of liquid crystal and Identification of mesophases.
10. Analysis of band spectrum of PN molecule.
11. Analysis of rotational spectrum of nitrogen.
12. Analysis of rotational vibrational spectrum of a diatomic molecule (HBr).
13. Absorption spectrum of $KMnO_4$.
14. Determination of dielectric constant.
15. Determination of dipole moment of organic liquid

Note: A minimum of EIGHT(8) experiments must be performed.

References:

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976

PHY-603: ATMOSPHERIC PHYSICS, ELECTRONICS AND COMPUTATIONAL PHYSICS

Unit-1: Atmospheric Physics and Earth's Atmosphere

Origin and composition of atmosphere: Fixed and variable gases, Mechanism of production and destruction of atmospheric constituents, Different layers of atmosphere. **2 hours**

Temperature structure of the atmosphere: Vertical profile and horizontal distribution, Pressure (over land and ocean), Variation of pressure with altitude, hydrostatic equation, Relative and Absolute humidity, Density (over land and ocean), wind (speed and direction). **3 hours**

Sun's Radiation : Spectrum of radiation (EM spectrum, Visible range, diffuse radiation), Black body radiation (Planck's law, emission curves from Sun and Earth atmosphere), Absorption of solar radiation by earth's atmosphere (absorption and emission of radiation by molecules, absorptivity, emissivity, Kirchoff's law, reflectivity and transmittivity), Beer's law (derivation), Global energy balance for earth – atmosphere system, Green house effect. **4 hours**

Atmospheric motions : Atmosphere dynamics – Eulerian and Lagrangian approaches ; Accelerated rotational frames of reference – Centripetal and Coriolis force, Gravity and pressure gradient forces (with derivation); Applications of Coriolis force – Formation of trade winds, cyclones, erosion of river banks. **6 hours**

PHY-604: PRACTICAL PHYSICS VI (B)

2 h — ow pass filter using Op-amp
— High pass filter using Op-amp
3 h — Band pass filter using Op-amp
— Op-amp inverting and non-inverting amplifier.
— Op-amp-summer, integrator, differentiator.
3 h — Phase shift oscillator using op – amp
— Wien-bridge Oscillator using op – amp
— Digital Half-adder & Full-adder circuits.
— Temperature of atmospheric air - by using Thermograph (Bimetallic type)- Plotting the graph of temperature Vs time.
— Relative humidity using hair hygrometer
— Estimation of relative humidity using wet and dry bulb thermometer
— Wind speed and direction by Hand held anemometer and wind wane
— Estimation of height from the given pressure data

ecution of computer programs using C for the following problems.

(a) Determination of R in LCR transient circuit using Bisection method
(b) Freely falling body in a resistive medium using Euler method / Runge – Kutta method

(a) Cooling of a body due to radiation – Stefan – Boltzmann Law using Euler method
(b) rms current of ac using Simpson's rule

(a) Problem on heat flow using Newton Forward formula
(b) Projectile motion with resistance using Euler method/Runge – Kutta method

(a) Work done by a variable force using Simpson's rule
(b) LCR transient circuit – analysis – using Euler method

8. Schrödinger wave equation – Harmonic potential – Wave function plot only

Note : A Minimum of EIGHT experiments must be performed

References :

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976
7. Ramalingom & Raghuopalan : A Lab. Course in Electronics
8. Bharagav et al : Electronics, TTI
9. Computational Physics, An Introduction by **R C Verma, Ahluwalia, Sharma**
10. A first Course in Computational Physics by **Paul L. DeVries, Javier E. Hasbun**
11. Numerical Methods for Engineers by **Steven C. Chapra, Raymond P Canale**

Chairman:

1. **Dr.B.Rudraswamy**
2. **Dr.B.N.Meera (Reserve)**

Members:

1. **Dr. L.C.S.Murthy**
2. **Dr. Basavaraj Angadi**
3. **Dr. Kamsali Nagaraj**
4. **Dr. B.Eraiah**
5. **Dr. Sarabari Bhattacharya**
6. **Prof. C.G.Renuka**
7. **Prof. Rangappa, BIT**

The Board also approved the following panel of examiners for B.E Engineering Physics. All Staff members and Department of physics, Bangalore University, Bangalore and external members as under.

1. **Prof. Kenchamarappa, AIT Engineering college, Bangalore**
2. **Prof. Dolly Paul, RNSIT, Bangalore**
3. **Prof. K.S.Kiran, Jain College Engineering, Bangalore**
4. **Prof.Chandra Kumar MSRIT, Bangalore**
5. **Prof. Jagnath Reddy, MSRIT, Bangalore**

The board considered the submitted applications for inclusion of name in B.Sc Physics, panel of examiners and updated the panel of examiners of B.Sc Physics 2012-13 examinations.

The meeting concluded with vote of thanks by the chairman.

(CHAIRMAN)
BOS-UG

Members

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Syllabus for V Sem. B.Sc. (Physics)

PHY 501: QUANTUM STATISTICAL PHYSICS, QUANTUM MECHANICS-I AND II

Unit-1: Statistical Physics

Maxwell – Boltzmann distribution function (with derivation)

Bose-Einstein Statistics

B-E distribution law (with derivation), Bose-Einstein condensation properties of liquid He (qualit description). Radiation as photon gas. Bose's derivation of Planck's law, Rayleigh-Jeans law, W law, Thermodynamic functions of photon gas. Specific Heat capacity of metals. **9 ho**

Fermi – Dirac Statistics

Fermi-Dirac distribution function (with derivation), Fermi sphere and Fermi energy, Fermi Electronic heat capacity in metals.

Comparison of Maxwell – Boltzmann, Bose – Einstein and Fermi – Dirac distribution functions. **5 hou**

Unit-2: Quantum Mechanics-I

Introduction to quantum mechanics : Planck's quantum theory, failure of classical physics to expl the phenomena such as stability of atom, atomic spectra, black body radiation, photo electric effe Compton effect and specific heat of solids . Explanation of the above effects on the basis of quantu mechanics. **5 hour**

de Broglie's hypothesis of matter waves, Thomson's experiment, Davisson and Germer's experiment normal incidence method, concepts of packets for quantum particle, group velocity and phase velocit relation between particle velocity and group velocity. Heisenberg's uncertainty principle - differen forms, Gamma ray microscope experiment, applications **10 hours**

Unit-3: Quantum mechanics-II

The concept of wave function, physical significance of wave function. Development of time dependen and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation o Eigen values and Eigen function – extension to three dimensional box; Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state. **15 hours**

References :

1. Quantum Mechanics, ***B.H. Bransden and C.J. Joachain***, 2nd Edition, Pearson Education (2004)
2. Introduction to Quantum Mechanics, ***David J. Griffiths***, 2nd Edition, Pearson Education ,(2005)
3. Modern Quantum Mechanics, ***J.J. Sakurai***, Pearson Education, (2000)
4. Principles of Quantum Mechanics, ***Ghatak and Lokanathan***, Macmillan, (2004)
5. Statistical Mechanics, An Introduction, **Evelyn Guha**, Narosa (2008)
6. Statistical Mechanics, ***R.K.Pathria***, 2nd edition, Pergamon Press (1972)
7. Statistical and Thermal physics, ***F.Reif***, McGraw Hill International(1985)
8. Statistical Mechanics, ***K.Huang***, Wiley Eastern Limited, New Delhi (1975)

Evolution of stars: Stages of star formation (GMC – Protostar- T-Tauri) and main sequence evolutio White dwarfs, Pulsars, Neutron stars and Black holes, Variable stars, Supernova explosion- its type Chandrasekhar limit. Event horizon, singularity and Schwarzchild's radius (qualitative) **5 hou**

Unit-2: Solid State Physics

Crystal systems and X-rays: Crystal systems-Bravais lattice; Miller indices– Spacing between latti planes of cubic crystals, Continuous and characteristic X-ray spectra; Moseley's law, Scattering of X-ra - Compton effect, Bragg's law. **4 hou**

Free electron theory of metals : Electrical conductivity- classical theory (Drude-Lorentz model Thermal conductivity; Wiedemann - Franz's law; Density of states for free electrons; Fermi-Di distribution function and Fermi energy; Expression for Fermi energy and Kinetic energy at absolute ze Hall Effect in metals **5 hou**

Band theory of solids: Elementary ideas regarding formation of energy bands; Bloch theorem; O dimensional Kroning-Penney model; Effective mass; Energy gap. **4 hou**

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – T critical current density – Meissner effect ,Type I and type II superconductors– BCS Theory (qualitative) **2 hou**

Unit-3: Semiconductor Physics

Semiconductors: Distinction between metals, semiconductors and insulators based on band theor Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration an electrical conductivity – extrinsic semiconductors – impurity states in energy band diagram and the Ferm level.

Semiconductor devices: Formation of P-N junction, depletion region, Biased P-N junction, variation o width of the depletion region, drift and diffusion current –expression for diode current. **6 hour**

Special Diodes: Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Sola cells and LED (principle, working and applications). **4 hour**

Transistors: Transistor action, Characteristics (CE mode), Biasing, Load line analysis -Transistor a an amplifier(CE mode). h-parameters **5 hour**

References :

1. Astronomy : Fundamentals and Frontiers – **Jastrow & Thompson**
2. Chandrashekhar and his limit – **G. Venkataraman**
3. An introduction to Astrophysics – **Baidyanath Basu**
4. Astrophysics Concepts, ***M. Herwit***: John Wiley, 1990.
5. Astrophysics. ***Krishnaswamy*** (ed)
6. Introduction to solid State Physics, ***Charles Kittel***, VII edition, 1996.
7. Solid State Physics- **A J Dekker**, MacMillan India Ltd, (2000)
8. Elementary Solid State Physic, **J P Srivastava**,PHI,(2008)
9. Essential of crystallography, **M A Wahab**, Narosa Publications (2009)
10. Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (1976)
11. Solid State Physics-**S O Pillai**-New Age Int. Publishers (2001)

Unit-2: Nuclear Physics

Alpha particle scattering: Rutherford's theory of alpha scattering (assuming the path to be hyperbolic).

Alpha decay: Gamow's theory of alpha decay, Q-value of alpha decay, Exact energy of alpha particle emitted, characteristics of alpha spectrum. Geiger- Nuttal law.

Beta decay : Types of beta decay (electron, positron decay and electron capture). Characteristics of beta spectrum and Pauli's neutrino hypothesis. **8 hours**

Detectors : Variation of ionization current with applied voltage in a gas counter, GM Counter. **2 hours**

Particle accelerators: Cyclotron, Electron Synchrotron. **2 hours**

Nuclear reactions: Types of Nuclear reactions. Conservation laws. Expression for Q value of a nuclear reaction - Endoergic and Exoergic reactions, threshold energy. **3 hours**

Unit-3: Material Science

Nanomaterials : Synthesis techniques(Top down & bottom up)- Electron confinement-Size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Distinct properties of nano materials. Classification of Nanosystems - quantum dots, nanowires and nanofilms. Multilayered materials- Graphene, Fullerene, Carbon Nano Tube (CNT), Mention of applications of nanomaterials. **5 hours**

Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric breakdown, electrostriction (qualitative), electrets. Piezo electric effect, cause, examples and applications. **5 hours**

Liquid Crystals : Classification-Thermotropic and lyotropic. Properties - anisotropy in dielectric constant, electrical conductivity, magnetic susceptibility, refractive index and elasticity. Applications; construction and operation of twisted nematic display and thermography. **5 hours**

References :

1. Concepts of Modern Physics, **Beiser** 3rd edition, Student edition, New Delhi (1981).
2. Introduction to Atomic Physics – **H.E. White**
3. Introduction to Modern Physics – **H.S. Mani, G.K. Mehta**-West Press (1989).
4. Principles of Modern Physics, **A.P. French**, John Wiley, London (1958).
5. Modern Physics - **S.N. Ghosal**, Part 1 and 2 S. Chand and Company (1996).
6. Physics of the Atom, **Wehr et. al**. McGraw Hill
7. Atomic and Nuclear Physics, **S. N. Ghoshal**: Vol. II. (2000).
8. Alpha, beta and gamma spectroscopy, **K. Seighbahn**: Vol. I and II, John Wiley (1967)
9. N. Rudraiah (Ed) : Modelling of Nano and smart materials
10. Introduction to solid State Physics, ***Charles Kittel***, VII edition(1996).
11. Solid State Physics- **A. J. Dekker**, MacMillan India Ltd. (2000).
12. Elementary Solid State Physics, **J. P. Srivastava**,PHI (2008).
13. Modern physics, **Murugeshan et al**.
14. Nano materials, **K. P. Bandopadhyay**.
15. Nanocrystals, **C. N. Rao, P. John Thomas**.
16. Nanotubes and wires, **C. N. Rao, A. Govindaraj**.

Unit–2: Electronics

Integrated circuits : Monolithic IC - description of discrete IC - Techniques of manufacturing thin film and thick film IC. **2 hours**

Operational amplifiers : Ideal OP amplifier characteristics. The basic op-amp circuits; Inverting amplifier, Non-inverting amplifier; Applications of op-amp – summer, integrator, differentiator. **3 hours**

Oscillators : Feedback concepts - oscillator circuits - Feedback amplifier - oscillator operation – Barkhausen Criterion - phase and frequency considerations- phase shift oscillator and Wien bridge oscillator (using op amp). **3 hours**

Digital Electronics : Logic states; Voltage range of high and low logic states; Number codes; Hexadecimal representation; BCD; signed numbers; Arithmetic 1's and 2's complement; Gray code.

Logic gates and truth tables; OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR. **5 hours**

Combination logic: Adders (full and half adder) & Subtractors (full and half). **2 hours**

Unit–3: Computational Methods in Physics (using C-program)

Basics of C Language : Program structure in C, Constants and Variables, Input and output statements, Arithmetic and conditional operations, conditional structure, Looping structures, one dimensional Arrays, programs to solve linear and quadratic equations. **3 hours**

Algorithms: modeling and simulation in physics: Errors in numerical calculations. **1 hour**

Roots of an equation : Newton-Raphson method and Bisection method. Application using Bisection method for LCR transient circuit (to determine R for given values of L and C for a pre-specified rate of dissipation of energy), program in C. **3 hours**

Numerical Integration: Simpson's 1/3 rule, Simpson's 3/8 rule, Applications - calculation of time period of a simple pendulum, rms current of ac, work done by variable force. **2 hours**

Numerical Differentiation: Newton – Forward and Backward formulae. Application: Problem on heat current: $H = -kA\frac{dT}{dx}$ **2 hours**

Ordinary Differential equation: Euler's method, Runge – Kutta II and IV order methods. Applications: Freely falling body in a resistive medium with resistance proportional to velocity, Projectile motion, LCR transient circuit, solution to Schrödinger wave equation for Harmonic potential (plotting wave function only). **4 hours**

References :

1. Basics of Atmospheric Science by **A Chandrashekar**, PHI Publications (2010).
2. Weather, climate and atmosphere by **Siddartha.**
3. Atmospheric Science by **John M Wallace and Peter V Hobbs**, Elsevier Publications (2006).
4. Introduction to Atmospheric Science by **Turberick and Lutzens**, Elsevier Publications
5. Computational Physics, An Introduction by **R C Verma, Ahluwalia, Sharma**
6. A first Course in Computational Physics by **Paul L. DeVries, Javier E. Hasbun**
7. Numerical Methods for Engineers by **Steven C. Chapra, Raymond P Canale**
8. C-Programming Language, ***Balaguruswamy E,*** Tata McGraw Hill (1999).
9. C-Programming Language, ***Xavier C***, New Age International (2000).
10. Computer Programming in C, **V RajaRaman,** PHI Learning Pvt. Ltd. (2004).

BANGALORE UNIVERSITY

REVISED SYLLABUS 2014 – 2015

B.Com. (CBCS) DEGREE SEMESTER SCHEME

(Revised Syllabus on 08.03.2017 BOS)

DEPARTMENT OF COMMERCE

Central College Campus, Bangalore – 560 001.

BANGALORE UNIVERSITY
DEPARTMENT OF COMMERCE

REGULATIONS PERTAINING TO B.Com (CBCS) DEGREE SEMESTER SCHEME 2014 - 15

I. OBJECTIVES :

1. To cater to the manpower needs of companies in Accounting, Taxation, Auditing, Financial analysis and Management.
2. To develop business analysts for companies, capital markets and commodity markets.
3. To prepare students to take up higher education to become business scientists, researchers consultants and teachers, with core competencies.
4. To develop human resources to act as think tank for Business Development related issues.
5. To develop entrepreneurs.
6. To develop business philosophers with a focus on social responsibility and ecological sustainability.
7. To develop IT enabled global middle level managers for solving real life business problems and addressing business development issues with a passion for quality competency and holistic approach.
8. To develop ethical managers with interdisciplinary approach.
9. To prepare students for professions in the field of Accountancy - Chartered Accountancy, Cost and Management Accountancy, Company Secretary, Professions in Capital and Commodity Markets, Professions in life and non life insurance and professions in Banks by passing the respective examinations of the respective professional bodies.
10. Also to develop the students for competitive examinations of UPSC, KPSC, BSRB, Staff Selection Commission, etc.

II. ELIGIBILITY FOR ADMISSION :

Candidates who have completed Two year Pre – University course of Karnataka State or its equivalent with Business Studies and Accountancy as two major subjects of study in both first and second year pre-university are eligible for admission into this course.

III. DURATION OF THE COURSE:

The course of study is four (04) years of Eight Semesters. A candidate shall complete his/her degree within eight (08) academic years from the date of his/her admission to the first semester. However, students successfully complete Two (02) years of the course and leave the course, will be awarded Diploma in Commerce. Students successfully completes Three (03) years of the course will be awarded Bachelors Degree in Commerce (B.Com.). An option is provided to the students to continue the course to the Fourth year and those who successfully complete the Fourth year will be awarded Bachelors Degree in Commerce (Hon.) {B.Com, (Hon.)}.

IV. MEDIUM OF INSTRUCTION

The medium of instruction shall be English. However, a candidate will be permitted to write the examination either in English or in Kannada.

V. CLASS ROOM STRENGTH OF STUDENTS

There shall be Maximum of 60 students in each section.

VI. ATTENDANCE:

a. For the purpose of calculating attendance, each semester shall be taken as a Unit.
b. A student shall be considered to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.
c. A student who fails to complete the course in the manner stated above shall not be permitted to take the University examination.

VII. COURSE MATRIX

(i) Annexure – 1 for B.Com Course Matrix
(ii) B.Com (Vocational) and BA (Restructured), the changes made in 2012-13 is retained

VIII. TEACHING AND EVALUATION:

M.Com/MBA/MFA/MBS graduates with B.Com, B.B.M, BBA& BBS as basic degree from a recognized university are only eligible to teach and to evaluate the subjects (excepting languages, compulsory additional subjects and core Information Technology related subjects) mentioned in this regulation. Languages and additional subjects shall be taught by the graduates as recognized by the respective board of studies.

VIII.SKILL DEVELOPMENT / RECORD MAINTENANCE AND SUBMISSION:

a. Every college is required to establish a dedicated business lab for the purpose of conducting practical/on line assignments to be written in the record.
b. In every semester, the student should maintain a Record Book in which a minimum of 5 exercises/programs per subject are to be recorded. This Record has to be submitted to the Faculty for evaluation at least 15 days before the end of each semester.

IX. SCHEME OF EXAMINATION:

a. There shall be a university examination at the end of each semester. The maximum marks for the university examination in each paper shall be 70.
b. Of the 30 marks of Internal Assessment, 20 marks shall be based on Two tests. Each test shall be of at least 01 hour duration to be held during the semester. The average of two tests shall be taken as the internal assessment marks. The remaining 10 marks of the Internal Assessment shall be based on Attendance and Skill Development Record of 05 marks each.
c. The marks based on attendance shall be awarded as given below:

75% to 80%	= 02 marks.
81% to 85%	= 03 marks.
86% to 90%	= 04 marks.
91% to 100%	= 05 marks.

d. Marks for skill development shall be awarded by the faculty concerned based on Skill Development exercises provided in the syllabus of each paper. The student is required to prepare/workout the concerned exercises in a Record Book maintained by him/her and shall submit it the faculty concerned at least 15 days before the last date of the semester.

X. APPEARANCE FOR THE EXAMINATION:

a) A candidate shall apply for all the parts in each examination when he/she appears for the first time. A candidate shall be considered to have appeared for the examination only if he/she has

submitted the prescribed application for the examination along with the required fees to the university.

b) A candidate who has passed any language under Part-I shall be eligible to claim exemption from the study of the language if he/she has studied and passed the language at the corresponding level.

c) Further, candidates shall also be eligible to claim exemption from studying and passing in those commerce subjects which he/she has studied and passed at the corresponding level, subject to the conditions stipulated by the university.

d) A candidate who is permitted to seek admission to this degree course on transfer from any other University shall have to study and pass the subjects which are prescribed by the University. Such candidates shall not however, be eligible for the award of ranks.

XI. MINIMUM FOR A PASS:

Candidates who have obtained a minimum of 35% marks in university examination (i.e. 25 marks out of 70 marks of theory examination) and 40% in aggregate (i.e., total of university examination and internal assessment marks) in each subject shall be eligible for a pass or exemption in that subject.

XII. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

1. The results of the First to Sixth semester degree examination shall be declared and classified separately as follows:

a. First Class: Those who obtain 60% and above of the total marks of parts I, II and III.
b. Second Class: Those who obtain 50% and above but less than 60% of total marks of parts I, II and III.
c. Pass Class: Rest of the successful candidates who secure 40% and above but less than 50% of marks in part I, II and III.

2. Class shall be declared on the basis of the aggregate marks obtained by the candidates in this degree course (excluding languages (part I) and non-core subjects (Part III)) as a whole. However, only those candidates who have passes each semester university examination in the first attempt only shall be eligible for award of ranks. The first ten ranks only shall be notified.

XIII. MEDALS AND PRIZES:

No candidates passing an external examination shall be eligible for any scholarship, fellowship, medal, prize or any other award.

XIV. TERMS AND CONDITIONS:

a) A candidate is allowed to carry all the previous un-cleared papers to the subsequent semester/semesters.
b) Such of those candidates who have failed/remained absent for one or more papers henceforth called as repeaters, shall appear for exam in such paper/s during the three immediately succeeding examinations. There shall be no repetition for internal assessment test.
c) The candidate shall take the examination as per the syllabus and the scheme of examination in force during the subsequent appearances.

XV. PATTERN OF QUESTION PAPER:

Each theory question paper shall carry 70 marks and the duration of examination is 3 hours. The

Question paper shall ordinarily consist of three sections, to develop testing of conceptual skills, understanding skills, comprehension skills, articulation and application of skills. The question paper setter shall be asked to prepare TWO sets of papers with a maximum of 10% repetition. The Question Paper will be as per the following Model:

SECTION-A **1.** a,b,c,d,e,f,g,	(Conceptual questions) Answer any Five	(05 X 02 = 10 Marks)
SECTION -B: **2,3,4,5,6.**	(Analytical questions) Answer any Three	(03 X 06 = 18 Marks)
SECTION-C: **7,8,9,10,11.**	(Essay type questions) Answer any THREE	(03 X 14 = 42 Marks)
Total		**70 Marks**

XVI. PROVISION FOR IMPROVEMENT OF RESULTS:

The candidate shall be permitted to improve the results of the whole examination or of any Semester or a subject within the prescribed time by the university after the publication of the results. This provision shall be exercised only once during the course and the provision once exercised shall not be revoked. The application for improvement of results shall be submitted to the Registrar (Evaluation) along with the prescribed fee.

XVII. REMOVAL OF DIFFICULTY AT THE COMMENCEMENT OF THESE REGULATIONS:

If any difficulty arises while giving effect to the provision of these Regulations, the Vice Chancellor may in extraordinary circumstances, pass such orders as he may deem fit.

ANNEXURE – 1

BANGALORE UNIVERSITY
B.COM (CBCS) SEMESTER SCHEME -- 2014 – 15
COURSE MATRIX

I SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 Languages	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	1.1	4	3	20	80	100	2
	Language – II : English	1.2	4	3	20	80	100	2
Part 2 Optional	Financial Accounting	1.3	4	3	30	70	100	2
	Indian Financial System	1.4	4	3	30	70	100	2
	Marketing and Services Management	1.5	4	3	30	70	100	2
	A. Corporate Administration **OR** B. Methods and Techniques for Business Decisions. (Students can choose any one)	1.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	20	80	100	2
	CC & EC*				50		50	1
Total Credits								**15**

II SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 Languages	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	2.1	4	3	20	80	100	2
	Language – II : English	2.2	4	3	20	80	100	2
Part 2 Optional	Advanced Financial Accounting	2.3	4	3	30	70	100	2
	Retail Management	2.4	4	3	30	70	100	2
	Banking Law and Operations	2.5	4	3	30	70	100	2
	Quantitative Analysis for Business Decisions – I	2.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	20	80	100	2
	CC & EC*				50		50	1
Total Credits								**15**

III SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 Language	Language: I Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	3.1	4	3	30	70	100	2
	Language – II:English	3.2	3	3	30	70	100	2
Part 2 Optional	Corporate Accounting	3.3	4	3	30	70	100	2
	Financial Management	3.4	4	3	30	70	100	2
	Business Ethics	3.5	4	3	30	70	100	2
	Quantitative Analysis for Business Decisions –II	3.6	4	3	30	70	100	2
	Public Relations and Corporate Communication	3.7	3	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50		50	1
Total Credits								**17**

IV SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 Language	Language - I: Kannada/Sanskrit/Urdu/Tamil/ Telugu/Malayalam/Additional English / Marathi/ Hindi	4.1	4	3	30	70	100	2
	Language – II: English	4.2	3	3	30	70	100	2
Part 2 Optional	Advanced Corporate Accounting	4.3	4	3	30	70	100	2
	Cost Accounting	4.4	4	3	30	70	100	2
	E-Business and Accounting	4.5	4	3	30	70	100	2
	Stock and Commodity Markets	4.6	4	3	30	70	100	2
	Principles of Event Management	4.7	3	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50		50	1
Total Credits								**17**

V SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 Optional	Entrepreneurship Development	5.1	4	3	30	70	100	3
	International Financial Reporting Standards	5.2	4	3	30	70	100	3
	Income Tax – I	5.3	4	3	30	70	100	3
	Costing Methods	5.4	4	3	30	70	100	3
	Elective – I	5.5	4	3	30	70	100	3
	Elective – II	5.6	4	3	30	70	100	3
Part 3	SDC		3	3	30	70	100	2
Total Credits								**20**

VI SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 Optional	Business Regulations	6.1	4	3	30	70	100	3
	Principles and Practice of Auditing	6.2	4	3	30	70	100	3
	Income Tax – II	6.3	4	3	30	70	100	3
	Management Accounting	6.4	4	3	30	70	100	3
	Elective – I	6.5	4	3	30	70	100	3
	Elective – II	6.6	4	3	30	70	100	3
Part 3	SDC		3	3	30	70	100	2
Total Credits								**20**

ELECTIVE GROUPS

1. ACCOUNTING & TAXATION GROUP

Semester No.	Paper No.	Title of the Paper
V	AC. 5.5	Advanced Accounting
	AC.5.6	Goods and Services Tax
VI	AC.6.5	Business Taxation
	AC.6.6	Cost Management

2. FINANCE GROUP

Semester No.	Paper No.	Title of the Paper
V	FN.5.5	International Financial Management
	FN.5.6	Business Taxation
VI	FN.6.5	Performance Management
	FN.6.6	International Auditing & Assurance

3. INFORMATION & TECHNOLOGY GROUP

Semester No.	Paper No.	Title of the Paper
V	I.T 5.5	Accounting Information Systems
	I.T 5.6	Enterprise Resource Planning
VI	I.T 6.5	Information Technology and Audit
	I.T 6.6	Banking Technology and Management

4. BANKING & INSURANCE GROUP

Semester No.	Paper No.	Title of the Paper
V	BI 5.5	International Banking & Forex Management
	BI 5.6	Life & General Insurance
VI	BI 6.5	Risk Management
	BI 6.6	Marketing of Insurance Products

1. **Foundation, Skill Development or Interdisciplinary Courses (Foundation Course*)**
   (Common for all programmes):
   - Constitution of Indian and Human Rights
   - Environment and Public Health
   - Computer Applications and Information Technology
   - Business Entrepreneurship and Management
   - Philosophy, Psychology and Life Skills
   - Personality Development and Leadership / Integrating Mind, Body and Heart
   - Indian History, Culture and Diversity
   - Research Methodology
   - Education and Literacy / Science and Life
   - Human Resource Development .Management
   - One of the Foreign Languages such as German, French etc.
   - Any other Course prescribed by the University from time to time
   - Commodity & Stock Market
   - Mathematics in finance.

2. **Co-and Extra – Curricular Activities (CC& EC*)**
   A student shall opt for any one of the following activities in the first four semesters offered in the college
   - N.S.S / N.C.C./Rotary Activities / Rovers and Rangers
   - Sports and Games / Activities related to Yoga
   - A Small project work concerning the achievements of Indian in different fields
   - Evolution of study groups/seminar circles on Indian thoughts and ideas
   - Interaction with local communities in their neighborhood and learn about and from them
   - Exploring different aspects of Indian civilizations
   - Other activities such as Cultural Activities as prescribed by the University.

Evaluation of Co-and Extra Curricular Activities is as per the procedure evolved by the University from time to time.

1.3– FINANCIAL ACCOUNTING

OBJECTIVE:

The objective of this subject is to acquaint students with the accounting concepts, tools and techniques influencing Business Organizations.

Unit 1: INTRODUCTION TO FINANCIAL ACCOUNTING 08 Hrs

Introduction – Meaning and Definition – Objectives of Accounting – Functions of Accounting – Users of Accounting Information – Limitations of Accounting – Accounting Principles – Accounting Concepts and Accounting Conventions- Accounting Standards: List of Indian Accounting Standards.

Unit 2: CONVERSION OF SINGLE ENTRY INTO DOUBLE ENTRY SYSTEM 12 Hrs

Single entry system- Meaning – Features – Merits – Demerits – Types. Conversion into Double Entry system – Need for Conversion – Preparation of Statement of Affairs – Cashbook – Memorandum Trading Account – Total Debtors Account – Total Creditors Account – Bills Receivable Account – Bills Payable Account – Trading and Profit & Loss Account and Balance Sheet.

Unit 3: HIRE PURCHASE SYSTEM 12 Hrs

Meaning of Hire Purchase and Installment Purchase System- difference between Hire Purchase and Installment Purchase – Important Definitions – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Net Hire Purchase Price – Net Cash Price – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire Vendor (Asset Accrual Method only).

Unit 4: ROYALTY ACCOUNTS 12 Hrs

Meaning and definition – Technical Terms – Royalty – Landlord – Tenant – Minimum Rent – Short Workings – Recoupment of Short Working under (Fixed Period) restrictive and non-restrictive (Floating Period) Recoupment within the Life of the Lease – Treatment of Strike and Stoppage of work – Accounting Treatment in the books of Lessee and lessor – journal entries and Ledger Accounts including minimum rent account.

Unit 5: CONVERSION OF PARTNERSHIP FIRM INTO A LIMITED COMPANY 12 Hrs

Meaning – Need for conversion - Purchase Consideration – Mode of Discharge of Purchase Consideration – Methods of calculation of Purchase Consideration – Net Payment Method – Net Assets Method –Journal Entries and Ledger Accounts in the books of Vendor – Treatment of items: Dissolution Expenses, Unrecorded Assets and Liabilities, Assets and Liabilities not taken over by the Purchasing Company, Contingent liabilities, Incorporation entries and preparation of balance sheet of the purchasing company under vertical format.

SKILL DEVELOPMENT

- List out various accounting concepts and conventions (GAAP)
- List out Various Accounting Standards
- Collection & recording of Royalty agreement with regard to any suitable situation.
- Collection and recording of Hire Purchase Agreement.
- Ascertainment of Cash Price and Interestwith imaginary figures under Hire Purchase System.

BOOKS FOR REFERENCE

1. Arulanandam & Raman – Financial Accounting – I, HPH
2. Jawaharlal & Seema Srivastava :Financial Accounting, HPH
3. Dr. S.N. Maheswari: Financial Accounting, Vikas Publications
4. S P Jain and K. L. Narang: Financial Accounting- I, Kalyani Publishers
5. S. Jayapandian: Financial Accounting from Zero.
6. Radhaswamy and R.L. Gupta: Advanced Accounting , Sultan Chand
7. Guruprasad Murthy: Financial Accounting, HPH
8. Soundarrajan & K. Venkataramana, Financial Accounting, SHBP.
9. Dr. Venkataraman & others (7 lecturers): Financial Accounting, VBH
10. Dr. Alice Mani: Financial Accounting, SBH.

1.4 INDIAN FINANCIAL SYSTEM

OBJECTIVE

The objective of this subject is to familiarize the students with regard to structure, organization and working of financial system in India.

Unit 1: FINANCIAL SYSTEM **12 Hrs**

Introduction – Meaning – Classification of Financial System. Financial Markets – Functions and Significance of Primary Market, Secondary Market, Capital Market, & Money Market.

Unit 2: FINANCIAL INSTITUTIONS **14 Hrs**

Types of Banking and Non-Banking Financial Institutions. Constitution, objectives & functions of IDBI, SFCs, SIDCs, LIC, EXIM Bank. Mutual Funds – features and types.

Unit 3: COMMERCIAL BANKS **10 Hrs**

Introduction – Role of Commercial Banks – Functions of Commercial Banks – Primary Functions and Secondary Functions – Investment Policy of Commercial Banks. Narasimaham committee report on banking sector reforms.

Unit 4: REGULATORY INSTITUTIONS **10 Hrs**

Reserve Bank of India (RBI) – Organization – Objectives – Role and Functions. The Securities Exchange Board of India (SEBI) – Organization and Objectives.

Unit 5: FINANCIAL SERVICES **10 Hrs**

Meaning& Definition – Features – Importance. Types of Financial Services – factoring, leasing, venture capital, Consumer finance - housing & vehicle finance.

SKILL DEVELOPMENT

- Draft a chart showing the financial services in the Indian Financial System.
- List the Instruments traded in the Financial Markets.
- Draft the application forms for opening a Fixed, Current and Savings Bank Accounts.
- Collection and recording for Foreign Exchange rates of different currencies Vis-à-vis Rupee.
- Specimen of Debit and Credit cards.
- Specimen of Cheque with MICR technology.

BOOKS FOR REFERENCE

1. Vasantha Desai: The Indian Financial System, HPH
2. G. Ramesh Babu; Indian Financial System. HPH
3. Dr. Bharatish Rao, B.R. Bharghavi – Indian Financial System, VBH
4. Meir Kohn: Financial Institutions and Markets, Tata McGraw Hill
5. Dr. Alice Mani: Indian Financial System, SBH.
6. L M Bhole: Financial Institutions and Markets, Tata Mc Graw Hill
7. M Y Khan: Indian Financial System, TMH
8. A Datta ; Indian Financial System, Excel Books
9. D.K. Murthy and Venugopal : Indian Financial System I.K. International Publishers
10. P N Varshney & D K Mittal: Indian Financial System, Sulthan Chand & Sons
11. E Gardon & K Natarajan: Financial Markets & Services, HPH
12. S.C. Sharma and Monica : Indian Financial System I.K. International Publishers
13. K. Venkatramana, Indian Financial System, SHBP.

1.5 MARKETING AND SERVICES MANAGEMENT

OBJECTIVE:

The objective is to familiarize the students with the principles of marketing and focus them towards Marketing and Management of Services

Unit 1: INTRODUCTION TO MARKETING 10Hrs

Meaning and definition - Goals – Concepts of Marketing – Approaches to Marketing – Functions of Marketing. Recent Trends in Marketing - e-business – Tele-marketing – M-Business – Green Marketing – Retailing, Relationship Marketing – Customer Relationship Management.

Unit 2: MARKETING ENVIRONMENT 12Hrs

Meaning – demographic- economic – natural – technological – political – legal – socio cultural environment. Market Segmentation and Consumer Behaviour - Meaning & Definition - Bases of Market Segmentation – Consumer Behaviour – Factors influencing Consumer Behaviour.

Unit 3: MARKETING MIX 16Hrs

Meaning – elements – PRODUCT – product mix, product line – product life cycle – product planning – new product development – branding - packing and packaging. PRICING – factors influencing pricing, methods of pricing (only Meaning), and pricing policy - PHYSICAL DISTRIBUTION, Meaning, factors affecting channels, types of marketing channels, PROMOTION –Meaning and significance of promotion – personal selling and advertising.

Unit 4: INTRODUCTION TO SERVICES MANAGEMENT 10Hrs

Meaning of services – characteristics of services – classification of services – marketing mix in service industry – growth of service sector in India. Service processes – Designing the service process – service blueprint – back office & front office process.

UNIT 5: SERVICE SECTOR MANAGEMENT 08 Hrs

Tourism and Travel Services – concept, nature, significance and marketing. Health Care services – concept, nature, significance and marketing. Educational services - concept, nature, significance and marketing.

SKILL DEVELOPMENT

- Identify the product of your choice and describe in which stage of the product life cycle it is positioned.
- Suggest strategies for development of a new product.
- Study of Consumer Behaviour for a product of your choice.
- Develop an Advertisement copy for a product.
- Prepare a chart for distribution network for different products.

BOOKS FOR REFERENCE

1. Dr. Shajahan. S; Service Marketing (Concept, Practices & Cases); Himalaya Publishing House; Mumbai; First Edition – Financial Service in India.
2. Philip Kotler - Marketing Management, PHI
3. Rekha. M.P. & Vibha V – Marketing & Services Mgt – VBH.
4. Sunil B. Rao - Marketing & Services Mgt – HPH.
5. Dr. Alice Mani: Marketing & Services Management, SBH.
6. J.C. Gandhi - Marketing Management, TMH
7. Stanton W.J. etzal Michael & Walker, Fundamentals of Management, TMH

8. Jayachandran ; Marketing Management. Excel Books.
9. K. Venkatramana, Marketing Management, SHBP.
10. P N Reddy & Appanniah, Essentials of Marketing Management, HPH
11. Sontakki, Marketing Management, HPH
12. Cengiz Haksever etal – 'Service Management and Operations'; Pearson Education.
13. Ramesh and Jayanthi Prasad : Marketing Management I.K. International Publishers
14. K. Karunakaran; Marketing Management, HPH.
15. Davar: Marketing Management.

1.6.(A) CORPORATE ADMINISTRATION

OBJECTIVE

The objective is to enable the students to get familiarized with the existing Company Law and Secretarial Procedure.

Unit 1: INTRODUCTION TO COMPANY **12 Hrs**

Meaning and Definition – Features – Steps in formation of Joint Stock Company, High Lights of Companies Act 2013 - Kinds of Companies – One Person Company, Private Company, Public Company, Company limited by Guarantee, Company limited by Shares, Holding Company, Subsidiary Company, Government Company, Associate Company, Small Company, Foreign Company, Global Company, Body Corporate, Listed Company.

Unit 2: FORMATION OF A COMPANY **14 Hrs**

Promotion Stage: Meaning of Promoter, Position of Promoter & Functions of Promoter, Incorporation Stage – Meaning & contents of Memorandum of Association & Articles of Association, Distinction between Memorandum of Association and Articles of Association, Certificate of Incorporation, Subscription Stage – Meaning & contents of Prospectus, Statement in lieu of Prospects and Book Building, Commencement Stage – Document to be filed, e-filing, Register of Companies, Certificate of Commencement of Business.

Unit 3: COMPANY ADMINISTRATION **18 Hrs**

Key Managerial Personnel – Managing Director, Whole time Directors, the Companies Secretary, Chief Financial Officer, Resident Director, Independent Director, Auditors – Appointment – Powers - Duties & Responsibilities. Managing Director – Appointment – Powers – Duties & Responsibilities. Audit Committee, CSR Committee. Company Secretary - Meaning, Types, Qualification, Appointment, Position, Rights, Duties, Liabilities & Removal or dismissal.

Unit 4: CORPORATE MEETINGS **08 Hrs**

Corporate Meetings - Types of Meetings – Annual General Meeting – Extraordinary General Meetings – Board Meetings and Resolutions - Requisites of a valid meeting

Unit 5: FORMATION OF GLOBAL COMPANIES **04 Hrs**

Meaning – Types –Features – Legal Formalities– Administration.

SKILL DEVELOPMENT

- Drafting of Memorandum of Association, Drafting Articles of Association.
- Drafting Notice of Company Meetings – Annual, Special, Extraordinary and Board meetings.
- Drafting Resolutions of various meetings – different types.
- Chart showing Company's Organization Structure.
- Chart showing different types of Companies.

BOOKS FOR REFERENCE

1. S.N Maheshwari; Elements of Corporate Law, HPH.
2. Balchandran – Business Law for Management HPH
3. Dr. B.G. Bhaskar, K.R. Mahesh Kumar – Corporate Administration, VBH
4. Dr. P.N. Reddy and H.R. Appanaiah: Essentials of Company Law and Secretarial Practice, HPH.
5. M.C. Shukla & Gulshan: Principles of Company Law.
6. K. Venkataramana, Corporate Administration, SHBP.
7. N.D. Kapoor: Company Law and Secretarial Practice, Sultan Chand.
8. C.L Bansal: Business and Corporate Law
9. M.C. Bhandari: Guide to Company Law Procedures, Wadhwa Publication.
10. S.C. Kuchal: Company Law and Secretarial Practice.
11. S.C. Sharma : Business Law, I.K. International Publishers
12. S.N Maheshwari ; Elements of Corporate Law, Vikas Publishers.

1.6 (B) METHODS AND TECHNIQUES FOR BUSINESS DECISIONS

OBJECTIVE

The objective is to provide basic knowledge of mathematics and their application to commercial situations.

Unit 1: NUMBER SYSTEM **06 Hrs**

Introduction – Natural Numbers - Even Numbers – Odd Numbers – Integers – Prime Numbers – Rational & Irrational numbers, Real Numbers, HCF & LCM (Simple problems).

Unit 2: THEORY OF EQUATIONS **10 Hrs**

Introduction – Meaning - Types of Equations – Simple/ Linear Equations and Simultaneous Equations (only two variables), Elimination and Substitution Methods only. Quadratic Equation - Factorization and Formula Method ($ax^2 + bx + c = 0$ form only). Problems on Commercial Applications.

Unit 3: MATRICES AND DETERMINANTS **14 Hrs**

Meaning – types – operation on matrices – additions – subtractions and multiplication of two matrices – transpose – determinants – minor of an element – co-factor of an element –inverse – crammers rule in two variables – application oriented problems.

Unit 4: COMMERCIAL ARITHMETIC **16 Hrs**

Simple Interest, Compound Interest including half yearly and quarterly calculations, Annuities, Percentages, Bills Discounting, Ratios and proportions, duplicate-triplicate and sub-duplicate of a ratio. Proportions: third, fourth and inverse proportion - problems.

Unit 5: PROGRESSIONS **10 Hrs**

PROGRESSIONS: Arithmetic Progression - Finding the 'n^{th} term of AP and Sum to n^{th} term of AP. Insertion of Arithmetic Mean Geometric Progression – Finding the 'n'^{th} term of GP and sum to 'n' the term of GP and insertion of Geometric Mean

SKILL DEVELOPMENT:

- Develop an Amortization Table for Loan Amount – EMI Calculation.
- Secondary overhead distribution summary using Simultaneous Equations Method.
- Preparation of Bank Statement.
- Application of Matrix In Business Problems

BOOKS FOR REFERENCE:

- Saha: Mathematics for Cost Accountants, Central Publishers
- R.G. Saha & Others – Methods & Techniques for Business Decisions, VBH
- Dr. Sancheti & Kapoor: Business Mathematics and Statistics, Sultan Chand
- Zamarudeen: Business Mathematics, Vikas
- R.S Bhardwaj :Mathematics for Economics & Business
- Madappa, mahadi Hassan, M. Iqbal Taiyab – Business Mathematics, Subhash
- G.R. Veena and Seema : Business Mathematics and Statistics I.K. Intl Publishers

2.3 ADVANCED FINANCIAL ACCOUNTING

OBJECTIVE :

The objective of this subject is to acquaint the students with the few accounting standards and make them familiar with the accounting procedures for different types of business.

Unit 1: INSURANCE CLAIMS **12 Hrs**

Introduction – Need – Loss of Stock Policy – Steps for ascertaining Fire insurance claim – Treatment of Salvage – Average Clause – Treatment of Abnormal Items – Computation of Fire insurance claims.

Unit 2: CONSIGNMENT ACCOUNTS **12 Hrs**

Introduction – Meaning – Consignor – Consignee – Goods Invoiced at Cost Price – Goods Invoiced at Selling Price – Normal Loss – Abnormal Loss – Valuation of Stock – Stock Reserve – Journal Entries – Ledger Accounts in the books of Consignor and Consignee.

Unit 3: ACCOUNTING FOR JOINT VENTURES **12 Hrs**

Introduction – Meaning – Objectives – Distinction between joint venture and consignment – Distinction between joint venture and partnership – maintenance of accounts in the books of co-venturers – maintaining separate books for joint venture – preparation of memorandum joint venture - problems.

Unit 4: BRANCH ACCOUNTS **10 Hrs**

Introduction – Meaning – Objectives – Types of Branches - Dependent Branches – Features – Supply of Goods at Cost Price - Invoice Price – Branch Account in the books of Head Office (Debtors System Only).

Unit 5 : DEPARTMENTAL ACCOUNTS **10 Hrs**

Meaning, Objectives, basis of allocation of expenses, Trading and Profit and Loss Account in Columnar form – (Excluding Inter Departmental Transfers at invoice price)

SKILL DEVELOPMENT

- Preparation of a claim statement with imaginary figures to submit to Insurance Company.
- Collection of transactions relating to any branch and prepare a branch account.
- List out the basis of Allocation of Departmental Expenses.
- Preparation of Consignment account with imaginary figures
- Preparation of Joint accounts with imaginary figures

BOOKS FOR REFERENCE:

1. Arulanandam & Raman; Advanced Accountancy, HPH
2. Anil Kumar – Advanced Financial Accounting HPH
3. Dr. Alice Mani: Advanced Financial Accenting, SBH.
4. Dr. S.N. Maheswari, Financial Accounting, Vikas Publication
5. S P Jain and K. L. Narang, Financial Accounting, Kalyani Publication
6. Souandrajan & K. Venkataramana, Financial Accounting, SHBP.
7. A Bannerjee; Financial Accounting.
8. Radhaswamy and R.L. Gupta, Advanced Accounting , Sultan Chand
9. M.C. Shukla and Grewel, Advaced Accounting , S Chand

2.4 RETAIL MANAGEMENT

OBJECTIVE

The objective is to enable students to acquire skills in Retail Management.

Unit 1: INTRODUCTION TO RETAIL BUSINESS 10 Hrs.

Definition – functions of retailing - types of retailing – forms of retail business ownership. Retail theories – Wheel of Retailing – Retail life cycle. Retail business in India: Influencing factors – present Indian retail scenario. International perspective in retail business.

Unit 2: CONSUMER BEHAVIOUR IN RETAIL BUSINESS 12 Hrs.

Buying decision process and its implication on retailing – Influence of group and individual factors, Customer shopping behaviour, Customer service and customer satisfaction. Retail planning process: Factors to consider in preparing a business plan – implementation – risk analysis.

Unit 3: RETAIL OPERATIONS 10 Hrs.

Factors influencing location of Store - Market area analysis – Trade area analysis – Rating Plan method - Site evaluation. Retail Operations: Stores Layout and visual merchandising, Stores designing, Space planning, Inventory management, Merchandise Management, Category Management.

Unit 4: RETAIL MARKETING MIX 16 Hrs.

Introduction -Product : Decisions related to selection of goods (Merchandise Management revisited) – Decisions related to delivery of service. Pricing : Influencing factors – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place : Supply channel – SCM principles – Retail logistics – computerized replenishment system – corporate replenishment policies. Promotion : Setting objectives – communication effects - promotional mix. Human Resource Management in Retailing – Manpower planning – recruitment and training – compensation – performance appraisal Methods.

Unit 5: IMPACT OF INFORMATION TECHNOLOGYIN RETAILING 08 Hrs.

Non store retailing (e-retailing) - The impact of Information Technology in retailing - Integrated systems and networking – EDI – Bar coding – Electronic article surveillance – Electronic shelf labels – customer database management system. Legal aspects in retailing, Social issues in retailing, Ethical issues in retailing.

SKILL DEVELOPMENT

- Draw a retail life cycle chart and list the stages
- Draw a chart showing a store operations
- List out the major functions of a store manager diagrammatically
- List out the current trends in e-retailing
- List out the Factors Influencing in the location of a New Retail outlet.

BOOKS FOR REFERENCE

1. Suja Nair; Retail Management, HPH
2. Karthic – Retail Management, HPH
3. S.K. Poddar& others – Retail Management, VBH.
4. R.S Tiwari ; Retail Management, HPH

5. Barry Bermans and Joel Evans: "Retail Management – A Strategic Approach", 8th edition, PHI/02
6. A.J.Lamba, "The Art of Retailing", 1st edition, Tata Mc GrawHill, New Delhi, 2003.
7. Swapna Pradhan : Retailing Management, 2/e, 2007 & 2008, TMH
8. K. Venkataramana, Retail Management, SHBP.
9. James R. Ogden & Denise T.: Integrated Retail Management
10. A Sivakumar : Retail Marketing , Excel Books
11. Ogden : Biztantra, 2007
12. Levy & Weitz : Retail Management -TMH 5th Edition 2002
13. Rosemary Varley, Mohammed Rafiq-: Retail Management
14. Chetan Bajaj : Retail Management -Oxford Publication.
15. Uniyal &Sinha : Retail Management - Oxford Publications.
16. Araif Sakh ; Retail Management

2.5 BANKING LAW AND OPERATIONS

OBJECTIVE

The objective is to familiarize the students with the law and operations of Banking.

Unit 1: NEGOTIABLE INSTRUMENTS 10 Hrs

Introduction – Meaning & Definition – Features – Kinds of Negotiable Instruments: Meaning, Definition & Features of Promissory Notes, Bills of Exchange, Cheques - Crossing of Cheques – Types of Crossing – Endorsements: Meaning, Essentials & Kinds of Endorsement.

Unit 2: BANKER AND CUSTOMER RELATIONSHIP 10 Hrs

Introduction – Meaning of Banker – Bank - Meaning of Customer – General & Special Relationships.

Unit 3: BANKING OPERATIONS 18 Hrs

Collecting Banker: Meaning – Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course - Statutory Protection to Collecting Banker

Paying Banker: Meaning – Precautions – Statutory Protection to the Paying Banker – Dishonor of Cheques – Grounds of Dishonor – Consequences of wrongful dishonor of Cheques.

Lending Operations: Principles of Bank Lending – Kinds of lending facilities such as Loans, Cash Credit, Overdraft, Bills Discounting, Letters of Credit – NPA: Meaning, circumstances & impact – regulations of priority lending for commercial banks.

Unit 4: CUSTOMERS AND ACCOUNT HOLDERS 12Hrs

Types of Customers and Account Holders - Procedure and Practice in opening and operating accounts of different customers including Minors - Meaning & Operations of Joint Account Holders, Partnership Firms, Joint Stock companies, Executors and Trustees, Clubs and Associations and Joint Hindu Undivided Family.

Unit 5: BANKING INNOVATIONS 06 Hrs

New technology in Banking – E-services – Debit and Credit cards. Internet Banking, ATM, Electronic Fund Transfer, MICR, RTGS, NEFT, DEMAT.

SKILL DEVELOPMENT:

- Collect and fill account opening form of SB A/c or Current A/c
- Collect and fill pay in slip of SB A/c or Current A/c.
- Draw specimen of Demand Draft.
- Draw different types of endorsement of cheques.
- Draw specimen of Travellers Cheques / Gift cheques / Credit cheques.
- List various customer services offered by atleast 2 banks of your choice.

BOOKS FOR REFERENCE

1. Gordon & Natarajan: Banking Theory Law and Practice, HPH
2. S. P Srivastava ; Banking Theory & Practice, Anmol Publications
3. M. Prakhas, Bhargabhi R: Banking law & Operation, Vision Book House.
4. Tannan M.L: Banking Law and Practice in India, Indian Law House
5. Sheldon H.P: Practice and Law of Banking.
6. K. Venkataramana, Banking Operations, SHBP.
7. Kothari N. M: Law and Practice of Banking.
8. Neelam C Gulati: Principles of Banking Management.
9. Maheshwari. S.N.: Banking Law and Practice, Vikas Publication
10. Shekar. K.C: Banking Theory Law and Practice, Vikas Publication.
11. S. Vipradas & j. K Syan: Bank Lending
12. Gajendra & Poddar : Law and Practice of Banking
13. Dr. Alice Mani: Banking Law and Operation, SBH.

2.6 QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS-I

OBJECTIVE

The objective is to provide basic knowledge of statistics and their application to business situations.

Unit 1: INTRODUCTION TO STATISTICS 03Hrs

Meaning and Definition – Functions – Scope – Limitations.

Unit 2: CLASSIFICATION AND TABULATION OF DATA 08 Hrs

Collection of data - census and sample techniques. Classification of data, preparation of frequency distribution and tabulation of data.

Unit 3: MEASURES OF CENTRAL TENDENCY 20Hrs

Meaning and Definition Types of averages – Arithmetic Mean (Simple and Weighted), Median, Mode (excluding missing frequency problems). Graphical representation of median and mode – Ogive– curve, histogram, smoothed frequency curve and frequency polygon.

Unit 4: MEASURES OF DISPERSION AND SKEWNESS 15 hrs

Meaning & Definition -Range, Quartile Deviation, Mean Deviation Standard Deviation and Co-efficient of Variation. Skewness: Meaning, uses, and problems on Karl Pearson's' Co-efficient of skewness.

Unit 5: INDEX NUMBERS 10 Hrs

Meaning & Definition – Uses – Classification – Construction of Index Numbers – Methods of constructing Index Numbers – Simple Aggregative Method – Simple Average of Price Relative Method – Weighted index method – Fisher's Ideal method (including TRT & FRT) – Consumer Price Index – Problems.

SKILL DEVELOPMENT

- Draw a blank table showing different attributes
- Collect marks scored 50 students in a examinations and prepare a frequency distributions table
- Collect data relating to prices of shares of two companies for ten days and ascertain which companies shares prices is more stable
- Collect the run scored by the two batsmen in ten one day international cricket matches, find who is better run getter and who more consistence.
- Select 10 items of daily-consumed products and collect base year quantity, base year price and current year price. Calculate Cost of Living Index.

BOOKS FOR REFERENCE

1. Anand Sharma : Statistics For Management, HPH
2. S P Gupta: Statistical Methods- Sultan Chand, Delhi
3. D.P Apte ; Statistical Tools for Managers.
4. Dr. B N Gupta: Statistics (Sahityta Bhavan), Agra.
5. S.C Gupta: Business Statistics, HPH
6. N.V.R Naidu : Operation Research I.K. International Publishers
7. Ellahance : Statistical Methods, Kitab Mehel.
8. Sanchethi and Kapoor: Business Mathematics, Sultan Chand
9. Veerachamy: Operation Research I.K. International Publishers
10. S. Jayashankar: Quantitative Techniques for Management.
11. Chikoddi & Satya Prasad : Quantitative Analysis for Business Decision, HPH
12. Dr. Alice Mani: Quantitative Analysis for Business Decisions - I, SBH.

3.3 CORPORATE ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to have a comprehensive awareness about the provisions of the Company's Act and Corporate Accounts.

Unit 1: UNDERWRITING OF SHARES 08 Hrs

Meaning – Underwriting Commission – Underwriter – functions - Advantages of Underwriting, Types of Underwriting – Marked and Unmarked Applications – Problems (Excluding Journal entries).

Unit 2: PROFIT PRIOR TO INCORPORATION 12 Hrs

Meaning – calculation of sales ratio – time ratio – weighted ratio – treatment of capital and revenue expenditure – Ascertainment of pre-incorporation and post-incorporation profits by preparing Profit and Loss Account and Balance Sheet.

Unit 3: VALUATION OF GOODWILL 08 Hrs

Meaning – Circumstances of Valuation of Goodwill – Factors influencing the value of Goodwill – Methods of Valuation of Goodwill: Average Profit Method, Super Profit Method, Capitalization of average Profit Method, Capitalization of Super Profit Method, and Annuity Method - Problems.

Unit 4: VALUATION OF SHARES 08 Hrs

Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation: Intrinsic Value Method, Yield Method, Earning Capacity Method, Fair Value of shares. Rights Issue and Valuation of Rights Issue - Problems.

Unit 5: COMPANY FINAL ACCOUNTS 20 Hrs

Statutory Provisions regarding preparation of Company Final Accounts –Treatment of Special Items – Tax deducted at source – Advance payment of Tax – Provision for Tax – Depreciation – Interest on debentures – Dividends – Rules regarding payment of dividends – Transfer to Reserves – Preparation of Profit and Loss Account and Balance Sheet in vertical form (As per 2011 revised format)

SKILL DEVELOPMENT

- Collect and fill the share application form of a limited Company.
- Collect Prospectus of a company and identify its salient features.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collection of latest final accounts of a company and find out the intrinsic value of shares
- Collect the annual reports of company and calculate the value of goodwill under different methods

BOOKS FOR REFERENCE

1. Arulanandam & Raman ; Corporate Accounting –II
2. Anil Kumar – Financial Accounting, HPH
3. Dr. S.N. Maheswari, Financial Accounting.
4. Soundarajan. A & K. Venkataramana, Corporate Accounting, VBH.
5. S. P. Jain and K. L. Narang – Corporate Accounting
6. S. Bhat- Corporate Accounting.
7. S P Iyengar, Advanced Accountancy, Sultan Chand
8. R L Gupta, Advanced Accountancy.
9. Shukla and Grewal – Financial Accounting.

3.4 FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the basic concepts of Financial Management and the role of Financial Management in decision-making.

Unit 1: INTRODUCTION FINANCIAL MANAGEMENT 10 Hrs

Introduction – Meaning of Finance – Business Finance – Finance Function – Aims of Finance Function – Organization structure of Finance Department - Financial Management – Goals of Financial Management – Financial Decisions – Role of a Financial Manager – Financial Planning – Steps in Financial Planning – Principles of Sound Financial Planning – Factors influencing a sound financial plan.

Unit 2: TIME VALUE OF MONEY 12 Hrs

Introduction – Meaning& Definition – Need – Future Value (Single Flow – Uneven Flow & Annuity) – Present Value (Single Flow – Uneven Flow & Annuity)– Doubling Period – Concept of Valuation: Valuation of Bonds, Debentures and shares - Simple Problems.

Unit 3: FINANCING DECISION 12 Hrs

Introduction – Meaning of Capital Structure – Factors influencing Capital Structure – Optimum Capital Structure – Computation & Analysis of EBIT, EBT, EPS – Leverages. Simple Problems.

Unit 4: INVESTMENT & DIVIDEND DECISION 16 Hrs

Investment Decision: Introduction – Meaning and Definition of Capital Budgeting – Features – Significance – Process – Techniques: Payback Period, Accounting Rate of Return, Net Present Value, Internal Rate of Return and profitability index Simple Problems. Dividend Decision: Introduction – Meaning and Definition – Determinants of Dividend Policy – Types of Dividends – Bonus share

Unit 5: WORKING CAPITAL MANAGEMENT 06 Hrs

Introduction – Concept of Working Capital – Significance of Adequate Working Capital – Evils of Excess or Inadequate Working Capital – Determinants of Working Capital – Sources of Working Capital.

SKILL DEVELOPMENT

- Draw the organization chart of Finance Function of a company.
- Evaluate the NPV of an investment made in any one of the capital projects with imaginary figures for 5 years.
- Capital structure analysis of companies in different industries
- Imaginary figures prepare an estimate of working capital requirements

BOOKS FOR REFERENCE

1. S N Maheshwari, Financial Management, Sultan Chand
2. Dr. Aswathanarayana.T – Financial Management, VBH
3. K. Venkataramana, Financial Management, SHBP.
4. G. Sudarshan Reddy, Financial Management, HPH
5. Roy – Financial Management, HPH
6. Khan and Jain, Financial Management, TMH
7. S. Bhat- Financial Management.
8. Sharma and Sashi Gupta, Financial Management, Kalyani Publication.
9. I M Pandey, Financial Management. Vikas Publication.
10. Prasanna Chandra, Financial Management, TMH
11. P.K Simha – Financial Management.
12. M. Gangadhar Rao & Others , Financial management
13. Dr. Alice Mani: Financial Management, SBH.

3.5BUSINESS ETHICS

OBJECTIVE

The objective is to provide basic knowledge of business ethics and values and its relevance in modern context.

Unit 1: BUSINESS ETHICS 12 Hrs

Introduction – Meaning - Scope – Types of Ethics – Characteristics – Factors influencing Business Ethics – Importance of Business Ethics - Arguments for and against business ethics- Basics of business ethics - Corporate Social Responsibility – Issues of Management – Crisis Management

Unit 2: PERSONAL ETHICS 12 Hrs

Introduction – Meaning – Emotional Honesty – Virtue of humility – Promote happiness – karma yoga – proactive – flexibility and purity of mind.

Unit 3: ETHICS IN MANAGEMENT 12 Hrs

Introduction – Ethics in HRM – Marketing Ethics – Ethical aspects of Financial Management – Technology Ethics and Professional ethics.

Unit 4: ROLE OF CORPORATE CULTURE IN BUSINESS 12 Hrs

Meaning – Functions – Impact of corporate culture – cross cultural issues in ethics

Unit 5: CORPORATE GOVERNANCE 12 Hrs

Meaning, scope, composition of BODs, Cadbury Committee, various committees, reports on corporate governance, scope of Corporate Governance, Benefits and Limitations of Corporate Governance with living examples.

SKILL DEVELOPMENT

- State the arguments for and against business ethics
- Make a list of unethical aspects of finance in any organization
- List out ethical problems faced by managers
- List out issues involved in Corporate Governance.
- List out unethical aspects of Advertising

BOOKS FOR REFERENCE

1. Murthy CSV: Business Ethics and Corporate Governance, HPH
2. Bholananth Dutta, S.K. Podder – Corporation Governance, VBH.
3. Dr. K. Nirmala, Karunakara Readdy : Business Ethics and Corporate Governance, HPH
4. H.R.Machiraju: Corporate Governance
5. K. Venkataramana, Corporate Governance, SHBP.
6. N.M.Khandelwal : Indian Ethos and Values for Managers
7. S Prabhakaran; Business ethics and Corporate Governance
8. C.V. Baxi: Corporate Governance
9. R. R. Gaur, R. Sanghal, G. P. Bagaria; Human Values and Professional ethics
10. B O B Tricker, Corporate Governance; Principles , Policies and Practices
11. Michael, Blowfield; Corporate Responsibility
12. Andrew Crane; Business Ethics
13. Ghosh; Ethics in Management and Indian ethos.

3.6 QUANTATIVE ANALYSIS FOR BUSINESS DECISIONS-II

OBJECTIVE:

The objective is to familiarize the students with various statistical techniques for their application in Business Decisions.

Unit 1: CORRELATION AND REGRESSION ANALYSIS 20 Hrs

Correlation: Meaning and Definition - Uses – Types – Karl Pearson's coefficient of correlation – probable error - Spearman's Rank Correlation Coefficient. Regression: Meaning, Uses, Regression lines, Regression Equations. Correlation Coefficient through Regression Coefficient

Unit 2: TIME SERIES 12 Hrs

Introduction – Meaning – Uses –Components of Time Series – Fitting a straight line trend by the method of least squares and Computation of Trend Values (when $\sum X = 0$) including Graphical presentation of trend values – Problems.

Unit 3: INTERPOLATION AND EXTRAPOLATION 08 Hrs

Meaning - Significance – Assumptions - Methods of Interpolation – Binomial expansion (Interpolating method one and two missing values only) - Newton's Advancing Differences Method - Problems.

Unit 4: SAMPLING AND SAMPLING DISTRIBUTION 08 Hrs

Meaning, Objectives and Types : Probability Sampling and Non-Probability Sampling Techniques- Meaning of Population, Parameter and Statistic - Sampling distribution –Meaning and usefulness of Standard Error (Simple Problems on calculation of Sample size)

Unit 5: THEORY OF PROBABILITY 08 Hrs

Meaning and Importance of Probability- Experiment, Event and types of events, Addition Theory of probability. (Simple Problems on addition theorem only)

SKILL DEVELOPMENT:

- Collect age statistics of 10 newly married couples and compute correlation coefficient
- Collect age statistics of 10 newly married couples and compute regression equations; Estimate the age of bride when age of bridegroom is given.
- Collect the turnover of a company for 7 years and predict the sales of 8th year by using method of least square.
- Collect the sales or production statistics of a company for five years and extra pollute the production or sales for the 6th Year.

BOOKS FOR REFERENCE:

1. Sridhara Bhatt - Quantitative Techniques for Managers , HPH
2. S P Gupta: Statistical Methods- Sultan Chand, Delhi
3. B. G. Bhaskara & others: Quantitative Analysis for Business Decision II
4. S C Guptha and V K Kapoor, Fundamentals of Mathematical Statistics
5. Sancheti and Kapoor, Sultan Chand
6. S. Jaishankar: Quantitative Techniques for Managers
7. G C Beri, Statistics for Management.

8. Dr. B N Gupta: Statistics (Sahityta Bhavan), Agra.
9. Veerachamy: Operation Research I.K. International Publishers
10. Ellahance : Statistical Methods
11. Quantitative Techniques for Managerial Decisions, U K Srivastava, G V Shenoy,
12. S C Sharama, New Age International Publishers.
13. C.R Reddy , Quantitative Techniques for Management Decisions
14. Dr. Alice Mani: Quantitative Analysis for Business Decisions - II, SBH.

3.7 PUBLIC RELATIONS AND CORPORATE COMMUNICATION

OBJECTIVE

To create awareness among the students on the soft skills required to plan and pursue a career and empower them with employability skills.

Unit 1: ATTITUDE AND EMOTIONAL INTELLIGENCE 10 Hrs

Importance of Attitude – Meaning of Positive Thinking and Positive Attitude – Ways to build positive attitude – Effects of negative attitude and measures to overcome them. Significance of interpersonal relationships in personal and professional life - Tips to enhance interpersonal relationships - Emotional Intelligence.

Unit 2: VISION, GOAL SETTING & TIME MANAGEMENT 06 Hrs

Meaning of Vision – Doing things for the right purpose – Setting and achieving goals – Importance of goal setting – periodicity in goal setting – short, medium, long-term – methods to achieve set goals. General principles of Stress Management and Time Management.

Unit 3: CREATIVITY 10 Hrs

The creative mind – Importance of Creativity – Elements of Creativity – Influence and Flexibility – Factors influencing creativity – Methods of enhancing creativity – techniques of creativity – Brainstorming, attributes listing.

Unit 4: COMMUNICATION SKILLS 10 Hrs

Significance – Process of Communication – Forms of Communication - Communication Gap – Listening Skills – Basics of Managerial Speaking Skills – Body Language – How to develop matter for a speech, Presentation aids and effective use of presentation aids. Preparation of Resume & preparation for GD & Interview.

Unit 5: CAREER PLANNING 06Hrs

Career Planning, Awareness of different Careers, Sources of Information, Choosing a Career and Career counseling.

SKILL DEVELOPMENT:

- Extempore speeches, Just a Minute.
- Conducting Stress Interviews.
- Creative Exercise
- Role play.

BOOKS FOR REFERENCE:

1. C.S. Raydu – Corporate Communication, HPH
2. Rai & Rai Business Communication, HPH
3. S.P. Sharman, Bhavani H. – Corporate Communication, VBH
4. Collins: Public Speaking
5. Mair : Art of Public Speaking
6. K. Venkataramana, Corporate Communication, SHBP.
7. Rajkumar: Basic of Business Communication
8. V.N. Ahuja.: The World's Famous Speeches
9. Daniel Goleman : Emotional Intelligence
10. Jyotsna Codety :Understanding Emotional Intelligence .

11. Dalip Singh :Emotional Intelligence at Work .
12. B. Das / I Satpathy: Business Communication & Personality Development.
13. B.Husluck :Personality Development – Elizabeth.
14. M.S. Rao: Soft Skills – Enhancing Employability I.K. International Publishers
15. Allen Bease :Body Language .
16. Tanushree Pooder :Fit and Fine Body and Mind
17. C.G.G Krishnamacharyulu & Lalitha :Soft Skills of Personality Development;
18. Partho Pratim Roy :Business Communications – The Basics
19. Sajitha Jayaprakash :Technical Communication

4.3 ADVANCED CORPORATE ACCOUNTING

OBJECTIVE

The objective is to enable the students to develop awareness about Corporate Accounting in conformity with the Provision of Companies' Act and latest amendments thereto with adoption of Accounting Standards.

Unit 1: REDEMPTION OF PREFERENCE SHARES 10 Hrs

Meaning – legal provisions – treatment regarding premium on redemption – creation of Capital Redemption Reserve Account– Fresh issue of shares – Arranging for cash balance for the purpose of redemption – minimum number of shares to be issued for redemption – issue of bonus shares – preparation of Balance sheet (vertical forms) after redemption.

Unit 2: MERGERS AND ACQUISITION OF COMPANIES 16 Hrs

Meaning of Amalgamation and Acquisition – Types of Amalgamation – Amalgamation in the nature of Merger – Amalgamation in the nature of Purchase - Methods of Purchase Consideration – Calculation of Purchase Consideration (Ind AS 103) (Old AS14), Net asset Method - Net Payment Method, Accounting for Amalgamation (Problems on both the methods) - Entries and Ledger Accounts in the Books of Transferor Company and Transferee Company – Preparation of new Balance sheet. (Vertical Format) (Excluding External Reconstruction).

Unit 3: INTERNAL RECONSTRUCTION 10 Hrs

Meaning – Objective – Procedure – Form of Reduction –Passing of Journal Entries – Preparation of Reconstruction accounts – Preparation of Balance Sheet after Reconstruction. (Vertical Format) Problems.

Unit 4: LIQUIDATION OF COMPANIES 10Hrs

Meaning–Types of Liquidation – Order of Payment - Calculation of Liquidator's Remuneration – Preparation of Liquidators Final Statement of Account.

Unit 5: RECENT DEVELOPMENTS IN ACCOUNTING & ACCOUNTING STANDARDS (Theory Only) 10Hrs

Human Resource Accounting – Environmental Accounting – Social Responsibility Accounting – Valuation of Brand.

Indian Accounting Standards- Meaning- Need for accounting standards in India- Accounting standards Board (ASB) process of setting accounting standards in India- A brief theoretical study of Indian accounting standards.

SKILL DEVELOPMENT

- List out legal provisions in respect of Redemption of Preference shares.
- Calculation of Purchase consideration with imaginary figures.
- List any 5 cases of amalgamation in the nature of merger or acquisition of Joint Stock Companies.
- List out legal provisions in respect of internal reconstruction.
- List out any five Indian Accounting Standards disclosures.

BOOKS FOR REFERENCE

1. Arulanandam & Raman ; Corporate Accounting-II, HPH
2. Anil Kumar – Advanced Corporate Accounting, HPH
3. Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
4. Dr. Venkataraman. R – Advanced Corporate Accounting
5. S.N. Maheswari , Financial Accounting, Vikas
6. Soundarajan A & K. Venkataramana, Advanced Corporate Accounting, SHBP.
7. RL Gupta, Advanced Accountancy, Sultan Chand
8. K.K Verma – Corporate Accounting.
9. Jain and Narang, Corporate Accounting.
10. Tulsian, Advanced Accounting,
11. Shukla and Grewal – Advanced Accountancy , Sultan Chand
12. Srinivas Putty, Advanced Corporate Accounting, HPH.
13. Sreeram & Sreeram, Advanced Corporate Accounting, Adhrash Publishing House.

4.4 COST ACCOUNTING

OBJECTIVE

The objective of this subject is to familiarize students with the various concepts and elements of cost.

Unit 1: INTRODUCTION TO COST ACCOUNTING 10 Hrs

Introduction – Meaning& Definition of Cost, Costing and Cost Accounting – Objectives of Costing - Comparison between Financial Accounting and Cost Accounting –Designing and Installing a Cost Accounting System – Cost Concepts - Classification of Costs – Cost Unit – Cost Center – Elements of Cost – Preparation of Cost Sheet – Tenders and Quotations.

Unit 2: MATERIAL COST CONTROL 14 Hrs

Meaning – Types: Direct Material, Indirect Material. Material Control – Purchasing Procedure – Store Keeping – Techniques of Inventory Control –Levels settings– EOQ – ABC Analysis – VED Analysis – Just In-Time – Perpetual Inventory System – Documents used in Material Accounting - Methods of Pricing Material Issues: FIFO, LIFO, Weighted Average Price Method and Simple Average Price Method - Problems.

Unit 3: LABOUR COST CONTROL 10 Hrs

Meaning – Types: Direct Labour, Indirect Labour - Timekeeping – Time booking – Idle Time – Overtime – Labour Turn Over. Methods of Labour Remuneration: Time Rate System, Piece Rate System, Incentive Systems (Halsey plan, Rowan Plan & Taylor's differential Piece Rate System) – Problems

Unit 4: OVERHEAD COST CONTROL 14 Hrs

Meaning and Definition – Classification of Overheads – Procedure for Accounting and Control of Overheads – Allocation of Overheads – Apportionment of Overheads – Primary Overhead Distribution Summary – Secondary Overhead Distribution Summary – Repeated Distribution Method and Simultaneous Equations Method – Absorption of Factory Overheads – Methods of Absorption (Theory Only) – Machine Hour Rate – Problems on Machine Hour Rate.

Unit 5: RECONCILIATION OF COST AND FINANCIAL ACCOUNTS 08 Hrs

Need for Reconciliation – Reasons for differences in Profit or Loss shown by Cost Accounts and Profit or Loss shown by Financial Accounts – Preparation of Reconciliation Statement and Memorandum Reconciliation Account.

SKILL DEVELOPMENT

- Identification of elements of cost in services sector by Visiting any service sector.
- Cost estimation for the making of a proposed product.
- Draft the specimen of any two documents used in material account.
- Collection and Classification of overheads in an organization on the basis of functions.
- Prepare a reconciliation statement with imaginary figures

BOOKS FOR REFERENCE

1. J. Made Gowda – Cost and Management Accounting , HPH
2. M.V. Skukla – Cost and Management Accounting
3. N.K. Prasad: Cost Accounting, Books Syndicate Pvt. Ltd.
4. Nigam & Sharma: Cost Accounting , HPH
5. Khanna Pandey & Ahuja – Practical Costing, S Chand
6. Soundarajan A & K. Venkataramana, Cost Accounting, SHBP.

7. P. K Sinha – Accounting & Costing for Managers.
8. M.L. Agarwal: Cost Accounting
9. Dr. Alice Mani: Cost Accounting, SBH.
10. S.P Jain & Narang: Cost Accounting , Kalyani
11. Palaniappan and Hariharan : Cost Accounting I.K. International Publishers
12. S.P. Iyengar: Cost Accounting, Sultan Chand ans Sons
13. S.N. Maheshwari: Cost Accounting, Vikas
14. M. N. Arora: Cost Accounting, HPH
15. Dutta: Cost Accounting
16. V. Rajesh Kumar & R.K. Sreekantha, Cost Accounting – I, Vittam Publications.

4.5 E-BUSINESS AND ACCOUNTING

OBJECTIVE:

The objective of the subject is to familiarize the students with E- Commerce models and Tally

UNIT 1. E-BUSINESS **10 Hrs**

Introduction, E-Commerce – Definition, History of E-commerce, Difference between E - Commerce and E - Business. Comparison of traditional commerce and e-commerce Advantages/ Disadvantages of e-commerce,. E-Commerce business models – major B to B, B to C model, Consumer-to-Consumer (C2C), Consumer-to-Business (C2B) model, Peer to-Peer (P2P) model – emerging trends. web auctions, virtual communities, portals, e-business revenue models.

UNIT 2. HARDWARE AND SOFTWARE FOR E-BUSINESS **10Hrs**

Web server – Internet – World Wide Web - hardware and software for web servers, web hosting choices – shopping cart.

Unit 3: GETTING STARTED WITH TALLY **10Hrs**

Meaning of Tally software – Features – Advantages - Required Hardware, Preparation for installation of tally software - installation. Items on Tally screen: Menu options, creating a New Company, Basic Currency information, Other information, Company features and Inventory features.

Unit 4: CONFIGURING TALLY **16Hrs**

General Configuration, Numerical symbols, accts/inv info – master configuration -voucher entry configuration. **Working in Tally***:* Groups, Ledgers, writing voucher, different types of voucher, voucher entry Problem on Voucher entry -Trail Balance, Accounts books, Cash Book, Bank Books, Ledger Accounts, Group Summary, Sales Register and Purchase Register, Journal Register, Statement of Accounts, & Balance Sheet.

Unit 5: REPORTS IN TALLY*:* **10Hrs**

Generating Basic Reports in Tally – Financial Statements – Accounting Books and Registers – Inventory Books and Registers – Exception reports – printing reports – Types of Printing Configuration of Options – Printing Format.

SKILL DEVELOPMENT:

- Generating the report of journal
- Generating the report on cash book
- Generating the report on profit and losing account
- Generating the report on balance sheet

BOOKS FOR REFERENCE

1. Raydu – E Commerce, HPH
2. Suman. M – E Commerc & Accounting - HPH
3. Kalakota Ravi and A. B. Whinston : *Frontiers of Electronic Commerce*, Addison Wesley
4. Watson R T : *Electronic Commerce – the strategic perspective*. The Dryden press
5. Amrutha Gowry & Soundrajana, E – Business & Accounting, SHBP.
6. C.S.V Murthy- E Commerce, HPH
7. Agarwala K.N and Deeksha Ararwala: *Business on the Net – Whats and Hows of E-Commerce*
8. Agarwala K. N. and Deeksha Ararwala : *Business on the Net – Bridge to the online store front*, Macmillan, New Delhi.
9. P. Diwan / S. Sharma – E – Commerce
10. Srivatsava: E.R.P, I.K. International Publishers
11. Diwan, Prag and Sunil Sharma, *Electronic Commerce – A manager guide to E-business*, Vanity Books International, Delhi
12. Tally for Enterprise Solutions

4.6. STOCK AND COMMODITY MARKETS

OBJECTIVE:
The objective is to provide students with a conceptual framework of stock markets and Commodity Markets, functionaries in these markets and their mode of trading.

Unit: 1 AN OVERVIEW OF CAPITAL AND COMMODITIES MARKETS: **10 Hrs**
Primary Market, Secondary Market (Stock Market), Depositories, Private placements of shares / Buy back of shares, Issue mechanism. Meaning of Commodities and Commodities Market, differences between stock market and commodities market.

Unit: 2 STOCK MARKET: **12Hrs**
History, Membership, Organization, Governing body, Functions of stock Exchange, on line trading, role of SEBI, Recognized Stock Exchanges in India (brief discussion of NSE and BSE). Derivatives on stocks: Meaning, types (in brief).

Unit:3 TRADING IN STOCK MARKET: **14Hrs**
Patterns of Trading & Settlement – Speculations – Types of Speculations – Activities of Brokers – Broker Charges – Settlement Procedure, National Securities Depository Ltd.(NSDL), Central Securities Depository Ltd.(CSDL) (in brief).

Unit: 4 COMMODITIES MARKET: **12Hrs**
History, Membership, Objectives, Functions of commodities exchange, Organization and role of commodity exchange, Governing Body, Types of Transactions to be dealt in Commodity Market – physical market, Futures market - Differences between Physical & Future Market, options on commodities exchanges.

Unit: 5 TRADING IN COMMODITY MARKETS: **08Hrs**
Patterns of Trading & Settlement, Efficiency of Commodity Markets - Size of volumes of Commodities

SKILL DEVELOPMENT
- Prepare the list of recognized stock exchanges in India
- Prepare the process chart of online trading of shares and debentures.
- Prepare the chart showing Governing Body of the Commodities Market.
- Prepare the list of commodities traded on commodity market.
- Enlist the role of NSDL and CSDL.

BOOKS FOR REFERENCE:

1. Gurusamy, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
2. Saunders, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
3. K. Venkataramana, Stock & Commodity Markets, SHBP.
4. B. Kulkarni – Commodity Markets & Derivatives.
5. Khan, Indian Financial Systems, 6th edition, Tata McGraw Hill
6. Bhole, L.M. (2000), Indian Financial Institutions, Markets and Management, McGraw Hill, New York.
7. Srivastava R.M ; Management of Indian Financial Institutions
8. Pallavi Modi : Equity – The Next Investment Destination
9. Prriswami – Indian Financial System
10. Ghowria Khatoon – Stock & Commodity Markets, VBH.

4.7 PRINCIPLES OF EVENT MANAGEMENT

OBJECTIVE:
The objective is to provide students with a conceptual framework of Event Management, Event Services, Conducting Event and Managing Public Relations.

Unit: 1- INTRODUCTION TO EVENT MANAGEMENT 12 Hrs
Event- Meaning- Why Event Management- Analysis of Event, Scope of Event, Decision Makers- Event Manager Technical Staff- Establishing of Policies & Procedure- Developing Record Keeping Systems.

Unit: 2-EVENT MANAGEMENT PROCEDURE 12 Hrs
Principles for holding an Event, General Details, Permissions- Policies, Government and Local Authorities, - Phonographic Performance License, Utilities- Five Bridge Ambulance Catering, Electricity, Water Taxes Applicable.

Unit: 3-CONDUCT OF AN EVENT. 12 Hrs
Preparing a Planning Schedule, Organizing Tables, Assigning Responsibility, Communication and Budget of Event- Checklist, Computer aided Event Management– Roles & Responsibilities of Event Managers for Different Events.

Unit: 4-PUBLIC RELATIONS 10 Hrs
Introductions to Public Relations- Concept- Nature- Importance- Limitations- Media- Types of Media- Media Management, Public Relation Strategy & Planning. Brain Storming Sessions- Writings for Public Relations.

Unit: 5 CORPORATE EVENTS 10 Hrs
Planning of Corporate Event, Job Responsibility of Corporate Events Organizer, Arrangements, Budgeting, Safety of Guests and Participants, Creating Blue Print, Need for Entertainment in Corporate Events And Reporting.

Skill Development

1. Preparation of Event Plan for Wedding, Annual general body Meeting of an MNC.
2. Preparing Budget for conduct of National level intercollegiate sports events.
3. Preparation of Event Plan for College day Celebrations
4. Preparation of Budget for Conducting inter collegiate Commerce Fest.

Book References

1. Event Entertainment and Production – Author: Mark Sonderm CSEP Publisher: Wiley & Sons, Inc.
2. Ghouse Basha – Advertising & Media Mgt, VBH.
3. Anne Stephen – Event Management, HPH.
4. K. Venkataramana, Event Management, SHBP.
5. Special Event Production – Doug Matthews – ISBN 978-0-7506-8523-8
6. The Complete Guide to successful Event Planning – Shannon Kilkenny
7. Human Resource Management for Events – Lynn Van der Wagen (Author)
8. Successful Team Manageemnt (Paperback) – Nick Hayed (Author)
9. Event Management & Public Relations by Savita Mohan – Enkay Publishing House
10. Event Management & Public Relations By Swarup K. Goyal – Adhyayan Publisher - 2009

5.1 ENTREPRENEURSHIP DEVELOPMENT

OBJECTIVE:

To enable students to understand the basic concepts of entrepreneurship and preparing a business plan to start a small industry.

Unit 1: ENTREPRENEURSHIP **10 Hrs**

Introduction – Meaning& Definition of Entrepreneurship, Entrepreneur & Enterprise –Functions of Entrepreneur - Factors influencing Entrepreneurship - Pros and Cons of being an Entrepreneur – Qualities of an Entrepreneur – Types of Entrepreneur

Unit 2: SMALL SCALE INDUSTRIES **12 Hrs**

Meaning &Definition – Product Range - Capital Investment - Ownership Patterns – Meaning and importance of Tiny Industries, Ancillary Industries, Cottage Industries. Role played by SSI in the development of Indian Economy. Problems faced by SSI's and the steps taken to solve the problems - Policies Governing SSI's.

Unit 3: FORMATION OF SMALL SCALE INDUSTRY **14 Hrs**

Business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. Steps involved in the formation of a small business venture: location, clearances and permits required, formalities, licensing and registration procedure. Assessment of the market for the proposed project – Financial, Technical, Market and Social feasibility study.

Unit 4: PREPARING THE BUSINESS PLAN (BP) **10 Hrs**

Meaning – importance – preparation –BP format: Financial aspects of the BP, Marketing aspects of the BP, Human Resource aspects of the BP, Technical aspects of the BP, Social aspects of the BP. Common pitfalls to be avoided in preparation of a BP.

Unit 5: PROJECT ASSISTANCE **10 Hrs**

Financial assistance through SFC's, SIDBI, Commercial Banks, IFCI - Non-financial assistance from DIC, SISI, AWAKE, KVIC - Financial incentives for SSI's and Tax Concessions - Assistance for obtaining Raw Material, Machinery, Land and Building and Technical Assistance - Industrial Estates: Role and Types.

SKILL DEVELOPMENT

- Preparation of a Project report to start a SSI Unit.
- Preparing a letter to the concerned authority-seeking license for the proposed SS Unit
- Format of a business plan.
- A Report on the survey of SSI units in the region where college is located.
- Chart showing financial assistance available to SSI along with rates of interest.
- Chart showing tax concessions to SSI both direct and indirect.
- Success stories of Entrepreneurs in the region.

BOOKS FOR REFERENCE

1. Vasanth Desai, Management of Small Scale Industry, HPH
2. Mark. J. Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
3. Dr. Venkataramana ; Entrepreneurial Development, SHB Publications

4. Udai Pareek and T.V. Rao, Developing Entrepreneurship
5. Rekha & Vibha – Entrepreneurship Development, VBH
6. S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems
7. B. Janakiraman , Rizwana M: Entrepreneurship Development, Excel Books
8. Srivastava, A Practical Guide to Industrial Entrepreneurs
9. Anil Kumar: Small Business and Entrepreneurship I.K. International Publishers
10. Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
11. Bharusali, Entrepreneur Development
12. Satish Taneja ; Entrepreneur Development
13. Vidya Hattangadi ; Entrepreneurship
14. N.V.R Naidu : Entrepreneurship Development, I.K. International Publishers

5.2 INTERNATIONAL FINANCIAL REPORTING STANDARDS

OBJECTIVE: The objective of the subject is to enable the students to understand the need and method of presentation of financial statements in accordance with International Financial Reporting Standards.

Unit-I **5Hrs**

International Financial Reporting Standards:

Meaning of IFRS - relevance of IFRS to India; merits and limitations of IFRS; process of setting IFRS- Practical challenges in implementing IFRS; a brief theoretical study of International financial reporting standards (IFRS) 1 – 15 - List of International accounting standards issued by IASB.

Unit – II **25Hrs**

Accounting for Assets and Liabilities

Recognition criteria's for Investment properties, Government grants, Borrowing costs, Construction contracts, share based payments, Provisions, Contingent liabilities and Contingent assets, Events occurring after the reporting period **(Only Theory).**

Recognition and measurement for property plant and equipment, Intangible assets, Inventories, Leases and Impairment. Accounting for Income tax, Employee benefits. - **Simple problems**

Unit-III **8Hrs**

Presentation of Financial Statements:

Outline for the preparation of financial statements - Statement of financial position; Comprehensive income statement; Statement of changes in equity (SOCE), IAS 18 – Revenue.

Elements of financial statements as per IFRS – Non-current assets; current assets; equity; non- current liability; current liability; revenue; cost of sales; distribution costs; administrative expenses; financial costs – profits attributable to owners of controlling interest and non-controlling interest – **Practical problems on each element**.

Unit – IV **12Hrs**

Accounts of Groups:

Concept of group – need for consolidated financial statements - Preparation of consolidated financial statements – Procedure for the preparation of consolidated financial position statement – treatment of pre-acquisition profit; goodwill arising on consolidation; on-controlling interests at fair value – **Practical problems.**

Unit – V **6Hrs**

Disclosure Standards

Related party disclosure, Earnings per share, Interim financial reporting, Insurance contracts, Operating segments. **(Theory Only).**

SKILL DEVELOPMENT

1) Conversion of final accounts to IFRS
2) Analysis of published financial statements for at-least 2 types of stakeholders
3) Comments for recent developments/exposure draft in IFRS
4) Preparation of notes to accounts for non-current assets
5) Assignment on social reporting
6) Preparation of Consolidated Financial Statement of any two existing companies.
7) Disclosure of change in equity in the annual reports of any two select companies.

Books for reference:

1. IFRS – Student Study Guide - ISDC
2. IFRS for India, Dr.A.L.Saini, Snow white publications
3. Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
4. IFRS explained – a guide to IFRS by BPP learning Media
5. IFRS concepts and applications by Kamal Garg, Bharath law house private limited.
6. IFRS: A quick reference guide by Robert J Kirk, Elsevier Ltd.

5.3 INCOME TAX - I

OBJECTIVE

The Objective of this subject is to expose the students to the various provisions of Income Tax Act 1961 relating to computation of Income of individuals.

Unit 1: INTRODUCTION TO INCOME TAX **10 Hrs**

Brief History of Indian Income Tax - Legal Frame Work – Types of Taxes - Cannons of Taxation – Important Definitions: Assessment, Assessment Year, Previous Year (including Exceptions), Assessee, Person, Income, Casual Income, Gross Total Income, Agricultural Income (including Scheme of Partial Integration – Theory Only) – Scheme of taxation. Meaning and classification of Capital & Revenue. Income tax authorities: Powers & functions of CBDT, CIT & A.O.

Unit 2: EXEMPTED INCOMES **04 Hrs**

Introduction – Exempted Incomes U/S 10 - Restricted to Individual Assessee.

Unit 2: RESIDENTIAL STATUS **10 Hrs**

Residential Status of an Individual –Determination of Residential Status – Incidence of Tax – Problems.

Unit 4: INCOME FROM SALARY **20 Hrs**

Meaning – Definition - Basis of Charge– Advance Salary – Arrears of Salary – Allowances – Perquisites– Provident Fund - Profits in Lieu of Salary – Gratuity -Commutation of Pension - Encashment of Earned leave - Compensation for voluntary retirement - Deductions from Salary U/S 16 – Problems on Income from Salary.

Unit 5: INCOME FROM HOUSE PROPERTY **12 Hrs**

Basis of Charge – Deemed Owners – Exempted Incomes from House Property –Composite Rent - Annual Value – Determination of Annual Value – Treatment of Unrealized Rent – Loss due to Vacancy – Deductions from Annual Value – Problems on Income from House Property.

SKILL DEVELOPMENT

- Form No. 49A (PAN) and 49B.
- Filling of Income Tax Returns.
- List of enclosures to be made along with IT returns (with reference to salary & H.P).
- Preparation of Form 16.
- Computation of Income Tax and the Slab Rates.
- Computation of Gratuity.

BOOKS FOR REFERENCE

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
4. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
5. Gaur & Narang: Income Tax.
6. 7 Lectures – Income Tax – I, VBH
7. Dr.V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax – I, Vittam Publications.

5.4 COSTING METHODS

OBJECTIVE

To familiarize the students on the use of cost accounting system in different nature of businesses.

Unit 1: INTRODUCTION TO COSTING METHODS **04 Hrs**

Costing methods – Meaning, Importance and Categories.

Unit 2: JOB AND BATCH COSTING **12 Hrs**

Job costing: Meaning, prerequisites, job costing procedures, Features, objectives, applications, advantages and disadvantages of Job costing. **Batch costing**: Meaning, advantages, disadvantages, determination of economic batch quantity. Comparison between Job and Batch Costing – problems.

Unit 3: PROCESS COSTING **14 Hrs**

Introduction, meaning and definition, Features of Process Costing, applications, comparison between Job costing and Process Costing, advantages and disadvantages, treatment of normal loss, abnormal loss and abnormal gain, rejects and rectification - Joint and by-products costing – problems under reverse cost method.

Unit 4: CONTRACT COSTING **14 Hrs**

Meaning, features of contract costing, Applications of contract costing, similarities and dissimilarities between job and contract costing, procedure of contract costing, profit on incomplete contracts, Problems.

Unit 5: OPERATING COSTING **12 Hrs**

Introduction, Meaning and application of Operating Costing, - Power house costing or boiler house costing, canteen or hotel costing, hospital costing (Theory only) and Transport Costing – Problems on Transport costing.

SKILL DEVELOPMENT

- Listing of industries located in your area and methods of costing adopted by them
- List out materials used in any two organizations.
- Preparation of Imaginary composite job cost statement
- Preparation of activity base cost statement

BOOKS FOR REFERENCE

1. S P Iyengar, Cost Accounting.
2. Nigam and Sharma, Advanced Costing.
3. B.S. Raman, Cost Accounting.
4. K.S Thakur- Cost Accounting
5. M.N. Arora, Cost Accounting.
6. Ashish K Bhattacharyya: cost accounting for business managers.
7. N. Prasad, Costing.
8. Palaniappan and Hariharan : Cost Accounting, I.K. International Publishers
9. Jain &Narang, Cost Accounting
10. Ravi M. Kishore – *Cost Management*
11. Charles T Horngren, George Foster, Srikant M. Data – *Cost Accounting: A Managerial Emphasis*
12. Anthony R. N. – *Management Accounting Principles*
13. S. Mukherjee & A. P. Roychowdhury – *Advanced Cost and Management Accountancy*
14. J. MadeGowda Cost Accounting
15. Rathnam : Cost Accounting

6.1 BUSINESS REGULATIONS

OBJECTIVE:

To introduce the students to various Business Regulations and familiarize them with common issues of relevance.

UNIT 1: INTRODUCTION TO BUSINESS LAWS **06 Hrs**

Introduction, Nature of Law, Meaning and Definition of Business Laws, Scope and Sources of Business Laws.

UNIT 2: CONTRACT LAWS **18Hrs**

Indian Contract Act, 1872: Definition of Contract, essentials of a valid contract, classification of contracts, remedies for breach of contract.

Indian Sale of Goods Act, 1930: Definition of contract of sale, essentials of contract of sale, conditions and warrantees, rights and duties of buyer, rights of an unpaid seller.

UNIT 3: COMPETITION AND CONSUMER LAWS: **14 Hrs**

The Competition Act, 2002: Objectives of Competition Act, Features of Competition Act, **CAT,** offences and penalties under the Act, Competition Commission of India.

Consumer Protection Act, 1986: Definition of the terms consumer, consumer dispute, defect, deficiency, unfair trade practices and services. Rights of the consumer under the Act, Consumer Redressal Agencies – District Forum, State Commission, National Commission.

UNIT 4: ECONOMIC LAWS **12 Hrs**

Indian Patent Laws and WTO Patent Rules: Meaning of IPR, invention and non-invention, procedure to get patent, restoration and surrender of lapsed patent, infringement of patent,

FEMA 1999: Objects of FEMA, salient features of FEMA, definition of important terms: authorized person, currency, foreign currency, foreign exchange, foreign security, offences and penalties.

UNIT 5: ENVIRONMENTAL LAW **06 Hrs**

Environment Protection Act, 1986: Objects of the Act, definitions of important terms: environment, environment pollutant, environment pollution, hazardous substance and occupier, types of pollution, rules and powers of central government to protect environment in India.

SKILL DEVELOPMENT

- Prepare a chart showing sources of business law and Indian Constitution Articles having economic significance.
- Draft an agreement on behalf of an MNC to purchase raw materials indicating therein terms and conditions and all the essentials of a valid contract.
- Draft an application to the Chief Information Officer of any government office seeking information about government spending.
- Draft digital signature certificate.
- Draft a complaint to District Consumer Forum on the deficiency of service in a reputed corporate hospital for medical negligence.
- Collect leading cyber-crimes cases and form groups in the class room and conduct group discussion.
- Draft a constructive and innovative suggestions note on global warming reduction.

BOOKS FOR REFERENCE:

1. K. Aswathappa, Business Laws, HPH,
2. Bulchandni, Business Laws, HPH.
3. K. Venkataramana, Business Regulations, SHBP.
4. Kamakshi P & Srikumari P – Business Regulations, VBH.
5. N.D. Kapoor, Business Laws, Sultan chand publications.
6. S.S Gulshan – Business Law
7. S.C. Sharma: Business Law I.K. International Publishers
8. Tulsion Business Law, TMH.

6.2 PRINCIPLES AND PRACTICE OF AUDITING

OBJECTIVE:

This subject aims at imparting knowledge about the principles and methods of auditing and their applications.

Unit 1: INTRODUCTION TO AUDITING 12 Hrs

Introduction – Meaning - Definition – Objectives – Differences between Accountancy and Auditing – Types of Audit - Advantages of Auditing – Preparation before commencement of new Audit – Audit Notebook – Audit Working Papers – Audit Program, Recent Trends in Auditing: Nature & Significance of Tax Audit – Cost Audit - Management Audit.

Unit 2: INTERNAL CONTROL 10 Hrs

Internal Control: Meaning and objectives. Internal Check: Meaning, objectives and fundamental principles. Internal Check as regards: Wage Payments, Cash Sales, Cash Purchases. Internal Audit: Meaning - Advantages and Disadvantages of Internal Audit – Differences between Internal Check and Internal Audit.

Unit 3: VOUCHING 12 Hrs

Meaning - Definition – Importance – Routine Checking and Vouching – Voucher -Types of Vouchers – Vouching of Receipts: Cash Sales, Receipts from debtors, Proceeds of the sale of Investments. Vouching of Payments: Cash Purchases, Payment to Creditors, Deferred Revenue Expenditure.

Unit 4: VERIFICATION AND VALUATION OF ASSETS AND LIABILITIES 12 Hrs

Meaning and Objectives of verification and valuation– Position of an Auditor as regards the Valuation of Assets – Verification and Valuation of different Items: Assets: Land & Building, Plant & Machinery, Goodwill – Investments - Stock in Trade. Liabilities: Bills Payable - Sundry Creditors – Contingent Liabilities.

Unit 5: AUDIT OF LIMITED COMPANIES AND OTHERS 10 Hrs

Company Auditor – Appointment – Qualification - Powers - Duties and Liabilities – Professional Ethics of an Auditor. Audit of Educational Institutions – Audit of Insurance Companies- Audit of Co-operative societies.

SKILL DEVELOPMENT:

- Collect the information about types of audit conducted in any one Organization
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm.
- Draft an investigation report on behalf of a Public Limited Company
- Record the verification procedure with respect to any one fixed asset.
- Draft an audit program.

BOOKS FOR REFERENCE:

1. P N Reddy & Appannaiah, Auditing, HPH
2. TR Sharma, Auditing, Sahitya Bhavan
3. BN Tandon, Practical Auditing, Sultan Chand
4. Dr. Nanje Gowda, Principles of Auditing, VBH
5. Dr. Alice Mani: Principles & Practices of Auditing, SBH.
6. K. Venkataramana, Principles And Practice Of Auditing, SHBP.
7. MS Ramaswamy, Principles and Practice of Auditing.
8. Dinakar Pagare, Practice of Auditing, Sultan Chand
9. Kamal Gupta, Practical Auditing, TMH
10. R.G Sexena - Principles and Practice of Auditing, HPH

6.3 INCOME TAX - II

OBJECTIVE

The Objective of this subject is to make the students to understand the computation of Taxable Income and Tax Liability of individuals.

Unit 1: PROFITS AND GAINS FROM BUSINESS OR PROFESSION 16 Hrs

Meaning and Definition of Business, Profession – Vocation - Expenses Expressly Allowed – Allowable Losses – Expenses Expressly Disallowed – Expenses Allowed on Payment Basis - Problems on Business relating to Sole Trader and Problems on Profession relating to Chartered Accountant, Advocate and Medical Practitioner.

Unit 2: CAPITAL GAINS 16 Hrs

Basis of Charge – Capital Assets – Transfer of Capital Assets – Computation of Capital Gains – Exemptions U/S 54, 54B, 54D, 54EC, 54F– Problems on Capital Gains.

Unit 3: INCOME FROM OTHER SOURCES 10 Hrs

Incomes – Taxable under the head Other Sources – Securities – Kinds of Securities – Rules for Grossing Up – Ex-Interest Securities – Cum-Interest Securities – Bond Washing Transactions – Problems on Income from Other Sources.

Unit 4: DEDUCTIONS FROM GROSS TOTAL INCOME 06 Hrs

Deductions u/s: 80 C, 80 CCC, 80 CCD, 80 D, 80 G, 80 GG, 80 GGA, and 80 U. (80 G & 80 GG together should not be given in one problem)

Unit 5: SET-OFF & CARRY FORWARD OF LOSSES AND ASSESSMENT OF INDIVIDUALS 08Hrs

Meaning –Provision for Set-off & Carry forward of losses (Theory only).

Computation of Total Income and Tax Liability of an Individual Assessee (Problems– in case of income from salary & house property- computed income may be given).

SKILL DEVELOPMENT

- Table of rates of Tax deducted at source.
- Filing of IT returns of individuals.
- List of Enclosures for IT returns.

BOOKS FOR REFERENCE

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
4. Gaur & Narang: Income Tax, Kalyani
5. B.B. Lal: Income Tax, Central Sales Tax Law & Practice, Konark Publisher (P) Ltd.
6. Singhania: Income Tax
7. Dr. H.C Mehrothra : Income Tax, Sahitya Bhavan
8. 7 Lecturer Income Tax – VBH

6.4 MANAGEMENT ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to understand the analysis and interpretation of financial statements with a view to prepare management reports for decision-making.

UNIT 1: INTRODUCTION TO MANAGEMENT ACCOUNTING 12 Hrs

Management Accounting: Meaning – Definition – Objectives – Nature and Scope– Role of Management Accountant – Relationship between Financial Accounting and Management Accounting, Relationship between Cost Accounting and Management Accounting.
Analysis of Financial Statements: Types of Analysis – Methods of Financial Analysis – Problems on Comparative Statement analysis – Common Size Statement analysis and Trend Analysis.

UNIT2: RATIO ANALYSIS 14 Hrs

Meaning and Definition of Ratio, Classification of Ratios, Uses & Limitations – Meaning and types of Ratio Analysis – Calculation of Liquidity ratios, Profitability ratios and Solvency ratios.

UNIT 3: FUND FLOW ANALYSIS 10 Hrs

Meaning and Concept of Fund – Meaning and Definition of Fund Flow Statement – Uses and Limitations of Fund Flow Statement – Differences between Cash Flow Statement and Fund Flow Statement - Procedure for preparation of Fund Flow Statement – Statement of changes in Working Capital – Statement of Funds from Operations – Statement of Sources and Applications of Funds – Problems.

UNIT 4: CASH FLOW ANALYSIS 14 Hrs

Meaning and Definition of Cash Flow Statement – Concept of Cash and Cash Equivalents - Uses of Cash Flow Statement – Limitations of Cash Flow Statement – Provisions of Ind AS-7 (old AS 3) – Procedure for preparation of Cash Flow Statement – Cash Flow from Operating Activities – Cash Flow from Investing Activities and Cash Flow from Financing Activities – Preparation of Cash Flow Statement according to Ind AS-7 (old AS 3) (Indirect Method Only).

UNIT 5: MANAGEMENT REPORTING 06 Hrs

Meaning of Management Reporting – Requisites of a Good Reporting System – Principles of Good Reporting System – Kinds of Reports – Drafting of Reports under different Situations.

SKILL DEVELOPMENT

- Collection of financial statements of any one organization for two years and preparing comparative statements
- Collection of financial statements of any two organization for two years and prepare a common Size Statements
- Collect statements of an Organization and Calculate Important Accounting Ratio's
- Draft a report on any crisis in an organization.

BOOKS FOR REFERENCE

1. Dr. S.N. Maheswari , Management Accounting
2. Sexana, Management Accounting
3. SudhindraBhat- Management Accounting
4. Dr. S.N. Goyal and Manmohan, Management Accounting
5. B.S. Raman, Management Accounting
6. Sharma and Gupta, Management Accounting
7. M Muniraju& K Ramachandra, Management Accounting
8. PN Reddy &Appanaiah, Essentials of Management Accounting.
9. J.Made Gowda - Management Accounting

ELECTIVE GROUPS

1. ACCOUNTING & TAXATION GROUP

AC 5.5 ADVANCED ACCOUNTING

OBJECTIVES:

The objective is to acquaint the students and make them familiar with the process and preparation of accounts of different types of organizations.

UNIT 1: ACCOUNTS OF BANKING COMPANIES 18 Hrs

Business of banking companies – some important provisions of Banking Regulation Act of 1949 – minimum capital and reserves – restriction on commission – brokerage – discounts – statutory reserves – cash reserves – books of accounts – special features of bank accounting, final accounts - balance sheet and profit and loss account – interest on doubtful debts – rebate on bill discounted – acceptance – endorsement and other obligations – problems as per new provisions.

UNIT 2: ACCOUNTS OF INSURANCE COMPANIES 14 Hrs

Meaning of life insurance and general insurance – accounting concepts relating to insurance companies - Preparation of Final accounts of insurance companies – revenue account and balance sheet.

UNIT 3: INFLATION ACCOUNTING 08 Hrs

Need – Meaning – definition – importance and need – role – objectives – merits and demerits – problems on current purchasing power method (CPP) and current cost accounting method (CCA).

UNIT 4: FARM ACCOUNTING 08 Hrs

Meaning – need and purpose – characteristics of farm accounting – nature of transactions – cost and revenue – apportionment of common cost – by product costing – farm accounting – recording of transactions – problems.

UNIT 5: INVESTMENT ACCOUNTING 08 Hrs

Introduction – classification of Investment – Cost of Investment – cum-interest and ex-interest – securities – Bonus shares- right shares – disposal of Investment – valuation of investments – procedures of recording shares – problems

SKILL DEVELOPMENT

- Preparation of different schedules with reference to final accounts of Banking Companies
- Preparation of financial statement of Life Insurance Company.
- Preparation of financial statement of General Insurance Company.

BOOKS FOR REFERENCE:

1. Made Gowda – Advanced Accounting, HPH
2. Jawaharlal, Managerial Accounting, HPH
3. S.N. Maheswari , Advanced Accountancy, Vikas Publishers
4. R. Venkataramana, Advanced Accountcy, VBH.
5. Soundrarajan A & K. Venkataramana, Advanced Accountancy, SHBP.
6. S. P. Jain and K. L. Narang – advanced accountancy, Kalyani
7. R L Gupta, Advanced Accountancy, Sultan Chand
8. Shukla and Grewal, Advanced Accountancy, S Chand

AC 5.6 GOODS AND SERVICES TAX

OBJECTIVE:

1. The objective is to equip students with the principles and provisions of Goods and Services Tax (GST), which is, implemented from 2017 under the notion of One Nation, One Tax and One Market.
2. To provide an insight into practical aspects and apply the provisions of GST laws to various situations.

Unit 1: INTRODUCTION TO GOODS AND SERVICES TAX (GST) 08 Hrs

Objectives and basic scheme of GST, Meaning – Salient features of GST – Subsuming of taxes – Benefits of implementing GST – Constitutional amendments - Structure of GST (Dual Model) – Central GST – State / Union Territory GST – Integrated GST - GST Council: Structure, Powers and Functions. Provisions for amendments.

Unit 2: GST ACTS: CGST Act, SGST Act (Karnataka State), IGST Act 08 Hrs

Salient features of CGST Act, SGST Act (Karnataka State), IGST Act - **Meaning and Definition:** Aggregate turnover, Adjudicating authority, Agent, Business, Capital goods, Casual taxable person, Composite supply, Mixed supply, Exempt supply, Outward supply, Principal supply, Place of supply, Supplier, Goods, Input service distributor, Job work, Manufacture, Input tax, Input tax credit, Person, Place of business, Reverse charge, Works contract, Casual taxable person, Non-resident person. Export of goods / services, Import of goods / services, Intermediary, Location of supplier of service, Location of recipient of service.

Unit 3: PROCEDURE AND LEVY UNDER GST 24 Hrs

Registration under GST: Procedure for registration, Persons liable for registration, Persons not liable for registration, Compulsory registration, Deemed registration, Special provisions for Casual taxable persons and Non-resident taxable persons. Exempted goods and services - Rates of GST.

Procedure relating to Levy: (CGST & SGST): Scope of supply, Tax liability on Mixed and Composite supply, Time of supply of goods and services, Value of taxable supply. Computation of taxable value and tax liability.

Procedure relating to Levy: (IGST): Inter-state supply, intra-state supply, Zero rates supply, Value of taxable supply – Computation of taxable value and tax liability.

Input tax Credit: Eligibility, Apportionment, Inputs on capital goods, Distribution of credit by Input Service Distributor (ISD) – Transfer of Input tax credit - Simple Problems on utilization of input tax credit.

Unit 4: ASSESSMENT AND RETURNS 10 Hrs

Furnishing details of outward supplies and inward supplies, First return, Claim of input tax credit, Matching reversal and reclaim of input tax credit, Annual return and Final return. Problems on Assessment of tax and tax liability.

Unit 5: GST AND TECHNOLOGY 06 Hrs

GST Network: Structure, Vision and Mission, Powers and Functions. Goods and Service Tax Suvidha Providers (GSP): Concept, Framework and Guidelines and architecture to integrate with GST system. GSP Eco system. (Theory only).

SKILL DEVELEOPMENT:

- Narrate the procedure for calculation of CGST, SGCT and IGST.
- Show the flow chart of GST Suvidha Provider (GST).
- Prepare chart showing rates of GST.
- Prepare challans for payment of duty.
- Prepare Tax invoice under the GST Act.
- Prepare structure of GSTN and its working mechanism.
- Prepare list of exempted goods/ services under GST.
- Prepare organisation chart of GST Council.
- Prepare the chart showing scheme of GST.
- Compute taxable value and tax liability with imaginary figures under CGST, SGST and IGST.

BOOKS FOR REFERENCE:

1. Deloitte: GST Era Beckons, Wolters Kluwer.
2. Madhukar N Hiregange: Goods and Services Tax, Wolters Kluwer.
3. All About GST: V.S Datey - Taxman's.
4. Guide to GST: CA. Rajat Mohan,
5. Goods & Services Tax – Indian Journey: N.K. Gupta & Sunnania Batia, Barat's Publication
6. Goods & Services Tax – CA. Rajat Mohan,
7. Goods & Services Tax: Dr. Sanjiv Agrawal & CA. Sanjeev Malhotra.
8. GST - Law & Practice: Dr. B.G. Bhaskara, Manjunath. N & Naveen Kumar IM,
9. Understanding GST : Kamal Garg, Barat's Publication.

AC 6.5 BUSINESS TAXATION

OBJECTIVE

The objective is to enable the students to understand assessment of Firms and Companies with regard to Income tax act, 1961and to study the other existing Indirect tax provisions on goods not covered under GST.

Unit 1: CUSTOMS ACT **10 Hrs**

Meaning – Types of Custom Duties – Valuation for Customs Duty – Tariff Value – Customs Value – Methods of Valuation for Customs – Problems on Custom Duty.

Unit 2: SALES TAX / CENTRAL SALES TAX (on goods and services not covered under GST) **12 Hrs**

Meaning and Definition – Features of Sales tax / CST – Levy and Collection of duties not covered under GST– Tax Administration – Taxable value of goods and services not covered under GST – Determination of Tax Liability (Simple Problems).

Unit 3: ASSESSMENT OF FIRMS **14 Hrs**

Meaning of Partnership, Firm and Partners – New Scheme of Taxation of Firms – Assessment of Firms (Section 184) – Computation of Firm's Business Income – Treatment of Interest, Commission, Remuneration received by partners. Problems on Computation of Firms total income and tax liability.

Unit 4: ASSESSMENT OF COMPANIES **20 Hrs**

Introduction – Meaning of Company – Types of Companies – Computation of Depreciation u/s 32 – Computation of Taxable Income of Companies – Minimum Alternative Tax (MAT) – Deductions u/s 80G, 80GGB, 80IA, 80 IB and Problems on Computation of Tax Liability.

SKILL DEVELOPMENT

- Collect financial statement of a firm and compute the taxable income
- Narrate the procedure for calculation of book profits.
- Narrate the Procedure of calculation of tax liability
- Prepare the challan for payment of tax under existing laws on goods not covered under GST.

BOOKS FOR REFERENCE

1. Vinod K Singhania – "Direct Taxes - Law and Practice", Taxmann Publications
2. H C Mehrotra and Goyal, "Direct Taxes", Sahitya Bhavan Publications
3. Gaur and Narang ; Direct Taxes, Kalyani Publishers
4. Rajiva S. Mishra –Direct & Indirect Tax
5. Santhil & Santhil : Business taxation.
6. S. Bhat – Taxation Management.
7. Singhania : Income Tax
8. V.S.Datey: Indirect Taxes – Law and Practice.
9. R. G. Saha, Usha Devi & Others – Taxation – HPH
10. 7 Lecturers Business Taxation – II, VBH

AC 6.6 COST MANAGEMENT

OBJECTIVE

The objective is to enable the students to understand techniques used to control as well as reduce the cost.

UNIT 1: COST CONTROL AND COST REDUCTION: 08 Hrs

Meaning of cost control and cost reduction, areas covered by cost control and cost reduction – product design, target costing, value analysis, value engineering, value chain analysis, Business Process Re-Engineering (theory only).

Unit 2: MARGINAL COSTING 12 Hrs

Absorption costing, cost classification under absorption costing, Meaning and Definition of marginal costing – Absorption Costing V/s Marginal Costing - Need for Marginal Costing, arguments against and in favor of marginal costing – marginal cost equation – Uses and Limitations of Marginal Costing - Break even analysis - Problems on Break Even Analyses.

Unit 3: STANDARD COSTING 12 Hrs

Historical costing - Introduction – Meaning & Definition of Standard Cost and Standard Costing - Advantages & Disadvantages of Standard Costing –preliminaries in establishing system of standard costing – Variance Analysis – Material Variance, Labour Variance and Overheads Variance – Problems on Material Variances and Labor Variances.

Unit 4: BUDGETARY CONTROL 12 Hrs

Introduction – Meaning & Definition of Budget and Budgetary Control – Objectives of Budgetary Control – essential requirements of budgetary control – advantages and disadvantages of budgetary control – Meaning, Types of Functional Budgets - Flexible Budgets, Cash Budgets, sales budget and production budget. Problems on Flexible budgets and cash budgets.

UNIT5: ACTIVITY BASED COSTING 12 Hrs

Introduction - Weakness of conventional system – concept of ABC – Kaplan and Cooper's Approach – cost drivers and cost pools – allocation of overheads under ABC – Characteristics of ABC – Steps in the implementation of ABC – Benefits from adaptation of ABC system – difficulties faced by the industries in the successful implementation of ABC - Problems on ABC.

SKILL DEVELOPMENT

- Preparation of Income Statement using Absorption Costing and Marginal Costing Technique
- Illustrate make or buying decisions helps in decision making.
- Preparation of Sales Budget with Imaginary Figures
- List any 10 industries where Standard Costing is used.

BOOKS FOR REFERENCE

1. S P Iyengar, Cost Accounting.
2. B.S. Raman, Cost Accounting.
3. K.S. Thakur: Cost Accounting.
4. M.N. Arora, Cost Accounting.
5. N. Prasad, Costing.
6. Palaniappan&Hariharan : Cost Accounting
7. Jain &Narang, Cost Accounting.
8. Gouri Shankar; Practical Costing.
9. IM Pandey :Management Accounting
10. CA & ICWA Bulletins.

2. FINANCE GROUP

FN 5.5 INTERNATIONAL FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to develop the knowledge and skills expected of a Finance manager, in relation to investment, financing, and dividend policy decisions.

Unit 1: THE FINANCE FUNCTION **08 HRS**

Financial management and financial objectives - The economic environment for business - Financial markets, money markets and institutions.

Unit 2: WORKING CAPITAL MANAGEMENT **08 HRS**

The nature, elements and importance of working capital - Management of inventories accounts receivable accounts payable and cash determining working capital needs and funding strategies

Unit 3: INVESTMENT APPRAISAL **10 HRS**

Investment appraisal techniques - Allowing for inflation and Taxation in investment appraisal - Adjusting for risk and uncertainty in investment appraisal - Specific investment decisions (lease or buy; asset replacement, capital rationing)

Unit 5: BUSINESS FINANCE **08 HRS**

Sources of, and raising business finance - Estimating the cost of capital - Sources of finance and their relative costs - Capital structure theories and practical considerations

Unit 6: BUSINESS VALUATION **12 HRS**

Nature and purpose of the valuation of business and financial assets - Models for the valuation of shares - The valuation of debt and other financial assets - Efficient market hypothesis (EMH) and practical considerations in the valuation of shares.

Unit 7: RISK MANAGEMENT **10 HRS**

The Nature and types of Risk and approaches to Risk Management- Causes of Exchange Rate differences and Interest rate fluctuations – Hedging techniques for foreign Currency risk – Hedging techniques for Interest rate risk.

SKILL DEVELOPMENT

- Appreciate the role and purpose of the financial management function within am Business
- Examine the various sources of Business Finance, including Dividend policy and how much finance can be raised from within the Business
- Illustrate the principles underlying the Valuation of Business and financial assets including the impact of cost of capital on the value of Business.
- Examine the risks and the main techniques employed in the Management of such risk

RECOMMENDED BOOKS

1 International Financial Management by Milind Sathye, Larry Rose, Larissa Allen, Rae Weston.
2 Financial Management by Paresh Shah
3 Audit & Assurance INT (ACCA) ISDC Becker Publishing
4 Audit & Assurance INT (ACCA) BPP Publishing
5 Audit & Assurance INT (ACCA) Kaplan Publishing

FN 5.6 BUSINESS TAXATION

OBJECTIVE:

The objective is to equip students with the application of principles and provisions of Central sales tax, Customs act, Central excise, value added tax, Service tax laws, and provide an insight into practical aspects and apply the provisions of tax laws to various situations.

Unit 1: CENTRAL SALES TAX / G.S.T (GOODS & SERVICES TAX) 16 Hrs

Objects and basic scheme of CST act, Meaning – Dealer – Business – Sale – Goods – declared goods, Turnover – Sale Price – Sales Exempt from Central Sales Tax, interstate and intra state sale, sales in the course of imports and exports, registration under CST act, Introduction to GST – GST Tax Rates – Problems on Central Sales Tax.

Unit 2: CUSTOMS ACT 12 Hrs

Meaning – Types of Custom Duties – Valuation for Customs Duty – Tariff Value – Customs Value – Methods of Valuation for Customs – Problems on Custom Duty

Unit 3: CENTRAL EXCISE 12 Hrs

Procedures relating to Levy, Valuation and Collection of Duty, Types of Duty, Nature of Excise Duties – Cenvat Credit – Classification of Excisable Goods – Valuation of Excisable Goods – Important Central Excise Procedures – Problems.

Unit 4: VALUE ADDED TAX 08 Hrs

Basic Concepts of Value Added Tax – Dealer – Registered Dealer – Sales – Turnover – Input VAT – Output VAT – Goods – Capital Goods – Exempted Sales, Zero rated sale – Merits and Demerits of VAT – Features and Methods of VAT – Variants of VAT – Methods of Computation of VAT (Simple Problems)

Unit 5: SERVICE TAX 08 Hrs

Meaning and Definition – Features of Service Tax – Levy and Collection of Service Tax – Service Tax Administration – Exemptions from Service Tax – Taxable Services – Determination of Service Tax Liability (Simple Problems)

SKILL DEVELOPMENT

- Procedure of Calculation of Service tax and Challan for payment of tax under service tax act
- Narrate the procedure for calculation of CST, Customs duty, Central excise, VAT, Service tax
- Preparation of challans for payment of duty.
- Preparation of Manufacturers Invoice.
- Preparation of Tax invoice under the VAT act.

BOOKS FOR REFERENCE:

1. R.K.Jain: Customs Law Mannual and Customs Tariff of India.
2. Taxmann's: Central Excise Mannual and Central Excise Tariff.
3. Taxmann's: CENVAT Law and Procedure.
4. TN Manoharan, Income Tax Law including VAT/Service Tax, Snow White Publications
5. Vinod K Singhania – "Direct Taxes - Law and Practice", Taxmann Publications
6. H C Mehrotra and Goyal, "Direct Taxes", Sahitya Bhavan Publications

7. Gaur and Narang ; Direct Taxes, Kalyani Publishers
8. Rajiva S. Mishra –Direct & Indirect Tax
9. S.Bhat: Taxation Management
10. G. Sekar, Income Tax, Service Tax and VAT, C. Sitaraman & Co. Pvt. LTD.
11. Karnataka Value added tax Act, 2003 published by Karnataka Law Journal Publications Bangalore - 560009
12. Santhil & Santhil : Business taxation.
13. V.S.Datey: Indirect Taxes – Law and Practice.
14. R.G Saha, Usha Devi & Other – Taxation – HPH
15. 7 Lecturers Business Taxation – I, VBH

FN 6.5 PERFORMANCE MANAGEMENT

OBJECTIVE

The objective is to develop knowledge and skills in the application of management accounting techniques to quantitative and qualitative information for planning decision making, performance evaluation, and control

UNIT 1: SPECIALIST COST AND MANAGEMENT ACCOUNTING TECHNIQUES 12 HRS

Activity-based costing - Target costing - Life cycle costing - Throughput accounting - Environmental accounting

UNIT 2: DECISION MAKING TECHNIQUES 12 HRS

Relevant cost analysis - Cost volume profit analysis - Limiting Factors Pricing decisions - Make-or-buy and other short-term decisions - Dealing with risk and uncertainty in decision making

Unit 3: BUDGETING AND CONTROL 10 HRS

Budgetary systems and types of budget - Quantitative analysis in budgeting Standard costing - Material mix and yield variances - Sales mix and quantity variances - Planning and operational variances

Unit 4: PERFORMANCE MEASUREMENT AND CONTROL 12 HRS

Performance management information systems - Sources of management Information - Management reports - Performance analysis in private sector organizations - Divisional performance and transfer pricing - Performance analysis in not-for-profit organizations and the public sector - External considerations and behavioral aspects

SKILL DEVELOPMENT

- Illustrate application of modern techniques of costing in industrial settings
- Appreciate the problems surrounding scarce resource, pricing and make-or-buy decisions, and how this relates to the assessment of performance
- Illustrate how a business should be managed and controlled and how information systems can be used to facilitate this
- Appreciate the importance of both financial and non-financial performance measures in management and the difficulties in assessing performance in divisionalized businesses.

RECOMMENDED BOOKS

1 Performance Management System - R K Sahu
2 Performance Management: Toward Organizational Excellence by T V Rao
3 Performance Management: It's About Performing - Not Just Appraising by Prem Chandha
4 Audit & Assurance INT (ACCA) ISDC Becker Publishing
5 Audit & Assurance INT (ACCA) BPP Publishing
6 Audit & Assurance INT (ACCA) Kaplan Publishing

FN 6.6 INTERNATIONAL AUDITING & ASSURANCE

OBJECTIVE:

This subject aims at imparting knowledge of International Auditing and Assurance.

UNIT 1: AUDIT FRAMEWORK AND REGULATION 12 hours

External audit engagements – Objective and Meaning, types of assurance engagement, Concepts of Accountability, Stewardship and Agency, Elements of an Assurance Engagement, Regulatory environment – external audit, Mechanism to control auditors, Statutory Regulations: Appointment, Rights, Removal and Resignation of Auditors, Limitations of external audit, Corporate Governance – Objective and meaning, Directors responsibilities, Role and structure of Audit Committee, Fundamental principles of Professional Ethics, Audit threats and Safeguards, Role of External and Internal audit, Factors to assess – Internal audit, Limitations of internal audit, Outsourcing – Advantage and Disadvantage of outsourcing internal audit function, Format and Content of Audit Review Reports

UNIT 2: PLANNING AND RISK ASSESSMENT 10 hours

Preconditions for Audit, Obtaining audit engagement, Engagement Letters - Contents, Quality Control Procedures, Overall objectives of the auditor and the need to conduct an audit, Components of audit risk, Concepts – Materiality and Performance Materiality, Materiality levels, Procedures to obtain initial understanding, Analytical procedures in planning, Compute and interpret key ratios used in analytical procedures, Effect of fraud and misstatements on the Audit Strategy, Responsibilities of internal and external auditors for the prevention and detection of fraud and error, Audit Planning – need and importance, Contents of the overall Audit Strategy and Audit Plan, Difference between an interim and final audit, Audit Documentation – Need, importance and contents, safe custody and retention of Working Papers

UNIT 3: INTERNAL CONTROL 12 hours

Five components of Internal Control, How auditors record internal control systems, Evaluate internal control components including limitations and deficiencies, computer systems controls, Describe control objectives, control procedures, activities and tests of control in relation to:

i) The sales system; ii) The purchases system iii) The payroll system iv) The inventory system v) The cash system vi) Non-current assets

Requirements and methods of how reporting significant deficiencies in internal control are provided to management

UNIT 4: AUDIT EVIDENCE 12 hours

Assertions contained in the financial statements, audit procedures to obtain audit evidence, quality & quantity of audit evidence, problems associated with the audit and review of accounting estimates, control environment of smaller entities, Audit sampling – meaning and need, differences between statistical and non-statistical sampling – Examples and usage, Audit of specific items – Receivables, inventories, payables and accruals, bank and cash, tangible assets, intangible assets, non-current liabilities, provisions and contingencies, Share capital, reserves and directors' emoluments, Computer-assisted audit techniques – Meaning and examples, Work of others – extent of reliance, extent to which reference to the work of others can be made in the independent auditor's report, Audit techniques to not-for profit organisation.

UNIT 5: REVIEW AND REPORTING **10 hours**

Subsequent events – Purpose, Indicators and Responsibilities and procedures to be undertaken, Going Concern – Definition and importance, Responsibilities of auditors and management regarding going concern, Written representations – Purpose, Procedure and Reliability, Circumstances when written representation can be obtained, Audit finalisation and review – Procedures and sufficiency of evidence, Dealing with Uncorrected Statements.

SKILL DEVELOPMENT:

- Collect the information about types of audit standards
- Analyse audit reports on various standards
- Draft an investigation report on behalf of a Public Limited Company
- Record the verification procedure with respect to any one fixed asset
- Draft an audit program

BOOKS FOR REFERENCE:

1 Audit & Assurance INT (ACCA) ISDC Becker Publishing
2 Audit & Assurance INT (ACCA) BPP Publishing
3 Audit & Assurance INT (ACCA) Kaplan Publishing
4 Auditing and Assurance for CA IPCC by Sanjib Kumar Basu
5 BN Tandon, Practical Auditing, Sultan Chand
6 Dr.Nanje Gowda, Principles of Auditing, VBH
7 Dr. Alice Mani: Principles & Practices of Auditing, SBH.
8 K. Venkataramana, Principles And Practice Of Auditing, SHBP.
9 MS Ramaswamy, Principles and Practice of Auditing.
10 DinakarPagare, Practice of Auditing, Sultan Chand
11 Kamal Gupta, Practical Auditing, TMH

3. INFORMATION & TECHNOLOGY GROUP

I.T 5.5 ACCOUNTING INFORMATION SYSTEMS

OBJECTIVE:

The objective of this subject is to provide an insight into the way computerized information systems impact how the accounting data is captured, processed, and communicated. It introduces the technology, procedures, and controls that are necessary in modern accounting field.

Unit – 1: THE INFORMATION SYSTEM: AN ACCOUNTANT'S PERSPECTIVE 12Hrs

The Information Environment - What Is a System? An Information Systems Framework, AIS Subsystems, A General Model for AIS, Acquisition of Information Systems Organizational Structure - Business Segments, Functional Segmentation, The Accounting Function, The Information Technology Function. Evolution of Information System Models - The Manual Process Model, The Flat-File Model, The Database Model, The REA Model, Accountants as System Designers, Accountants as System Auditors

Unit – 2: INTRODUCTION TO TRANSACTION PROCESSING 12Hrs

An Overview of Transaction Processing - Transaction Cycles, The Expenditure Cycle, The Conversion Cycle, The Revenue Cycle , Accounting Records - Manual Systems, The Audit Trail, Computer-Based Systems, Documentation Techniques - Data Flow Diagrams and Entity Relationship Diagrams Flowcharts , Record Layout Diagrams, Computer-Based Accounting Systems - Differences between Batch and Real-Time Systems , Alternative Data Processing Approaches, Batch Processing Using Real-Time Data Collection, Real-Time Processing.

Unit – 3: COMPUTER-BASED ACCOUNTING SYSTEMS 12Hrs

Automating Sales Order Processing with Batch Technology, Keystroke, Edit Run, Update Procedures, Reengineering Sales Order Processing with Real-Time Technology, Transaction Processing Procedures, General Ledger Update Procedures, Advantages of Real-Time Processing, Automated Cash Receipts Procedures, Reengineered Cash Receipts Procedures, Point-of-Sale (POS) Systems, Daily Procedures, End-of-Day Procedures, Reengineering Using EDI, Reengineering Using the Internet. Control Considerations for Computer-Based Systems. PC-Based Accounting Systems - PC Control Issues.

Unit – 4: FINANCIAL REPORTING AND MANAGEMENT REPORTING SYSTEMS12Hrs

Data Coding Schemes - A System without Codes, A System with Codes, Numeric and Alphabetic Coding Schemes, The General Ledger System**,** The Journal Voucher, The GLS Database, GLS Procedures, The Financial Reporting System - Sophisticated Users with Homogeneous, Information Needs, Financial Reporting Procedures, Controlling the FRS. The Management Reporting System, Factors that Influence the MRS**,** Management Principles, Management Function, Level, and Decision Type Problem Structure, Types of Management Reports, Responsibility Accounting , Behavioral Considerations.

Unit – 5: COMPUTER CONTROLS AND AUDITING IT CONTROLS 08Hrs

Relationship between IT Controls and Financial Reporting, Audit Implications of Sections **IT Governance Controls, Organizational Structure Controls,** Segregation of Duties within the Centralized Firm, The Distributed Model, Creating a Corporate IT Function, Audit Objectives Relating to Organizational Structure, Audit Procedures Relating to Organizational Structure.

SKILL DEVELOPMENT:

- Generation of different types of management reports
- Preparation of dataflow diagrams
- Preparation of different flowcharts -Eg: Information flow in Finance department of a company
- Computerization of transactions and drawing of a Balance Sheet

BOOKS FOR REFERENCE:

1. Marriappa B. Accounting Information System, HPH
2. "Accounting Information Systems", 11/E Marshall B. Romney**,** Brigham Young University Paul J. Steinbart, Arizona State University, Prentice Hall
3. "The Crossroads of Accounting and IT"Donna Kay, Ali Ovlia, May 2011, Hardback,
4. "Accounting Information Systems" International Edition 10th Edition George Bodnar, William Hopwood Aug 2009,.

I.T 5.6 ENTERPRISE RESOURCE PLANNING

OBJECTIVES:

This paper will orient students to understand that business processes can be integrated in a seamless chain.

UNIT 1: INTRODUCTION **12Hrs**

Introduction To ERP, Evolution of ERP, What is ERP? Reasons for the growth of ERP, Scenario and Justification of ERP in India, Evaluation of ERP, Various Modules of ERP, Advantage of ERP.

UNIT 2: ERP ENVIRONMENT **12 Hrs**

An overview of Enterprise, Integrated Management Information, Business Modeling, ERP for Small Business, ERP for make to order companies, Business Process Mapping for ERP Module Design, Hardware Environment and its Selection for ERP Implementation.

UNIT 3: ERP RELATED TECHNOLOGIES **12 Hrs**

ERP and Related Technologies, Business Process Reengineering (BPR), Management Information System (MIS), Executive Information System (EIS), Decision support System (DSS), Supply Chain Management (SCM)

UNIT 4: ERP MODULES **10Hrs**

ERP Modules, Introduction to Finance, Plant Maintenance, Quality Management, Materials Management

UNIT 5: ERP MARKET **10Hrs**

ERP Market, Introduction, SAP AG, Baan Company, Oracle Corporation, People Soft, JD Edwards World Solutions Company, System Software Associates, Inc. (SSA)
QAD, A Comparative Assessment and Selection of ERP Packages and Modules.

SKILL DEVELOPMENT:

- Prepare a list of companies that provide ERP packages and their features.

BOOKS FOR REFERENCE:

1. C.S. V Murthy Enterprise Resource Planning
2. R.G. Saha – Enterprise Resource Planning - HPH
3. Alexis Leon, Leon Publishers: Enterprise Resource Planning
4. Ravi Anupindi, Sunil Chopra, Pearson Education". "Managing Business Process Flows
5. Altekar, PHI. Enterprise Resource Planning
6. Srivatsava, I.K. International Publishers, Enterprise Resource Planning
7. P. Diwan
8. Vinod Kumar Garg and N.K. Venkitakrishnan, PHI. Enterprise Resource Planning
9. Introduction to SAP, an Overview of SD: MM, PP, FI/CO Modules of SAP.
10. Zaveri Jyotindra Enterprise Resource Planning

I.T 6.5 INFORMATION TECHNOLOGY AND AUDIT

OBJECTIVE:

This subject aims at imparting knowledge about Auditing done with the use of Information Technology

Unit 1: INTRODUCTION TO AUDITING SOFTWARE 12 Hrs

Introduction – Meaning - Definition — Preparation of Audit Working Papers –Tally ERP 9 Auditors Edition: Introduction, features, characteristics – Tally.Net: features – requirements for remote connectivity – Access information via SMS, Safeguard Data – Automated Backup and Recovery.

Unit 2: AUDIT OF SUBSIDARY BOOKS 10 Hrs

Cash book: Checking of Receipts and Payments, vouchers, Checking of Bank Transaction, BRS. Petty cash transaction: sales day book, purchase day book, sales return book, Purchase Return Book, Bills Receivable book, Bills payable book.

Unit 3: AUDIT OF FINANICAL STATEMENTS 10 Hrs

Configuring profit/Loss account, display profit/loss account, Audit of profit/loss account,
Configuring balance sheet, display the balance sheet, Display balance sheet with different stock valuation methods, Setting closing stock manually in the balance sheet. Balance Sheet of Joint Stock Companies.

Unit 4: TAX AUDIT 12 Hrs

Extracting financial and quantitative information required for Tax Audit (under Sec. 44AB), Displaying relevant data for Audit based on Clause requirement, Instant Statistics on Audit Listings (Audited Vouchers & Unaudited Vouchers), record Audit Remarks using Audit Notes, Provision to mark Vouchers for Clarification / Verification from Clients, Provides facility to post corrections and reviews remotely, Tracking any alteration / modification to vouchers post Audit, Generate Annexure to Form 3CD,Printing of Form 3CD along with Annexure I and II, Printing of Form 3CA and Form 3CB

Unit 5: SATUTORY AUDIT 12 Hrs

Creation and maintenance of Audit Program, create the Audit Program as pre audit activity, Supports to prepare and maintain **Audit Working Papers,** Facility to mark the applicable and compiled **Accounting Standards** for a company. Extracting the financial information required for Statutory Audit, Displaying the relevant data in the required form for analysis, Audit the Vouchers along with instant statistics, Track and audit the Related Party. Mechanism to Audit and interact with the Client remotely, generate the following Financial Statements as per the format specified in Company's Act: Schedule VI Balance Sheet, Schedule VI P&L Statement.

SKILL DEVELOPMENT:

- Maintain a computer record and execute the problems

BOOKS FOR REFERENCE:

1. Learning Tally ERP 9, Vishnu Pratap Singh, Computech publications limited, 3rd Revised edition.
2. Guide to Tally 9, Law Point,
3. R.G. Saha – Information Technology - HPH
4. Tally Ver 9, C Nellai Kannan, Nels publication, ISBN 81-901408-2-5.

I.T6.6 BANKING TECHNOLOGY AND MANAGEMENT

OBJECTIVE

The objective of this subject is to acquaint students with the banking technology and their recent developments and enhance their knowledge on modern banking concepts and techniques.

Unit 1: BRANCH OPERATION AND CORE BANKING 12Hrs

Introduction and evolution of bank management – Technological impact in banking operation – Total branch computerization – Concept of opportunities – Centralized banking – Concept, opportunities, challenges and implementation

Unit 2: DELIVERY CHANNELS 12Hrs

Delivery channels – Automated Teller machine (ATM) – Phone banking – call centers – Internet banking – Mobile banking – Payment gateways – Card technologies – MICR electronic clearing

Unit 3: BACK OFFICE OPERATIONS 12Hrs

Bank back office management – Inter branch reconciliation – Treasury management – Forex operations – Risk management – Data center management – Network management – Knowledge management (MIS/DSS/EIS) – Customer relationship management (CRM).

Unit 4: INTER BANK PAYMENT SYSTEM 10Hrs

Interface with payment system network – structured financial messaging system – Electronic fund transfer – RTGSS – Negotiated dealing systems and securities settlement systems – Electronic Money – E- Cheques.

Unit 5: CONTEMPORARY ISSUES IN BANKING TECHNIQUES 10Hrs

Analysis of Rangarajan committee reports – E Banking budgeting – Banking software's.

SKILL DEVELOPMENT :

- Filling of application for opening a Bank Account
- Preparations of Bank Reconciliation Statement
- Identify and compare the banking delivery channels of nationalized banks and private banks
- List out the boons and the banes of computerization of banks operations.
- Current issues in banking technology to be discussed in class.

BOOKS FOR REFERENCE:

1. Kaptan S S & Choubey N S, "E-Indian Banking in Electronic Era", Sarup & Sons, New Delhi 2003.
2. Vasudeva, "E-Banking", Common Wealth Publishers, New Delhi, 2005.
3. Chandramohan : Fundamental of Computer Network I.K. International Publishers
4. Effraim Turban, Rainer R. Kelly, Richard E. Potter, "Information Technology", John Wiley & Sons Inc, 2000.
5. Andrew S. Tanenbaum, "Computer Networks", Tata McGraw Hill, 3rd Edition, 2001
6. Padwal & Godse : Transformation of Indian Banks with Information Technology.

4BANKING & INSURANCE GROUP

B.I 5.5 INTERNATIONAL BANKING & FOREX MANAGEMENT

OBJECTIVE

The objective of this subject is to enable the students to understand the various concepts of international banking and foreign exchange rate determination.

UNIT1 : INTRODUCTION TO INTERNATIONAL BANKING 10Hrs

Introduction – Meaning – Functions – Financing of Exports – Financing of Imports – International Payment Systems.

UNIT 2 : INTERNATIONAL CAPITAL MARKETS 10Hrs

Introduction – Meaning and Definition – Types – Financial market flow beyond national boundaries – Debt and non – debt flows – Volatile and Stable flows – Interest Rate Differentials - Demand for and supply of funds across borders.

UNIT 3 : OFFSHORE BANKING CENTRES 10Hrs

Introduction – Meaning – Role in International Financing – Global Balance sheet of banks – Asset and Liability Management of Foreign Banks.

UNIT 4: FOREIGN EXCHNAGE AND MARKETS 14Hrs

Introduction – Meaning – Elements – Importance – Evolution of Exchange Rate System – International Monetary System – Gold Standard – Types of Exchange Rates – Fluctuations in Foreign Exchange rates – Causes and Effects – Need for Stable Foreign Exchange Rates – Determination of Exchange rates – Theories of Determination of Foreign Exchange Rates.

UNIT 5 : FOREX MARKET IN INDIA 12Hrs

Introduction – Meaning – Types – Operations – Convertibility - Objectives of Foreign Exchange Control – Problems of Foreign Exchange markets in India – Mechanism to settle the problems - Role of RBI in settlement of foreign exchange problems in India.

SKILL DEVELOPMENT

- Chart showing the currencies of Different countries.
- Table showing one month foreign exchange rates of Rupee and US $
- Role of RBI in settlement of foreign exchange problems in India.
- Global Balance sheet of a bank
- Comment on Asset and Liability Management of a Foreign Bank.

BOOKS FOR REFERENCE

1. Harris Manville, International Finance.
2. Keith Pibean, International Finance.
3. Madhu Vij, International Finance.
4. Timothy Carl Kesta, Case and Problems in International Finance.
5. Avadhani B.K, International Finance Theory and Practice.
6. Somanatha: International Financial Management I.K. International Publishers
7. P.A. Apte, International Financial Management.
8. Levi, International Marketing Management.
9. Chaudhuri & Agarwal Foreign Trade & Foreign Exchange, HPH

B.I. 5.6 LIFE & GENERAL INSURANCE

OBJECTIVE

The objective is to enable the students to understand various aspects of Life & General Insurance.

Unit 1: INTRODUCTION TO LIFE INSURANCE 12 Hrs

Introduction to Life Insurance - Principles of Life Insurance - Life insurance products, pensions and annuities - Life insurance underwriting - Need for selection - Factors affecting rate of mortality - Sources of data - Concept of extra mortality - Numerical methods of undertaking - Occupational hazards.

Unit 2: LEGAL ASPECTS OF LIFE INSURANCE 12 Hrs

Legal Aspects of Insurance - Indian contract Act, special features of Insurance contract. Insurance laws, Insurance Act, LIC Act, IRDA Act.

Unit 3: CLAIM MANAGEMENT & RE-INSURANCE 10 Hrs

Claim Management - Claim Settlement - Legal Framework - Third party Administration, Insurance ombudsman - Consumer Protection Act - Re-Insurance in Life Insurance - Retention Limits - Methods of Re-insurance.

Unit 4: INTRODUCTION TO GENERAL INSURANCE 12 Hrs

Introduction to General Insurance. Principles of General Insurance. Types of General Insurance - Personal general insurance products (Fire, Personal Liability, Motors, Miscellaneous Insurance). Terminology, clauses and covers. Risk assessment, underwriting and ratemaking. Product design, development and evaluation. Loss of Provincial control.

Unit 5: INSURANCE INDUSTRY 10 Hrs

Insurance Industry - Brief History - Pre Nationalization and post nationalization - Current scenario.- Re-Insurance - Functions, Methods of Re-Insurance.

SKILL DEVELOPMENT :

- Calculation of policy premium with imaginary figures
- Calculation of fair claims with imaginary figures
- Preparation of list occupational hazards under life insurance

BOOKS FOR REFERENCE

1. Annie Stephen L – HPH
2. P. Perya Swamy ;Principles and Practice of Life Insurance
3. Raman B, Your Life Insurance Hand Book
4. William C. Arthur, Risk Management and Insurance
5. G. Krishna Swamy: A Text book on Principles and Practices of Life Insurance
6. Gopal Krishnan, Liability Insurance
7. Aramvalarthan : Risk Management I.K. Intl
8. Mishra M.N, Insurance Principles and Practice
9. Bose A.K, Engineering Insurance
10. Fire Insurance Claim – Insurance institute of India
11. P. K Gupta; Insurance & Risk Management

B.I 6.5 RISK MANAGEMENT

OBJECTIVE

The objective is to expose students to acquire skills in Risk Management.

Unit 1: INTRODUCTION TO RISK MANAGEMENT 10 Hrs

Introduction to risk management- elements of uncertainty peril, hazards – types, risk management process- definition, types and various means of managing risk – limitations of risk management.

Unit 2: SOURCES OF RISK AND EXPOSURE 10 Hrs

Sources of risk and exposure, pure risk and speculative risk, acceptable and non- acceptable risks, static and dynamic risk, various elements of cost of risk.

Unit 3: CORPORATE RISK MANAGEMENT 12 Hrs

Corporate risk management, riskiness of returns, -approaches and processes of corporate risk management, management of business risk, currency and interest rate risk, assets and liability management, - guidelines and tools of risk management.

Unit 4: DERIVATIVES AS RISK MANAGEMENT TOOLS 12 Hrs

Derivatives as risk management tools, features of hedging, forward, future, options and swaps. Classification of derivatives, important features of derivatives.

Unit 5: HEDGING & OPTIONS 12 Hrs

Hedging risks with currency and interest rate futures, index future and commodity futures, Fundamental concepts of options and hedging and risk management with options, Fundamentals of currency and interest rate swaps- risk management with swaps, Fundamental concepts of VAR approach and insurance.

SKILL DEVELOPMENT

- Understand the elements of Corporate Risk Management. Adequate exposure to the functioning of Risk Management tools.

BOOKS FOR REFERENCE

1. Gopal Krishnan, Liability Insurance
2. Mishra M.N, Insurance
3. Mishra M.N, Insurance Principles and Practice
4. Bose A.K, Engineering Insurance
5. Fire Insurance Claim – Insurance Institute of India
6. N. Gulati –Risk Management
7. Aramvalarthan : Risk Management I.K. International Publishers
8. Life Insurance Claims - Insurance Institute of India
9. Gupta S.P, Liability and Engineering Insurance
10. Gupta S.P, Marine Insurance Claim
11. G. Kotreshwar – Risk Management

B.I 6.6 MARKETING OF INSURANCE PRODUCTS

OBJECTIVE

The objective is to enable the students to acquire skills in Marketing of Insurance Products

Unit 1: INTRODUCTION TO MARKETING IN THE INSURANCE INDUSTRY14 hrs

The role of the customer in marketing, The definition of marketing, Marketing and other related business functions within the insurance industry, Creating a marketing strategy for insurance products, Impact of external and internal factors on the marketing strategy, External considerations including: Social – Economic – Competition – Technological – Ecological and Meteorological – Consumer protection, Internal considerations including: Structure - Behaviour – Values.

Unit 2: MARKETING THEORY AND CONCEPTS IN THE INSURANCE INDUSTRY 14 hrs

Insurance customers and their buying patterns, Supply and demand in the insurance industry (including insurance cycle), The marketing mix, Segmentation of existing and prospective customers, Competitive positioning, Differentiation of the product, Financial Value Chain analysis, Portfolio management, The life cycle of insurance products, Analyzing existing insurance customers, Core competencies, Internal auditing of marketing practices, SWOT analysis.

Unit 3: DEVELOP A MARKETING STRATEGY FOR INSURANCE PRODUCTS 14 hrs

Identifying segments in insurance customers, Customer's attributes and behaviour, Using data from customer relationship management systems to feed into strategy, Identifying competitors, Competitor's portfolio of offerings and position, Developing a portfolio of opportunities, Scenario testing, Taking a position in the market, Value and supply chain analysis, Pricing, Regulation, Branding insurance products and services, Establishing a brand, The importance of branding, Brand awareness, Brand extension, White labeling.

Unit 4: IMPLEMENT AND DELIVER A MARKETING STRATEGY 14 hrs

Communicating the marketing message for insurance products and services, The marketing communications portfolio, The marketing message, E-marketing, Advertising, Sales and account management, Public relations, Promotion, Sponsorship, Emergency communications plan, Distributing insurance and finance products and services, Different channels for distribution (including Call centers), Distribution options: Financial advisers – Intermediaries / brokers – Direct selling – Financial institutions, including bank assurance – Aggregators – Other organizations distributing insurance, Risk assessment, Service delivery, Customer experience, including claims, Managing the customer relationship.

SKILL DEVELOPMENT

- Preparation of an advertisement copy to Marketing Insurance Products.
- Conducting a survey to understand policy holders stratification
- Designing brochure for Marketing Insurance Products

BOOKS FOR REFERENCE

1. Marketing: concepts and strategies. Sally Dibb … [et al]. 5th European ed. Boston, Massachusetts: Houghton Miffin, 2005.
2. The marketing casebook. Sally Dibb, Lyndon Simpkin. 2nd ed. London: Thomson Learning, 2001.

3. Marketing management. Philip Kotler. 13th ed. London: Pearson Education, 2009.
4. Marketing planning for financial services. Roy Stephenson. Aldershot, Hants: Gower, 2005.
5. A Mishra/A Mishra – Marketing strategy.
6. Marketing strategy: the difference between marketing and markets. Paul Fifield. 3rd ed. London: Butterworth- Heinemann, 2007.
7. Marketing theory: a student text. Michael J Baker. London: Thomson Learning, 2000.
8. Principles of marketing. Philip Kotler, Gary Armstrong. 12th ed. International ed. Upper Saddle River, New Jersey: Pearson Education, 2008
9. Innovative Marketing balancing Commercial goals & Corporate responsibility

BANGALORE UNIVERSITY

REVISED SYLLABUS 2014 – 2015

B.B.A. (CBCS) DEGREE SEMESTER SCHEME

(Revised Syllabus on 15.06.2015 BOS)

DEPARTMENT OF COMMERCE

Central College Campus, Bangalore – 560 001.

BANGALORE UNIVERSITY
DEPARTMENT OF COMMERCE

REGULATIONS PERTAINING TO B.B.A (CBCS) DEGREE SEMESTER SCHEME 2014 - 15

I. OBJECTIVES :

1. To develop ethical managers with inter disciplinary knowledge'
2. To develop entrepreneurs
3. To prepare students to take the responsibility of full line of Finance function of a company with special reference to SME sector.
4. To prepare students to take the responsibility of full line of Marketing function of a company with special reference to SME sector.
5. To prepare students to take the responsibility of full line of Human Resource function of a company with special reference to SME sector.
6. To develop IT enabled global middle level managers for solving real life business problems.
7. To develop business analysts for companies, capital markets and commodity markets.
8. To prepare students to take up higher education to become business scientists, researchers consultants and teachers, with core competencies.
9. Also to develop the students for competitive examinations of UPSC, KPSC, BSRB, Staff Selection Commission, etc.

II. ELIGIBILITY FOR ADMISSION :

Candidates who have completed Two years Pre – University course of Karnataka State or its equivalent are eligible for admission into this course.

III. DURATION OF THE COURSE:

The course of study is four (04) years of Eight Semesters. A candidate shall complete his/her degree within eight (08) academic years from the date of his/her admission to the first semester. However, students successfully complete Two (02) years of the course and leave the course, will be awarded Diploma in Commerce. Students successfully completes Three (03) years of the course will be awarded Bachelors Degree in Management (B.B.M). An option is provided to the students to continue the course to the Fourth year and those who successfully complete the Fourth year will be awarded Bachelors Degree in Management (Hon.) {B.B.M, (Hon.)}.

IV. MEDIUM OF INSTRUCTION

The medium of instruction shall be in English.

V. CLASS ROOM STRENGTH OF STUDENTS

There shall be Maximum of 60 students in each section.

VI. ATTENDANCE:

a. For the purpose of calculating attendance, each semester shall be taken as a Unit.
b. A student shall be considered to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.

c. A student who fails to complete the course in the manner stated above shall not be permitted to take the University examination.

VII. COURSE MATRIX

See Annexure – 1

VIII. TEACHING AND EVALUATION:

M.Com/MBA/MFA/MBS graduates with B.Com, B.B.M, BBA & BBS as basic degree from a recognized university are only eligible to teach and to evaluate the subjects (excepting languages, compulsory additional subjects and core Information Technology related subjects) mentioned in this regulation. Languages and additional subjects shall be taught by the graduates as recognized by the respective board of studies.

VIII. SKILL DEVELOPMENT / RECORD MAINTENANCE AND SUBMISSION:

a. Every college is required to establish a dedicated business lab for the purpose of conducting practical/on line assignments to be written in the record.
b. In every semester, the student should maintain a Record Book in which a minimum of 5 exercises/programs per subject are to be recorded. This Record has to be submitted to the Faculty for evaluation at least 15 days before the end of each semester.

IX. SCHEME OF EXAMINATION:

a. There shall be a university examination at the end of each semester. The maximum marks for the university examination in each paper shall be 70.
b. Of the 30 marks of Internal Assessment, 20 marks shall be based on Two tests. Each test shall be of at least 01 hour duration to be held during the semester. The average of two tests shall be taken as the internal assessment marks. The remaining 10 marks of the Internal Assessment shall be based on Attendance and Skill Development Record of 05 marks each.
c. The marks based on attendance shall be awarded as given below:

   75% to 80% = 02 marks.
   81% to 85% = 03 marks.
   86% to 90% = 04 marks.
   91% to 100% = 05 marks.

d. Marks for skill development shall be awarded by the faculty concerned based on Skill Development exercises provided in the syllabus of each paper. The student is required to prepare/workout the concerned exercises in a Record Book maintained by him/her and shall submit it the faculty concerned at least 15 days before the last date of the semester.

X. PROJECT REPORT AND VIVA-VOCE:

a) The Project report in the sixth semester carries 100 marks (70 marks for project report and 30 marks for viva – voce) which shall form part of Sixth semester examination.
b) There shall be single valuation of project report and this will be done simultaneously along with Vive - Voce. Internal Assessment does not carry any marks.
c) A batch of Two (02) Project Report and Viva – Voce Examiners shall evaluate and conduct Viva - Voce examinations for a maximum of Thirty (30) Project Reports and Conduct Viva – Voce Examinations for

the same candidates.

d) The principal of the college shall submit the project reports of the students, to the university within three days after the completion of Viva - Voce examination.
e) Candidate shall obtain a minimum of 40% marks (Including Viva-Voce) in this subject (project Report) failing which he she shall revise and resubmit before the commencement of the next examination. However, no student shall be allowed to resubmit the project report after three consecutive chances.
f) The student who fails to submit the project report shall not be permitted to take the examination.
g) The board of examiners or their nominees' shall conduct viva-voce examination for Project Report.

XI. APPEARANCE FOR THE EXAMINATION:

a) A candidate shall apply for all the parts in each examination when he/she appears for the first time. A candidate shall be considered to have appeared for the examination only if he/she has submitted the prescribed application for the examination along with the required fees to the university.
b) A candidate who has passed any language under Part-I shall be eligible to claim exemption from the study of the language if he/she has studied and passed the language at the corresponding level.
c) Further, candidates shall also be eligible to claim exemption from studying and passing in those commerce subjects which he/she has studied and passed at the corresponding level, subject to the conditions stipulated by the university.
d) A candidate who is permitted to seek admission to this degree course on transfer from any other University shall have to study and pass the subjects which are prescribed by the University. Such candidates shall not however, be eligible for the award of ranks.

XII. MINIMUM FOR A PASS:

Candidates who have obtained a minimum of 35% marks in university examination (i.e. 25 marks out of 70 marks of theory examination) and 40% in aggregate (i.e., total of university examination and internal assessment marks) in each subject shall be eligible for a pass or exemption in that subject.

XIII. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

1. The results of the First to Sixth semester degree examination shall be declared and classified separately as follows:
    a. First Class: Those who obtain 60% and above of the total marks of parts I, II and III.
    b. Second Class: Those who obtain 50% and above but less than 60% of total marks of parts I, II and III.
    c. Pass Class: Rest of the successful candidates who secure 40% and above but less than 50% of marks in part I, II and III.
2. Class shall be declared on the basis of the aggregate marks obtained by the candidates in this degree course (excluding languages (part I) and non-core subjects (Part III)) as a whole. However, only those candidates who have passes each semester university examination in the first attempt only shall be eligible for award of ranks. The first ten ranks only shall be notified.

XIV. MEDALS AND PRIZES:

No candidates passing an external examination shall be eligible for any scholarship, fellowship, medal, prize

or any other award.

XV. TERMS AND CONDITIONS:

a) A candidate is allowed to carry all the previous uncleared papers to the subsequent semester/semesters.
b) Such of those candidates who have failed/remained absent for one or more papers henceforth called as repeaters, shall appear for exam in such paper/s during the three immediately succeeding examinations. There shall be no repetition for internal assessment test.
c) The candidate shall take the examination as per the syllabus and the scheme of examination in force during the subsequent appearances.

XVI. PATTERN OF QUESTION PAPER:

Each theory question paper shall carry 70 marks and the duration of examination is 3 hours. The Question paper shall ordinarily consist of three sections, to develop testing of conceptual skills, understanding skills, comprehension skills, articulation and application of skills. The question paper setter shall be asked to prepare TWO sets of papers with a maximum of 10% repetition. The Question Paper will be as per the following Model:

SECTION-A **1.** a,b,c,d,e,f,g,	(Conceptual questions) Answer any Five	(05 X 02 = 10 Marks)
SECTION -B: **2,3,4,5,6.**	(Analytical questions) Answer any Three	(03 X 06 = 18 Marks)
SECTION-C: **7,8,9,10,11.**	(Essay type questions) Answer any THREE	(03 X 14 = 42 Marks)
Total		**70 Marks**

XVII. PROVISION FOR IMPROVEMENT OF RESULTS:

The candidate shall be permitted to improve the results of the whole examination or of any Semester or a subject within the prescribed time by the university after the publication of the results. This provision shall be exercised only once during the course and the provision once exercised shall not be revoked. The application for improvement of results shall be submitted to the Registrar (Evaluation) along with the prescribed fee.

XVIII. REMOVAL OF DIFFICULTY AT THE COMMENCEMENT OF THESE REGULATIONS:

If any difficulty arises while giving effect to the provision of these Regulations, the Vice Chancellor may in extraordinary circumstances, pass such orders as he may deem fit.

ANNEXURE – 1

BANGALORE UNIVERSITY
B.B.A (CBCS) COURSE SEMESTER SCHEME -- 2014 – 15
COURSE MATRIX

I SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Languages**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu /Malayalam/ Additional English / Marathi / Hindi	1.1	4	3	30	70	100	2
	Language: English	1.2	4	3	30	70	100	2
Part 2 **Optional**	Fundamentals of Accounting	1.3	4	3	30	70	100	2
	Business Organization and Environment	1.4	4	3	30	70	100	2
	Quantitative Methods for Business - I	1.5	4	3	30	70	100	2
	Management Process	1.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

II SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	2.1	4	3	30	70	100	2
	Language: English	2.2	4	3	30	70	100	2
Part 2 **Optional**	Financial Accounting	2.3	4	3	30	70	100	2
	Quantitative Methods for Business – II	2.4	4	3	30	70	100	2
	Organizational Behavior	2.5	4	3	30	70	100	2
	Production and Operations Management	2.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

III SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	3.1	4	3	30	70	100	2
Part 2 **Optional**	Soft Skills for Business	3.2	4	3	30	70	100	2
	Corporate Accounting	3.3	4	3	30	70	100	2
	Human Resource Management	3.4	4	3	30	70	100	2
	Business Regulations	3.5	4	3	30	70	100	2
	Corporate Environment	3.6	4	3	30	70	100	2
	Business Ethics	3.7	4	3	30	70	100	2
Part 3	SDC*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**17**

IV SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	4.1	4	3	30	70	100	2
Part 2 **Optional**	Business Research Methods	4.2	4	3	30	70	100	2
	Marketing Management	4.3	4	3	30	70	100	2
	Financial Management	4.4	4	3	30	70	100	2
	Services Management	4.5	4	3	30	70	100	2
	Banking Regulations & Operations	4.6	4	3	30	70	100	2
	Cost Accounting	4.7	4	3	30	70	100	2
Part 3	SDC*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**17**

V SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 **Optional**	Entrepreneurial Management	5.1	4	3	30	70	100	3
	Computer Applications in Business	5.2	4	3	30	70	100	3
	Investment Management	5.3	4	3	30	70	100	3
	Management Accounting	5.4	4	3	30	70	100	3
	Elective Paper I	5.5	4	3	30	70	100	3
	Elective Paper II	5.6	4	3	30	70	100	3
Part 3	SDC*		3	3	30	70	100	2
Total Credits								**20**

VI SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 **Optional**	International Business	6.1	4	3	30	70	100	3
	E-Business	6.2	4	3	30	70	100	3
	Income Tax	6.3	4	3	30	70	100	3
	Strategic Management Or Project Report & Viva (Voce)	6.4	4	3	30	70	100	3
	Elective Paper III	6.5	4	3	30	70	100	3
	Elective Paper IV	6.6	4	3	30	70	100	3
Part 3	SDC*		3	3	30	70	100	2
Total Credits								**20**

ELECTIVE GROUPS

1. FINANCE GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	FN.5.5	Advanced Financial Management	04	100
	FN.5.6	Financial Markets & Services	04	100
VI	FN.6.5	International Finance	04	100
	FN.6.6	Stock and Commodity Markets	04	100

2. MARKETING GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	MK.5.5	Consumer Behavior	04	100
	MK.5.6	Advertising & Media Management	04	100
VI	MK.6.5	Brand Management	04	100
	MK.6.6	Retail Management	04	100

3. HUMAN RESOURCE GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	HR.5.5	Employee Welfare & Social Security	04	100
	HR.5.6	Strategic HRM	04	100
VI	HR.6.5	Organizational Change & Development	04	100
	HR.6.6	Compensation Management	04	100

1. **Foundation, Skill Development or Interdisciplinary Courses (Foundation Course*)**
   (Common for all programmes):
   - Constitution of Indian and Human Rights
   - Environment and Public Health
   - Computer Applications and Information Technology
   - Business Entrepreneurship and Management
   - Philosophy, Psychology and Life Skills
   - Personality Development and Leadership / Integrating Mind, Body and Heart
   - Indian History, Culture and Diversity
   - Research Methodology
   - Education and Literacy / Science and Life
   - Human Resource Development .Management
   - One of the Foreign Languages such as German, French etc.
   - Any other Course prescribed by the University from time to time
   - Commodity & Stock Market
   - Mathematics in Finance

2. **Co-and Extra – Curricular Activities (CC& EC*)**
   A student shall opt for any one of the following activities in the first four semesters offered in the college
   - N.S.S / N.C.C./Rotary Activities / Rovers and Rangers
   - Sports and Games / Activities related to Yoga
   - A Small project work concerning the achievements of Indian in different fields
   - Evolution of study groups/seminar circles on Indian thoughts and ideas
   - Interaction with local communities in their neighborhood and learn about and from them
   - Exploring different aspects of Indian civilizations
   - Other activities such as Cultural Activities as prescribed by the University.

Evaluation of Co-and Extra Curricular Activities is as per the procedure evolved by the University from time to time.

1.3 FUNDAMENTALS OF ACCOUNTING

OBJECTIVE

The objective of this subject is to acquaint students with the accounting concepts, tools and techniques influencing business organizations.

Unit 1: INTRODUCTION TO FINANCIAL ACCOUNTING 08 Hrs

Introduction – Meaning and Definition – Objectives of Accounting – Functions of Accounting – Users of Accounting Information – Limitations of Accounting – Accounting Principles – Accounting Concepts and Accounting Conventions. Accounting Standards –List of Indian Accounting Standards.

Unit 2: ACCOUNTING PROCESS 10Hrs

Meaning – Process of Accounting – Kinds of Accounts – Rules - Transaction Analysis – Journal – Ledger – Balancing of Accounts – Trial Balance – Problems.

Unit 3: SUBSIDIARY BOOKS 10 Hrs

Meaning – Significance – Types of Subsidiary Books – Purchases Book – Sales Book – Purchase Returns Book – Sales Return Book – Bills Receivable Book – Bills Payable Book – Cash Book (Simple Cash Book, Double Column Cash Book, Three Column Cash Book and Petty Cash Book) and Journal proper. Bank Reconciliation Statement – Preparation of Bank Reconciliation Statement.

Unit 4: FINAL ACCOUNTS OF PROPRIETARY CONCERN 10 Hrs

Preparation of Profit& Loss Account and Balance Sheet(Vertical form).

Unit 5: SINGLE ENTRY SYSTEM 18Hrs

Meaning – Features – Types – Merits – Demerits – Differences between single entry and double entry systems – Preparation of Opening Statement of Affairs, Closing Statement of Affairs, Computation of Profit/Loss and Revised Statement of Affairs. Conversion of single entry to double entry system.

SKILL DEVELOPMENT

- List out the accounting concepts and conventions.
- List out any ten errors disclosed by trial balance
- Collect the final accounts of a proprietary concern and present it in vertical form.
- Prepare a Bank Reconciliation Statement with imaginary figures

BOOKS FOR REFERENCE

1. Jawaharlal & Seema Srivastava: Financial Accounting, HPH
2. R.G Saha, Fundamentals of Accounting, HPH
3. Dr. S.N. Maheswari, Financial Accounting, HPH
4. Dr. Venkataraman R. & others, Fundamentals of Accounting, VBH
5. S Jayapandian: Financial Accounting from Zero,
6. Grewal and Gupta, Advanced Accounting, Sultan Chand.
7. S. P Jain and K. L. Narang ; Financial Accounting, Kalyani Publishers.
8. Soundra Rajan A & K. Venkataramana, Financial Accounting, SHB Publishers.
9. Dr. Alice Mani: Fundamentals of Accounting, SBH.

1.4 BUSINESS ORGANISATION AND ENVIRONMENT

OBJECTIVE

The objective is to familiarize the students with aspects of Business Organization and its Environment.

Unit 1: INTRODUCTION TO BUSINESS ORGANIZATION 10 Hrs

Meaning of Business – Classification of Business Activities – Industry – Types of Industry – Commerce – Trade – Aids to Trade –Meaning – Advantages and Disadvantages

Unit 2: FORMS OF BUSINESS ORGANIZATION 14Hrs

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages. Partnership – Meaning – Characteristics – Advantages and Disadvantages - Types of Partners. Co-operative Society - Meaning – Characteristics – Types – Advantages and Disadvantages.

Unit 3: JOINT STOCK COMPANY 08 Hrs

Meaning – Definition – Features – Types of Companies – Formation of a Company.

Unit 4: BUSINESS ENVIRONMENT 14Hrs

Meaning and Importance. Dimensions of Business Environment – Political, Economic, Social, Legal, Natural and Technological Environment.

Unit 5: GOVERNMENT AND BUSINESS 10Hrs

Meaning and Importance. Impact of Government policy on business and industry with reference to liberalization, privatization and globalization.

SKILL DEVELOPMENT

- Draw a Business Tree
- Prepare a Partnership deed
- Prepare Memorandum and Articles of Association of any company
- Discuss the Impact of Globalization on Indian Business and Industry
- State the impact of Technology on Indian Business

BOOKS FOR REFERENCE

1. Dr. Aswathappa: Essentials of Business Environment, HPH.
2. Francis Cherrunilam : Business Environment, HPH.
3. Muniraju S.K. Podder – Business Organisation & Environment , VBH
4. VivekMittall, – Business Environment, Excel Books, New Delhi.
5. Raj Agarwal – Business Environment, Excel Books, New Delhi.
6. K. Venkataramana, Business Environment, SHB Publishers.
7. Dr. Alice Mani: Business Organization & Environment, SBH.

1.5 QUANTITATIVE METHODS FOR BUSINESS - I

OBJECTIVE

To provide basic knowledge of quantitative methods and their application to commercial situations and for decision making in business.

Unit 1: NUMBER SYSTEM 04 Hrs

Introduction – Natural Numbers - Even Numbers – Odd Numbers – Integers – Prime Numbers – Rational & Irrational numbers, Real Numbers, HCF & LCM (Simple problems)

Unit 2: THEORY OF EQUATIONS 12Hrs

Introduction – Meaning – Types of Equations – Simple, Linear and Simultaneous Equations (only two variables) Eliminations and Substitution Method only. Quadratic Equation – Factorization and Formula Method ($ax^2 + bx + c = 0$ form only). Problems on Commercial Application.

Unit 3: PROGRESSIONS 12 Hrs

Introduction – Arithmetic Progression - Finding the 'n^{th} term of an AP and Sum to n^{th} term of AP. Insertion of Arithmetic Means in given terms of AP and representation of 3 terms of AP. Geometric Progression – Finding n^{th} term of GP – Sum to 'n'th Term of GP – Insertion of Geometric Means in given Geometric Progression and also representation of 3 terms of GP.

Unit 4: MATRICES AND DETERMINANTS 14Hrs

Introduction, Meaning, types of matrices – operations of addition, subtraction, multiplication of two matrices – problems, transpose of a square matrix. Determinant of a square matrix- minor of an element, co-factor of an element of a determinant. adjoint of a square matrix, singular and non-singular matrices – inverse of a square matrix – Problems on linear equations in two variables using Cramer's rule.

Unit 5: COMMERCIAL ARITHMETIC 14 Hrs

Simple interest, Compound interest including half yearly and quarterly calculations, annuities Percentages, bills discounting, concepts of Ratios, duplicate-triplicate and sub-duplicate of a ratio. Proportions, third, fourth and inverse proportion - problems.

SKILL DEVELOPMENT

- Calculation of future value of present value.
- Calculation of geometric mean i.e, CAGR.
- Calculation of EMI, Premium amount.

BOOKS FOR REFERENCE

1. A.LeninJothi : financial Mathematics, HPH.
2. Dikshit & Jain : Business Mathematics, HPH
3. Ranganath: Business Mathematics, GK Publications, Mumbai.
4. Dr. R.G. Saha & Others – Methods & Techniques for Business Decisions, VBH
5. R. Selvaraj, Quantitative Methods in Management, Excel Books.
6. G.R. Veena & Seema: Business Mathematics and Statistics, I.K. Intl
7. Dr. Sancheti & Kapoor: Business Mathematics and Statistic, Sultan Chand and Sons.
8. Zamarudeen: Business Mathematics, Vikas Publishers.
9. Saha: Mathematics for Cost Accountants, HPH.
10. 7 Lectures – Quantitative Methods for Business – I, HPH

1.6 MANAGEMENT PROCESS

OBJECTIVES:

The objective is to familiarize the students with concepts and principles of Management

Unit 1: INTRODUCTION TO MANAGEMENT 12Hrs

Introduction - Meaning, Nature and Characteristics of Management - Scope and functional areas of Management - Management as a Science, Art or Profession - Management & Administration - Principles of management - Social responsibility of Management and Ethics.

Unit 2: PLANNING 08 Hrs

Nature, importance and purpose of planning - Planning process, Objectives - Types of plans (Meaning only) - Decision making – importance & steps.

Unit 3: ORGANIZING AND STAFFING 14Hrs

Nature and purpose of organization, Principles of organization - Types of organization –Departmentation, Committees - Centralization Vs decentralization of authority and responsibility - Span of Control - MBO and MBE(Meaning only) - Nature and importance of staffing.

Unit 4: DIRECTING AND COORDINATING 14Hrs

Meaning and nature of directing - Motivation theories (Maslow's, Herzberg, McGregor's X & Y theory). Leadership – Meaning -Formal and Informal Leadership – Characteristics - Leadership Styles - Autocratic/Dictatorial - Democratic/Participative, Free reign/Laissez faire Leadership Styles - Communication -Meaning and importance, Barriers to Communication, Types of Communication – Coordination–Meaning, importance and Principles.

Unit 5: CONTROLLING 08Hrs

Meaning and steps in controlling - Essentials of a sound control system - Methods of establishing control (in brief).

SKILL DEVELOPMENT

- Different types of Organization Charts (structure).
- Chart on Staffing.
- Graphic representation of Maslow's Theory.
- Chart on Media of Communication.
- Draft Control chart for different industries / business groups.

BOOKS FOR REFERENCE

1. Appanniah& Reddy, Management HPH.
2. T. Ramaswamy : Principles of Management, HPH.
3. Rekha & Vibha – Management Process, Vision Book House.
4. Koontz & O'Donnell, Management, McGraw Hill.
5. L M Prasad, Principles of management, Sultan Chand & Sons
6. V.S.P Rao/Bajaj, Management process and organization, Excel Books.

7. Karampal : Management Process & Organizational Behaviour, I.K. Intl
8. Rustum & Davan, Principles and practice of Management.
9. S V S Murthy, Essentials of Management.
10. Thomas. N. Duening& John. M. Ivan cevich, Management, Principles and Guidelines, Biztantra Publications.
11. Tripathi& Reddy, Principles of Management. McGraw Hill
12. Kandepu : Elements of Functional Administration, HPH
13. K. Venkataramana, Management Process, SHB Publishers.
14. Dr. Alice Mani: Management Process, SBH.

2.3 FINANCIAL ACCOUNTING

OBJECTIVE:

The objective of this subject is to acquaint students with the accounting concepts, tools and Techniques influencing Business Organizations.

Unit 1: INSURANCE CLAIMS 10Hrs

Introduction – Need – Policy for Loss of Stock – Steps for ascertaining Fire insurance claim – Treatment of Salvage – Average Clause –Computation of Fire insurance claims.

Unit 2: HIRE PURCHASE AND INSTALLMENT SYSTEMS 12Hrs

Introduction – Meaning – Hire Purchase Act 1972 – Important Definitions – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Net Hire Purchase Price – Net Cash Price – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire Vendor. Installment System – Meaning – Features – Differences between Hire Purchase System and Installment Purchase System (Theory only)

Unit 3: ROYALTY ACCOUNTS 12Hrs

Introduction – Meaning – Technical Terms – Royalty – Landlord – Tenant – Minimum Rent – Short Workings – Recoupment of Short Working under Fixed Period – Floating Period – Recoupment within the Life of a Lease – Treatment of Strike and Stoppage of work – Accounting Treatment in the books of Lessee – Preparation of Ledger Accounts – Royalty Account – Landlord Account – Short Workings Account – Minimum Rent Account when Minimum Rent Account is required.

Unit 4: SALE OF PARTNERSHIP TO A LIMITED COMPANY 14Hrs

Introduction – Need for conversion - Meaning of Purchase Consideration – Mode of Discharge of Purchase Consideration – Method of calculation of Purchase Consideration – Net Payment Method – Net Asset Method – Passing of Journal Entries and Preparation of Ledger Accounts in the books of Vendor – Treatment of certain items – Dissolution Expenses – Unrecorded Assets and Liabilities – Assets and Liabilities not taken over by the Purchasing Company – Contingent liabilities – Non-assumption of trade liabilities – Passing of Incorporation entries in the books of Purchasing Company.

Unit 5: ISSUE OF SHARES 8 Hrs

Meaning of Share, Types of Shares – Preference shares and Equity shares – Issue of Shares at par, at Premium, at Discount, Pro – Rata Allotment – Journal Entries and Bank Accounts – Preparation of Balance Sheet in the Vertical form.

SKILL DEVELOPMENT

- Problems on calculation of purchase consideration when a firm is converted into a limited company
- Computation of cash price, interest components and hire purchase installments taking any problem
- Understand the meaning and purpose of loss of stock insurance including the average clause
- A problem on royalty highlighting the significance of minimum rent and recoupment of short workings

BOOKS FOR REFERENCE

1. Anil Kumar & Others – Financial Accounting
2. M.A.Arunachalam&K.S.Raman: Advanced Accountancy
3. B.S. Raman, Advanced Accountancy Vol II
4. V.K. Goyal, Financial Accounting 2nd Edition
5. Shukla and Grewal, Advanced Accountancy
6. Gupta and Radhaswamy, Advanced Accountancy Vol I& II
7. Agarwal and Jain, Advanced financial Accounting
8. Guruprasad Murthy : Financial Accounting
9. Maheshwari, Advanced Accountancy Vol I & II
10. B.M. Lall Nigam & G.L. Sharma, Advanced Accountancy
11. S.N. Maheshwari& S.K. Maheshwari, Financial Accounting
12. Jain S.P &Narang K.L, Basic Financial Accounting
13. Soundra Rajan A & K Venkataramana, Financial Accounting, SHB Publishers.
14. Dr. Alice Mani: Financial Accounting, SBH.

2.4 QUANTITATIVE METHODS FOR BUSINESS - II

OBJECTIVE

The objective is to provide basic knowledge of quantitative methods and their commercial application for decision making in business.

Unit 1: INTRODUCTION TO STATISTICS 04 Hrs

Background and Basic concepts: Introduction – Definition of Statistics – Functions – Scope – Limitations, Classification and Tabulation of Data.

Unit 2: MEASURES OF CENTRAL TENDENCY 14 Hrs

Introduction – Types of averages – Arithmetic Mean (Simple and Weighted) – Median – Mode – Graphic location of Median and Mode through Ogive Curves and Histogram.

Unit 3: MEASURES OF DISPERSIONAND SKEWNESS 14 Hrs

Part – 1: Measures of Dispersion : Meaning– Calculation of Absolute and Relative measures of dispersion - Range – Quartile Deviation – Mean Deviation – Standard Deviation and Coefficient of Variation.

Part – 2: Measures of Skewness: Meaning of Skewness - Symmetrical &Skewed Distributions- Measures of Skewness - Absolute and Relative Measures of Skewness – Karl Pearson's Coefficient of Skewness and Bowley's Coefficient of Skewness

Unit 4: CORRELATION AND REGRESSION ANALYSIS 14Hrs

Correlation – Meaning & Definition - Uses – Types – Probable error – Karl Pearson's & Spearman's Rank Correlation (Excluding Bi-variate and Multiple correlation).

Regression – Meaning and Definition, Regression Equations - Problems

Unit 5: INDEX NUMBERS 10 Hrs

Meaning & Definition – Uses – Classification – Construction of Index Numbers – Methods of constructing Index Numbers – Simple Aggregate Method – Simple Average of Price Relative Method – Weighted Index numbers – Fisher's Ideal Index (including Time and Factor Reversal tests) – Consumer Price Index – Problems

SKILL DEVELOPMENT

- Collect the age statistics of 10 married couples and compute correlation coefficient.
- Collect the age statistics of 10 newly married couples and compute regression equations. Estimate the age of bride when age of bridegroom is given.
- Select 10 items of daily-consumed products and collect base year quantity, base year price and current year price. Calculate cost of living index.

BOOKS FOR REFERENCE

1. S P Gupta: Statistical Methods- Sultan Chand, Delhi
2. C.R.Reddy : Quantitative Techniques for Management Decisions, HPH.
3. Dr. B N Gupta: Statistics (SahitytaBhavan), Agra.
4. R.S Bhardwaj: Business Statistics, Excel Books.

5. Chikodi & Pradad – Quantitative Method for Business - II
6. Veerchamy : Operation Research I.K. International Publishers
7. S C Gupta: Business Statistics, Himalaya Publications.
8. Ellahance : Statistical Methods
9. Sanchethi and Kapoor: Business Mathematics, Sultan Chand
10. C.S Mujawar : Statistics for Managers I.K. International Publishers
11. Dr. Alice Mani: Quantitative Methods for Business - II, SBH.

2.5 ORGANISATIONAL BEHAVIOUR

OBJECTIVE:

The objective is to enable the students to understand the Organizational Behaviour, and Organizational Change and dynamic of groups .

Unit 1: ORGANIZATIONAL BEHAVIOUR 06Hrs

Organization Behaviour– Definition, Scope and Application in Management -Contributions of other disciplines to OB–Emerging issues in Organizational Behaviour.

Unit 2: PERSONALITY, PERCEPTION AND ATTITUDES 16 Hrs

Personality : Meaning **-** Determinants of Personality - Biological factors - Cultural factors - Family and Social Factors - Situational factors -Personality attributes influencing OB, Interactive Behaviour and Interpersonal Conflict.

Perception : Meaning - Need - Perceptual Process – Perceptual Mechanism - Factors influencing perception.

Attitude: Meaning of Attitude - Characteristics of Attitude – Components of Attitude - Attitude and Behaviour – Attitude formation, change in attitude and barriers to attitude.

Unit 3: LEARNING AND BEHAVIOUR MODIFICATION 08Hrs

Principles of Learning & Reinforcement - Observational Learning - Cognitive Learning - Organizational Behaviour Modification - Steps in Organizational Behaviour Modification process - Organizational Reward Systems

Unit 4: GROUP DYNAMICS 12Hrs

Meaning - Types of Groups - Functions of small groups - Group Size Status - Managerial Implications – Group Behaviour - Group Norms - Cohesiveness - Group Think,

Unit 6: ORGANIZATIONAL CHANGE AND DEVELOPMENT 14Hrs

Organizational Change: Meaning - Nature of work change - Pressure for change - Change process - Types of change – Factors influencing change - Resistance to change - Overcoming resistance - **Organizational Development**–Meaning and different types of OD interventions.

SKILL DEVELOPMENT

- Meaning of job enrichment and list the requirements of job enrichments
- Characteristics of attitude and components of attitude – A brief discussion
- List the determinants of personality
- Factors influencing perceptions - A brief explanation
- List the characteristics of various leadership styles.

BOOKS FOR REFERENCE

1. K. Aswathappa, Organizational Behaviour, HPH.
2. Appanniah&, Management and Behavioural Process, HPH.
3. Rekha & Vibha – Organizational Behavioural, VBH.

4. Robbins, Organizational Behaviour, International Book House.
5. John W. Newstrom&Kieth Davis, Organizational Behaviour, McGraw Hill.
6. P.G. Aquinas Organizational Behavior, Excel Books.
7. Fred Luthans, Organizational Behaviour. McGraw Hill.
8. M. Gangadhar. V.S.P.Rao and P.S.Narayan, Organizational Behaviour
9. M.N.Mishra: OrganisationalBehaviour and Corporate Development, HPH.
10. Karamapl : Business Management & Organizational Behavioral I.K. International
11. N.S. Gupta, Organizational Behaviour, HPH.
12. Jit. S. Chandan, Organisational Behaviour, Vikas Publishing House.
13. Sharma R.K & Gupta S.K, Management and Behaviour Process, Kalyani Publishers.
14. K. Venkataramana, Organisational Behaviour, SHBP.

2.6 PRODUCTION AND OPERATIONS MANAGEMENT

OBJECTIVE

The objective of the subject is to make the students understand the concepts of production and operations management of an industrial undertaking and the benefits of automation.

Unit 1: INTRODUCTION TO PRODUCTION AND OPERATIONS MANAGEMENT 12Hrs

Introduction - Meaning & Definition – Classification - Objectives and Scope of Production and operation Management -Automation: Introduction – Meaning and Definition – Need – Types - Advantages and Disadvantages.

Unit 2: PLANT LOCATION AND LAYOUT 08 Hrs

Introduction – Meaning & Definition - Factors affecting location, theory and practices, cost factor in location - Plant layout principles - space requirement- Different types of facilities, Organization of physical facilities – building, sanitation, lighting, air conditioning and safety.

Unit 3: MATERIALS MANAGEMENT 08Hrs

Introduction – Meaning & Definition - Purchasing, Selection of Suppliers, Inventory Management, Material Handling Principles and Practices, Economic Consideration, Criteria for Selection of Materials Handling Equipment, Standardization, Codification, Simplification, Inventory Control, Techniques of

Unit 4: PRODUCTION PLANNING AND QUALITY CONTROL 16Hrs

Objectives and Concepts, capacity planning, corresponding production planning, controlling, scheduling routing – Quality Control - Statistical Quality Control, Quality Management, Control charts and operating characteristic curves, acceptance sampling procedures, Quality Circle, Meaning of ISO and TQM. Productivity – factors influencing productivity - Concept of Standard Time, Method study, Time and Motion Study, Charts and Diagrams, Work Measurements

Unit 6: MAINTENANCE AND WASTE MANAGEMENT 12Hrs

Introduction – Meaning – Objectives - Types of maintenance, Break down, spares planning and control, preventive routine, relative advantages, maintenance scheduling, equipment reliability and modern scientific maintenance methods - Waste Management - Scrap and surplus disposal, salvage and recovery.

SKILL DEVELOPMENT

1. Visit any industry and list out the stages of PPC with as many details as possible.
2. List out the Functions of Materials management in an organization
3. Describe the Functions of Quality Circles in an industry
4. Draw a ISO specification chart
5. Visit a company and List out Environmental issues.
6. Visit a company and draw a chart on Plant layout.

BOOKS FOR REFERENCE

1. Ashwathappa. K & Sridhar Bhatt : Production & Operations Management, HPH.
2. Gondhalekar&Salunkhe : Productivity Techniques, HPH.
3. SN Chary, Production & Operations Management, McGraw Hill.
4. U. Kachru, Production & Operations Management, Excel Books.
5. Alan Muhlemann, John Oaclank and Keith Lockyn, Production & Operations Management, PHI.
6. K KAhuja, Production Management, CBS Publishers.
7. S.A. Chunawalla& Patel: Production & Operations Management, HPH.
8. Everett E Adam Jr., and Ronald J Ebert, Production & Operations Management, Sage Publishers.
9. Dr. L. N. Agarwal and Dr. K.C. Jain, Production Management
10. Thomas E. Morton, Production Operations Management, South Western College.
11. K. Venkataramana, Production Operations Management, SHBP.
12. Sridhara Bhatt - Production & Operation Management, HPH.
13. Ghousia Khaloon – Production & Operation Management, VBH.

3.2 SOFT SKILLS FOR BUSINESS

OBJECTIVE:

The objective is to develop both oral and written communication skills relating to organizational and Business issues

Unit 1: ELEMENTS OF COMMUNICATION 14Hrs

Meaning, Importance, Objectives & Principles of Communication, , Process, impediments of effective communication, Strategies for effective communication. Types and forms of communication

Nonverbal Communication- Body Language, Gestures, Postures, Facial Expressions, Dress codes, The Cross Cultural Dimensions of Business Communication, Listening & Speaking, Techniques of Eliciting Response, Probing Questions, Observation, Business and social etiquette.

Unit 2: PUBLIC SPEAKING 10 Hrs

Importance of Public Speaking and Speech Composition - Principles of Effective Speaking& Presentations. Technical speeches & Non-technical presentations. Speech for introduction of a speaker - Speech for vote of thanks -Occasional speech - Theme speech. Moderating programs - Use of Technology

Unit 3: INTERVIEW TECHNIQUES 08 Hrs

Importance of Interviews, Art of conducting and giving interviews, Placement interviews - discipline interviews - Appraisal interviews – Exit interviews.

Unit 4: MEETINGS 08Hrs

Importance of Meetings -Opening and Closing Meetings - Participating and Conducting Group discussions. Brain Storming, e– Meetings, preparing agenda and minutes of the meeting

Unit 5: BUSINESS COMMUNICATION 16Hrs

Business Letters: Inquiries, Circulars, Quotations, Orders, Acknowledgments Executions, Complaints, Claims &Adjustments, Collection letter, Banking correspondence, Agency correspondence, Bad news and persuading letters, Sales letters, Job application letters - Bio-data, Covering Letter, Interview Letters, Letter of Reference. Memos, Minutes, Circulars &Notices.

SKILL DEVELOPMENT

- Conduct a mock meeting and draft minutes of the meeting.
- Draft a letter of enquiry to purchase a laptop.
- Draft your bio-data.
- Prepare your Career Plan.

BOOKS FOR REFERENCE

1. Rai & Rai – Soft Skill for Business, HPH
2. Santhosh Kumar – Soft Skill for Business, VBH.
3. C.G.G Krishnamacharyulu&Lalitha :Soft Skills of Personality Development, HPH.
4. Lesikar, R.V. &Flatley, M.E. (2005). Basic Business Communication Skills for

Empowering the Internet Generation. Tata McGraw Hill Publishing Company Ltd.,New Delhi.
5. Rai&Rai: Business Communication Himalaya Publishing House
6. Rajkumar, Basic of Business Communication
7. Ludlow, R. & Panton, F. (1998). The Essence of Effective Communications. Prentice Hall of India Pvt. Ltd.
8. M.S. Rao : Soft Skills – Enhancing Employability I.K. International PH.
9. Rao& Das : Communication Skills, I.K. International PH.
10. Adair, J. (2003). Effective Communication. Pan McMillan.
11. Thill, J. V. &Bovee, G. L. (1993). Excellence in Business Communication. McGrawHill, New York.
12. Bowman, J.P. &Branchaw, P.P. (1987). Business Communications: From Process to Product. Dryden Press, Chicago.
13. Sharma S.P. & Others, Business Communication, VBH.
14. Banerjee : Soft Skills Business and Professional Communication, I.K. International

3.3 CORPORATE ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to have a comprehensive understanding about the provisions of the Company's Act and Corporate Accounts.

Unit 1: COMPANY FINAL ACCOUNTS 20 Hrs

Statutory Provisions regarding preparation of Company Final Accounts – Treatment of Special Items – Managerial Remuneration – Tax deducted at source – Advance payment of Tax – Provision for Tax – Depreciation – Interest on debentures – Dividends – Rules regarding payment of dividends (Theory only) – Transfer to Reserves – Preparation of Profit and Loss Account and Balance Sheet as per Section 219(1)(b) (IV) and form 23AB. Abridged Profit and Loss Account – Abridged Balance Sheet (Vertical Form).

Unit 2: FINANCIAL STATEMENTS ANALYSIS 10 Hrs

Analysis of financial statements – comparative statements, comparative income statement, comparative Balance sheet – common size statements – Common size income statement, common size Balance Sheet – Trend percentages. Reporting to management – Management Decision and Analysis.

Unit 3: VALUATION OF GOODWILL 8Hrs

Meaning – Circumstances of Valuation of Goodwill – Factors influencing the value of Goodwill – Methods of Valuation of Goodwill - Average Profit Method – Super Profit Method – Capitalization of Super Profit Method – Annuity Method – Capitalization of Profit Method.

Unit 4: VALUATION OF SHARES 8 Hrs

Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation – Asset Backing or Intrinsic Value Method – Yield Method – Earning Capacity Method – Fair Value Method - Rights Issue and Valuation of Rights Issue.

Unit 5: HOLDING COMPANY ACCOUNTS 10 Hrs

Introduction – Meaning of Holding Company – Subsidiary Company – Steps – Pre Acquisition Profits – Post Acquisition Profits – Minority Interest – Cost of Control or Capital Reserve – Unrealized Profit – Mutual Indebtedness – Preparation of Consolidated Balance Sheet (As per AS21).

SKILL DEVELOPMENT

- Collect and fill the share application form of a limited Company.
- Collect a Prospectus of a company and identify the reasons to invest or not to invest in shares.
- List the various functions of underwriters.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collection of latest final accounts of a company and find out the net Asset value of shares
- List out the conditions to be fulfilled for redemption of Preference shares.

BOOKS FOR REFERENCE

1. Anil Kumar - Marriappa – Corporate Accounting , HPH.
2. M.A.Arunachalam & K.S.Raman: Corporate Accounting – II, HPH.
3. Dr. S.N. Maheswari , Financial Accounting, Jain Book Depot.
4. V.K. Goyal: Corporate Accounting, PHI.
5. Soundrarajan A & K. Venkataramana, Corporate Accounting, SHBP.
6. S. P. Jain and K. L. Narang – Corporate Accounting, Kalyani Publishers.
7. SP Iyengar, Advanced Accountancy, Sultan Chand and Sons, New Delhi.
8. R L Gupta, Advanced Accountancy, Sultan Chand and Sons, New Delhi..

3.4 HUMAN RESOURCE MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with concepts and principles of Human Resource Management.

Unit 1: HUMAN RESOURCE MANAGEMENT 10 Hrs

Introduction – Meaning of HRM – Objectives of HRM – Importance of HRM – Functions and Process of HRM – HR Manager - Duties and Responsibilities – Recent trends in HRM.

Unit 2: HUMAN RESOURCE PLANNING, RECRUITMENT & SELECTION 14 Hrs

Meaning – Importance of Human Resource Planning – Benefits of Human Resource Planning. Recruitment – Meaning – Methods of Recruitment. Selection – Meaning – Steps in Selection Process – Problems Involved in Placement.

Unit 3: INDUCTION AND TRAINING 08Hrs

Meaning, objective and purpose of Induction: Training- Need for training, benefits of training, identification of training needs and methods of training.

Unit 4: PERFORMANCE APPRAISAL AND COMPENSATION 10Hrs

Introduction – Meaning and Definition – Objectives – Methods of Performance Appraisal – Uses and Limitations of Performance Appraisal. Compensation – Meaning of Compensation – Objectives of Compensation.

Unit 5: PROMOTION AND TRANSFERS 08Hrs

Meaning and Definition of Promotion - Purpose of promotion, basis of promotion, Meaning of transfer, reasons for transfer, types of transfer, right sizing of work force,need for right sizing.

Unit 6: HUMAN RESOURCE DEVELOPMENT 06Hrs

Meaning of HRD, Role of training in HRD, Knowledge Management, Knowledge Resources, Impact of Globalization on Human Resource Management, Problems in relation to Transnational and Multinationals.

SKILL DEVELOPMENT

- Prepare a Chart showing the functions of HRM and a brief explanation on the need for each function.
- Prepare an advertisement for recruitment / selection of candidates for any organization of your choice.
- Give observation report of industrial safety practices followed by any organization of your choice
- Develop a format for performance appraisal of an employee.
- Choose any MNC and present your observations on training programme.

BOOKS FOR REFERENCE

1. Aswathappa, Human Resource Management, Tat McGraw Hill.
2. Madhurimalall, Human Resource Management, HPH.
3. Reddy &Appanniah, Human Resource Management. HPH.
4. C.B.Mamoria, Personnel management, HPH.
5. Edwin Flippo, Personnel management, McGraw Hill.
6. SubbaRao, Personnel and Human Resources management, HPH.

7. S.Sadri& Others: Geometry of HR, HPH.
8. Rajkumar : Human Resource Management I.K. Intl
9. Michael Porter, HRM and human Relations, Juta & Co.Ltd.
10. Biswanath Ghosh, Human Resource Development and Management.
11. Rekha & Vibha – Human Resource Management, VBH.
12. K. Venkataramana, Human Resource Management, SHBP.
13. Dr. Alice Mani: Human Resource Management, SBH.

3.5 BUSINESS REGULATIONS

OBJECTIVE

The objective is to introduce the students to various regulations affecting business and to familiarize the students with such regulations.

Unit 1: INTRODUCTION TO BUSINESS LAWS 06 Hrs

Introduction, Nature of Law, Meaning and Definition of Business Laws, Scope and Sources of Business Law, Fundamental Rights and Directive Principle of State Policies, Principles having economic significance, Overview of Business Laws in India.

Unit 2: CONTRACT LAWS 14 Hrs

Indian Contract Act, 1872: Definition of Contract, essentials of a valid contract (all essentials need to be explained in great detail), classification of contracts, breach of contract and remedies for breach of contract.
Indian Sale of Goods Act, 1930: Definition of contract of sale, essentials of contract of sale, conditions and warrantees, rights and duties of buyer, rights of an unpaid seller.

Unit 3: INFORMATION LAWS AND RTE 10Hrs

Right to Information Act, 2005: Objectives of the RTI Act, Scope, SuoMoto disclosure, Method of seeking information, Eligibility to obtain information, Authorities under the Act,.
Right to Education Act: Objectives of the RTE Act – Salient Features.

Unit 4: COMPETITION AND CONSUMER LAWS 12Hrs

The Competition Act, 2002: Objectives of Competition Act, the features of Competition Act, components of Competition Act, CCI, CAT, offences and penalties under the Act.
Consumer Protection Act, 1986: Definition of the terms consumer, consumer dispute, defect, deficiency, unfair trade practices and services. Consumer Protection Act, Consumer Redressal Agencies – District Forum, State Commission, National Commission, any two landmark judgments of the Supreme Court.

Unit 5: ECONOMIC AND ENVIRONMENTAL LAWS 14Hrs

FEMA 1999: Objects of FEMA, definition of important terms – authorized dealer, currency, foreign currency, foreign exchange, foreign security, Directorate of Enforcement, salient features of the FEMA, offences and penalties,
Environment Protection Act, 1986: Objects of the Act, definitions of important terms – environment, environment pollutant, environment pollution, hazardous substance and occupier, types of pollution, global warming, causes for ozone layer depletion, carbon trade, rules and powers of central government to protect environment in India.

SKILL DEVELOPMENT

- Prepare a chart showing sources of business law and Indian Constitution Articles having economic significance.
- Draft an agreement on behalf of an MNC to purchase raw materials indicating therein terms and conditions and all the essentials of a valid contract.
- Draft an application to the Chief Information Officer of any government office seeking information about government spending.
- Draft digital signature certificate.
- Draft a complaint to District Consumer Forum on the deficiency of service in a reputed corporate hospital for medical negligence.
- Collect leading cyber crimes cases and form groups in the class room and conduct group discussion.
- Draft a constructive and innovative suggestions note on global warming reduction.

BOOK REFERENCE

1. K. Aswathappa, Business Laws, Himalaya Publishing House,
2. K.R. Bulchandni: Business Laws, HPH.
3. N.D. Kapoor, Business Laws, Sultan chand publications.
4. S.S. Gulshan, Business Law 3rd Edition, New Age International
5. S.C. Sharama& Monica : Business Law I.K. International
6. Tulsian Business Law , Tata McGraw-Hill Education
7. Dr. K. Venkataraman, SHB Publications.
8. Kamakshi P & Srikumari P, Business Regulation
9. Dr. Alice Mani: Business Regulations, SBH.

3.6 CORPORATE ENVIRONMENT

OBJECTIVE

The objective is to enable the students to get familiarized with the existing Company Law and Secretarial Procedure.

Unit 1: FORMATION OF COMPANY 14Hrs

Promotion of Company – Promotion – Incorporation – Capital Subscription and Certificate of Commencement of Business. **Memorandum of Association** – Definition – Clauses. **Articles of Association** – Definition – Contents – Distinction between Memorandum of Association and Articles of Association – Alteration of Memorandum of Association and Articles of Association. **Prospectus** – Meaning – Contents – Statement in Lieu of Prospectus.

Corporate Social Responsibility initiatives under Companies Act 2013 (Section 135)

Unit 2: CAPITAL OF COMPANY 10 Hrs

Share Capital – Meaning of Shares – Kinds of Shares – Merits and Demerits of Shares. Debentures – Meaning – Features – Types – Merits and Demerits, Listing of Shares.

Unit 3: COMPANY MEETINGS 12 Hrs

Meaning and Definition – Types of Meeting – Statutory Meeting – Annual General Meeting – Extraordinary General Meeting – Board Meeting and Resolutions.

Unit 4: COMPANY SECRETARY 10Hrs

Meaning and Definition – Position – Appointment – Rights – Duties – Liabilities – Qualification and Removal of Company Secretary.

Unit 5: WINDING UP OF COMPANIES 10 Hrs

Modes of winding up – commencement of winding up – consequences –official liquidator – powers and duties of liquidator.

SKILL DEVELOPMENT

- Drafting of Memorandum of Association, Drafting of Articles of Association.
- Drafting Notice of Company Meetings – Annual, Special, Extraordinary and Board meetings.
- Drafting Resolutions of various meetings – different types.
- Chart showing Company's Organization Structure.
- Chart showing different types of Companies.
- A case study on CSR initiatives of any one company

BOOKS FOR REFERENCE

1. Maheshwari&Maheshwari, Elements of Corporate Laws, Himalaya Publishers
2. Dr. P.N. Reddy and H.R. Appanaiah, Essentials of Company Law and Secretarial Practice, Himalaya Publishers.
3. M.C. Shukla&Gulshan, Principles of Company Law, S. Chanda & Co.
4. Pradeep K. Shinde, Corporate Environment, VBH.
5. C.L. Bansal, Business & Corporate law, Excel Books.
6. N.D. Kapoor, Company Law and Secretarial Practice, Sultan Chand & Sons.
7. S.S Gulshan, Company Law, New Age International.
8. M.C. Bhandari, Guide to Company Law Procedures, Bhandari Publications.
9. S.C. Kuchal, Company Law and Secretarial Practice, Chaitanya Publishing.
10. K. Venkataramana, Service Management, SHBP.

3.7 BUSINESS ETHICS

OBJECTIVE

The objective is to provide basic knowledge of business ethics and values and its relevance in modern context.

Unit 1: BUSINESS ETHICS 12 Hrs

Introduction – Meaning - Scope – Types of Ethics – Characteristics – Factors influencing Business Ethics – Importance of Business Ethics - Arguments for and against business ethics- Basics of business ethics - Corporate Social Responsibility – Issues of Management – Crisis Management

Unit 2: PERSONAL ETHICS 10 Hrs

Introduction – Meaning – Emotional Honesty – Virtue of humility – Promote happiness – karma yoga – proactive – flexibility and purity of mind.

Unit 3: ETHICS IN MANAGEMENT 12 Hrs

Introduction – Ethics in HRM – Marketing Ethics – Ethical aspects of Financial Management – Technology Ethics and Professional ethics.

Unit 4: ROLE OF CORPORATE CULTURE IN BUSINESS 10 Hrs

Meaning – Functions – Impact of corporate culture – cross cultural issues in ethics

Unit 5: CORPORATE GOVERNANCE 12 Hrs

Meaning, scope, composition of BODs, Cadbury Committee, various committees, reports on corporate governance, scope of Corporate Governance, Benefits and Limitations of Corporate Governance with living examples.

SKILL DEVELOPMENT

- State the arguments for and against business ethics
- Make a list of unethical aspects of finance in any organization
- List out ethical problems faced by managers
- List out issues involved in Corporate Governance.
- List out unethical aspects of Advertising

BOOKS FOR REFERENCE

1. Murthy CSV: Business Ethics and Corporate Governance, HPH
2. Bholananth Dutta, S.K. Podder – Corporation Governance, VBH.
3. Dr. K. Nirmala, Karunakara Readdy : Business Ethics and Corporate Governance, HPH
4. H.R.Machiraju: Corporate Governance
5. K. Venkataramana, Corporate Governance, SHBP.
6. N.M.Khandelwal : Indian Ethos and Values for Managers
7. S Prabhakaran; Business ethics and Corporate Governance
8. C.V. Baxi: Corporate Governance
9. R. R. Gaur, R. Sanghal, G. P. Bagaria; Human Values and Professional ethics
10. B O B Tricker, Corporate Governance; Principles , Policies and Practices
11. Michael, Blowfield; Corporate Responsibility
12. Andrew Crane; Business Ethics
13. Ghosh; Ethics in Management and Indian ethos.

4.2 BUSINESS RESEARCH METHODS

OBJECTIVE

The objective is to create an awareness of the Process of Research, the tools and techniques of research and generation of reports

Unit 1: INTRODUCTION TO RESEARCH 14Hrs

Meaning – Objectives – Types of Research – Scope of Research – Research Approaches – Research Process – Research Design – Research Methods Vs Research Methodology - Steps in Research – Problem Formulation – Statement of Research Objective – Exploratory – Descriptive – Experimental Research.

Unit 2: METHODS OF DATA COLLECTION 08 Hrs

Observational and Survey Methods – Field Work Plan - Administration of surveys - Training field investigators - Sampling methods - Sample size.

Unit 3: TOOLS FOR COLLECTION OF DATA 08 Hrs

Questionnaire Design; Attitude measurement techniques – Motivational Research Techniques – Selection of Appropriate Statistical Techniques

Unit 4: STATISTICAL METHODS 18 Hrs

Tabulation of data - Analysis of data –Testing of Hypothesis, Advanced techniques – ANOVA, Chi-Square - Discriminant Analysis - Factor analysis, Conjoint analysis - Multidimensional Scaling - Cluster Analysis (Concepts Only).

Unit 5: REPORT WRITING 08 Hrs

Types of Reports, Business, Technical and Academic Report writing – Methodology Procedure – Contents – Bibliography

SKILL DEVELOPMENT

- Illustrate different types of samples with examples
- Construct a questionnaire for collection of primary data keeping in mind the topic chosen for research
- Narrate your experience using observation technique
- Diagrammatically present the information collected through the questionnaire

BOOKS FOR REFERENCE

1. O.R.Krishnaswamy; Research methodology in Social Sciences, HPH, 2008.
2. R. Divivedi: Research Methods in Behavior Science, Macmillan India Ltd., 2001.
3. J.K. Sachdeva: Business Research Methodology HPH
4. S.N. Murthy, V. Bhojanna: Business Research Methods Excel Books
5. Levin &Rubin: Statistics for Management, Prentice Hall of India, 2002
6. Gupta S; Research Methodology and Statistical Techniques, Deep & Deep Publication (P) Ltd., 2002
7. Thakur D: Research Methodology in Social Sciences, Deep & Deep Publications (P) Ltd.,1998.
8. Tripathi P.C:A Textbook of Research Methodology, Sultan Chand & Sons, 2002.
9. Cooper: Business Research Methods 6th edition, MC Graw Hill,
10. C.R. Kothari, Research Methodology, Vikas Publications
11. Usha Devi N, Santhosh Kumar - Business Research Methodology

4.3 MARKETING MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the concept of marketing and its applications and the recent trends in Marketing.

Unit 1: INTRODUCTION TO MARKETING 10 Hrs

Meaning & Definition – Goals – Concepts of Marketing – Approaches to Marketing – Functions of Marketing.

Recent trends in Marketing - Introduction, E-business – Tele-marketing – M-Business – Green Marketing – Relationship Marketing – Retailing – Concept Marketing and Virtual Marketing (Meaning Only).

Unit 2: MARKETING ENVIRONMENT (MACRO) 10 Hrs

Meaning – Demographic – Economic – Natural – Technological - Political – Legal – Socio - Cultural Environment

Unit 3: MARKETING MIX 20 Hrs

Meaning – Elements – Product – Product Mix – Product Line – Product Lifecycle – Product Planning – New Product Development – Failure of New Product – Branding – Packing and Packaging. Pricing – Objectives – Factors influencing Pricing Policy and Methods of Pricing. Physical Distribution – Meaning – Factors affecting Channel Selection – Types of Marketing Channels. Promotion – Meaning and Significance of Promotion – Personal Selling & Advertising (Meaning Only).

Unit 4: MARKET SEGMENTATION AND CONSUMER BEHAVIOUR 10 Hrs

Meaning & Definition - Bases of Market Segmentation – Requisites of Sound Market Segmentation. Consumer Behaviour – Factors influencing Consumer Behaviour and Buying Decision Process.

Unit 5: CUSTOMER RELATIONSHIP MANAGEMENT 06 Hrs

Meaning and Definition – Role of CRM – Advantages and Disadvantages

SKILL DEVELOPMENT

- Identify the product of your choice and describe in which stage of the product life cycle it is positioned.
- Suggest strategies for development of a product.
- Study of Consumer Behaviour for a product of your choice.
- Develop an Advertisement copy for a product.
- Prepare a chart for distribution network for different products.

BOOKS FOR REFERENCE

1. P N Reddy & Appanniah, Marketing Management, HPH.
2. Kuranakaran, Marketing Management, Himalaya Publishers.
3. Rekha & Vibha, Marketing Management, VBH.
4. Philip Kotler, Marketing Management, Prentice Hall.

5. Bose Biplab, Marketing Management, Himalaya Publishers.
6. J.C. Gandhi, Marketing Management, Tata McGraw Hill.
7. Ramesh & Jayanti Prasad: Marketing Management, I.K. International
8. William J. Stanton, Michael J.Etzel, Bruce JWalker, Fundamentals of Marketing, McGraw Hill Education.
9. Sontakki, Marketing Management, Kalyani Publishers.
10. K. Venkataramana, Marketing Management, SHBP.
11. Dr. Alice Mani: Marketing Management, SBH.

4.4 FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the basic concepts of Financial Management and the role of Financial Management in decision-making.

Unit 1: INTRODUCTION TO FINANCIAL MANAGEMENT 10 Hrs

Introduction – Meaning of Finance – Business Finance – Finance Function – Aims of Finance Function – Organization structure of finance - Financial Management – Goals of Financial Management – Financial Decisions – Role of a Financial Manager – Financial Planning – Steps in Financial Planning – Principles of a Sound Financial Planning.

Unit 2: TIME VALUE OF MONEY 10 Hrs

Introduction – Meaning & Definition – Need – Future Value (Single Flow – Uneven Flow & Annuity) – Present Value (Single Flow – Uneven Flow & Annuity)– Doubling Period – Concept of Valuation – Valuation of Bonds & Debentures – Preference Shares – Equity Shares – Simple Problems.

Unit 3: FINANCING DECISIONAND INVESTMENT DECISION 16Hrs

Financing Decisions: Introduction – Meaning of Capital Structure – Factors influencing Capital Structure – Optimum Capital Structure – EBIT – EBT – EPS – Analysis – Leverages – Types of Leverages – Simple Problems.

Investment Decisions: Introduction – Meaning and Definition of Capital Budgeting – Features – Significance – Process – Techniques – Payback Period – Accounting Rate of Return – Net Present Value – Internal Rate of Return – Profitability Index - Simple Problems

Unit 4: DIVIDEND DECISION 08 Hrs

Introduction – Meaning and Definition – Determinants of Dividend Policy – Types of Dividends – Provisions under Campiness Act in relation to dividends.

Unit 5: WORKING CAPITAL MANAGEMENT 12 Hrs

Introduction – Concept of Working Capital – Significance of Adequate Working Capital – Evils of Excess or Inadequate Working Capital – Determinants of Working Capital – Sources of Working Capital –Cash Management – Receivables Management – Inventory Management,.

SKILL DEVELOPMENT

- Draw the organization chart of Finance Function
- Illustrate operating cycle for at least 2 companies of your choice.
- Evaluate the NPV of an investment made in any one of the capital projects with imaginary figures for 5 years.
- Prepare an ageing schedule of debtors with imaginary figures.
- Capital structure analysis of companies in different industries

BOOKS FOR REFERENCE

1. Reddy, Appananaih: Financial Management., HPH
2. Sudrashan Reddy – Financial Management, HPH.
3. Venkataraman R _ Financial Management, VBH.
4. S N Maheshwari, Financial Management., Sultan Chand.
5. R.M.Srivastava : Financial Management –Management and Policy, Himalaya Publishers.
6. Khan and Jain, Financial Management, Tata McGraw Hill.
7. Dr. K.V. Venkataramana, Financial Management, SHB Publications.
8. Sudhindra Bhatt: Financial Management, Excel Books.
9. Sharma and Sashi Gupta, Financial Management, Kalyani Publication.
10. M.GangadharRao& Others: Financial Management, Himalaya Publishers.
11. I M Pandey, Financial Management, Vika Publication House.
12. Prasanna Chandra, Financial Management, Tata McGraw Hill.
13. K. Venkataramana, Financial Management, SHBP.
14. Dr. Alice Mani: Financial Management, SBH.

4.5 SERVICES MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with different services and prepare them with requisite skills to manage services.

Unit 1: INTRODUCTION TO SERVICES MANAGEMENT 08 Hrs

Meaning of Services – Concepts - Characteristics of Services – Classification of Services – Growth of Service Sector.

Unit 2: SERVICES MARKETING 18Hrs

Meaning – Differences between Products and Services – Importance of Services Marketing – Marketing Mix for Services – 7 P's (in detail) Managing Demand and Supply in Service Industry. Service Delivery Process: Role of Customer in Service delivery process- Quality issues in Services – GAP Model, Managing moments of Truth

Unit 3: TOURISM AND HOSPITALITY SERVICES 12 Hrs

Introduction – Evolution of Tourism Industry – Concept and Nature of Tourism – Significance of Tourism Industry- Market segmentation in tourism- Marketing mix of Tourism - Recent Trends in Tourism. Hospitality Services: Types of Hotels –Types of Accommodation – Departments in Hotels – Customer care in Hospitality Industry.

Unit 3: BANKING AND INSURANCE SERVICES 12Hrs

Banking - Introduction – Traditional Services – Modern Services – Recent Trends in Banking Services. **Insurance -** Introduction – Meaning and Definition of Insurance – Types of Insurance – Life Insurance – Products of Life Insurance – General Insurance – Types of General Insurance – Insurance Agents and other Intermediaries .

Unit 5: HEALTHCARE AND INFORMATION TECHNOLOGY ENABLED SERVICES (ITES) 6 Hrs

Hospitals – Evolution of Hospital Industry – Nature of Service – Risk involved in Healthcare Services – marketing of medical services – Hospital extension services – Pharmacy, nursing – Medical Transcription. ITES: Introduction – Growth, Types, Job opportunities in ITES.

SKILL DEVELOPMENT

- Prepare a chart on conditions to be complied for Star Hotel Status.
- Procure any two insurance policies (Xerox) and paste them in the record.
- Visit and Travel and Tour agencies and prepare organization chart.
- Interact with tourist operators and identify the areas of tourism management.
- Prepare a chart showing customer service rendered by at least two MF. (Preferably a comparative chart)
- Procedures of Railway ticket booking with specimen of reservation/cancellation slip.
- Procedure for Air ticket booking both domestic and International.

BOOKS FOR REFERENCE

1. S.M. Jha: Services Marketing HPH
2. Dr. Shajahan. S; Service Marketing (Concept, Practices & Cases); Himalaya Publishing House; Mumbai; First Edition 2001.
3. Sunil B Rao – Service Management , VBH.
4. Shanker, Ravi; Services Marketing – the Indian Perspective; Excel Books, New Delhi; First Edition; 2002
5. Dutta : Service Management, I.K. International
6. Cengiz Hakseveretal – 'Service Management and Operations'; Pearson Education.
7. K. Venkataramana, Service Management, SHBP.

4.6 BANKING REGULATIONS &OPERATIONS

OBJECTIVE

The objective is to familiarize the students to understand the law and practice of banking.

Unit 1: COMMERCIAL BANKS 08 Hrs

Introduction – Role of Commercial Banks – Functions of Commercial Banks – Primary Functions and Secondary Functions – Credit Creation of Commercial Banks – Investment Policy of Commercial Banks – Profitability of Commercial Banks. Regulation and Control of Commercial Banks by RBI

Unit 2: BANKER AND CUSTOMER RELATIONSHIP 20Hrs

Banker and Customer: Meaning of Banker and Customer – Banking Company – General and Special Relationships between Banker and Customer.

Types of Customers and Account holders: Procedure and Practice in opening and conducting the accounts of customers particularly individuals including minors - Joint Account Holders. Partnership Firms - Joint Stock companies with limited liability-Executors and Trustees-Clubs and Associations-Joint Hindu Family

Unit 3: NEGOTIABLE INSTRUMENTS 08Hrs

Introduction – Meaning & Definition – Features – Kinds of Negotiable Instruments (Meanings only) – Cheques – Meaning & Definition – Features - Parties – Crossing of cheques – types of crossing. Endorsements – Meaning – Essentials – Kinds of Endorsement.

Unit 4: PAYING BANKER AND COLLECTING BANKER 10 Hrs

Paying Banker – Meaning – Precautions – Statutory Protection to the Paying Banker – Dishonor of Cheques – Grounds of Dishonor – Consequences of wrongful dishonor of Cheque.

Collecting Banker – Meaning – Duties & Responsibilities of Collecting Banker –Statutory Protection to Collecting Banker

Unit 5: PRINCIPLES OF BANK LENDING 10 Hrs

Different kinds of borrowing facilities granted by banks - Loans, Cash Credit, Overdraft, Bills Purchased, Bills Discounted, Letters of Credit - Types of Securities – NPA (Meaning only).Sound principles of Bank Lending.

SKILL DEVELOPMENT

- Collect and fill account opening form of SB A/c or Current A/c
- Collect and fill pay in slip of SB A/c or Current A/c.
- Draw specimen of Demand Draft.
- Draw different types of endorsement of cheques.
- Past specimen of Travelers Cheques / Gift Cheques / Credit Cheques.
- List customer services offered by atleast 2 banks of your choice.

BOOKS FOR REFERENCE

1. Gordon &Natrajan: Banking Theory Law and Practice, HPH.
2. Maheshwari. S.N.: Banking Law and Practice, Kalyani Publishers
3. Gagendra Naidu, S. K. Poddar , Law and Practice of Banking, VBH.
4. M. Prakash – Banking Regulation & Operations, VBH.
5. Tannan M.L: Banking Law and Practice in India, Wadhwa and company
6. P.SubbaRao ; Bank Management, HPH.
7. Herbert Percival Sheldon, Peter J. Fidler, Herbert B. Sheldon, Sheldon's Practice and Law of Banking, Mac Donald and Evans
8. V. Iyengar; Introduction to Banking, Excel Books.
9. Kothari N. M: Law and Practice of Banking.
10. Shekar. K.C: Banking Theory Law and Practice, VBH.
11. Venkataramana. K, Banking Regulation, SHBP.

4.7 COST ACCOUNTING

OBJECTIVE

The objective of this subject is to familiarize students with the various concepts and element of cost.

Unit 1: INTRODUCTION TO COST ACCOUNTING 10 Hrs

Introduction – Meaning & Definition of Cost, Costing and Cost Accounting – Objectives of Costing - Comparison between Financial Accounting and Cost Accounting – Application of Cost Accounting – Designing and Installing a Cost Accounting System – Cost Concepts - Classification of Costs – Cost Unit – Cost Center – Elements of Cost – Preparation of Cost Sheet – Tenders and Quotations.

Unit 2: MATERIAL COST CONTROL 14Hrs

Meaning – Types – Direct Material – Indirect Material - Material Control – Purchasing Procedure – Store Keeping – Techniques of Inventory Control – Setting of Stock Levels – EOQ – ABC Analysis – VED Analysis – Just In-Time – Perpetual Inventory System – Documents used in Material Accounting - Methods of Pricing Material Issues – FIFO – LIFO – Weighted Average Price Method and Simple Average Price Method.

Unit 3: LABOUR COST CONTROL 10 Hrs

Meaning – Types – Direct Labour – Indirect Labour – Timekeeping – Time booking – Idle Time – Overtime – Labour Turn Over. Methods of Labour Remuneration - Time Rate System – Piece Rate System – Incentive Systems – Halsey plan – Rowan Plan – Taylor's differential Piece Rate System and Merrick's Differential Piece Rate System – Problems

Unit 4: OVERHEAD COST CONTROL 14Hrs

Meaning and Definition – Classification of Overheads – Procedure for Accounting and Control of Overheads – Allocation of Overheads – Apportionment of Overheads – Primary Overhead Distribution Summary – Secondary Overhead Distribution Summary – Repeated Distribution Method and Simultaneous Equations Method – Absorption of Factory Overheads – Methods of Absorption – Machine Hour Rate – Problems.

Unit 5: RECONCILIATION OF COST AND FINANCIAL ACCOUNTS 08Hrs

Need for Reconciliation – Reasons for differences in Profit or Loss shown by Cost Accounts and Profit or Loss shown by Financial Accounts – Preparation of Reconciliation Statement and Memorandum Reconciliation Account.

SKILL DEVELOPMENT

- Classification of costs incurred in the making of a product.
- Identification of elements of cost in services sector.
- Cost estimation for the making of a proposed product.
- Documentation relating to materials handling in a company.
- Collection and Classification of overheads in an organization.
- Discuss the reasons for LTO in organizations..

BOOKS FOR REFERENCE

1. M. N. Arora: Cost Accounting, HPH
2. J.Madegowda: Advanced Cost Accounting, HPH.
3. N.K. Prasad: Cost Accounting, Book Syndicate.
4. Gouri Shankar: Practical Costing, HPH.
5. KhannaPandey&Ahuja : Practical Costing, Sultan Chand.
6. K. S. Thakur: Cost Accounting, New Century Book House Pvt. Ltd.
7. M.L. Agarwal: Cost Accounting, Sahithya Bhawan Publications.
8. Palaniappan & Harihara : Cost Accounting I.K. International
9. Jain &Narang: Cost Accounting, Kalyani Publishers.
10. S.P. Iyengar: Cost Accounting, Sultan Chand.
11. S.N. Maheshwari: Cost Accounting, Mahaveer Publishers.
12. Horngren: Cost Accounting – A Managerial Emphasis, Prentice Hall.
13. Dr.A. Sundra Rajan & Dr. K. Venkataramana, SHB Publications.
14. R.G. Saha & Others – Cost Accounting
15. V. Rajesh Kumar & R.K. Sreekantha, Cost Accounting – I, Vittam Publications.
16. Dr. Alice Mani: Cost Accounting, SBH.

5.1 ENTREPRENEURIAL MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the basic concepts of entrepreneurship and prepare business plan to start a small industry.

Unit 1: ENTREPRENEURSHIP 12 Hrs

Introduction – Meaning & Definition of Entrepreneurship, Entrepreneur & Enterprise – Differences between Entrepreneurship, Entrepreneur & Enterprise – Functions of Entrepreneur – Role of Entrepreneur for Economic Development - Factors influencing Entrepreneurship - Pros and Cons of being an Entrepreneur – Differences between Manager and Entrepreneur – Qualities of an Entrepreneur – Types of Entrepreneurs. Entrepreneurship Development- Need – Problems – National and State Level Institutions

Unit 2: SMALL SCALE INDUSTRIES 10 Hrs

Small Scale Industries - Tiny Industries - Ancillary Industries - Cottage Industries – Definition – Meaning - Product Range - Capital Investment - Ownership Patterns - Importance and Role played by SSI in the development of the Indian Economy - Problems faced by SSI's and the steps taken to solve the problems - Policies Governing SSI's

Unit 3: STARTING A SMALL INDUSTRY 12 Hrs

Concept of Business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. - An overview of the steps involved in starting a business venture – Location, Clearances and Permits required, Formalities, Licensing and Registration Procedures - Assessment of the market for the proposed project - Importance of financial, technical and social feasibility of the project.

Unit 4: PREPARING THE BUSINESS PLAN (BP) 10 Hrs

Business Plan, Importance of BP, Preparation of BP, Typical BP format - Financial aspects of the BP - Marketing aspects of the BP - Human Resource aspects of the BP - Technical aspects of the BP - Social aspects of the BP - Preparation of BP - Common pitfalls to be avoided in preparation of a BP

Unit 5: IMPLEMENTATION OF THE PROJECT AND SICKNESS IN SSIs 12 Hrs

Financial assistance through SFC's, SIDBI, Commercial Banks, KSIDC, KSSIC, IFCI, - Non-financial assistance from DIC, SISI, EDI, SIDO, AWAKE, TCO, TECKSOK, KVIC - Financial incentives for SSI's and Tax Concessions - Assistance for obtaining Raw Material, Machinery, Land and Building and Technical Assistance - Industrial Estates – Role and Types. Sickness: Meaning and definition of a sick industry - Causes of Industrial Sickness - Preventive and Remedial Measures for Sick Industries

SKILL DEVELOPMENT

- Preparation of a Project report to start a SSI Unit.
- Preparing a letter to the concerned authority-seeking license to the SS Unit, You propose to start.
- Format of a business plan.
- A Report on the survey of SSI units in the region where college is located.
- Chart showing financial assistance available to SSI along with rates of interest.

- Chart showing tax concessions to SSI both direct and indirect.
- Success stories of Entrepreneurs in the region.

BOOKS FOR REFERENCE

1. Vasant Desai: The Dynamics of Entrepreneurship Development and Management, HPH
2. Mark. J. Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
3. Satish Taneja: Entrepreneur Development, HPH.
4. UdaiPareek and T.V. Rao, Developing Entrepreneurship
5. S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems, SIET, Hyderabad
6. Srivastava, A Practical Guide to Industrial Entrepreneurs, Sultan Chand.
7. Government of India, Report of the committee on small and medium entrepreneurs, 1975
8. VidyaHattangadi ; Entrepreneurship, HPH.
9. N.V.R. Naidu : Management and Entrepreneurship, I.K. International
10. Bharusali, Entrepreneur Development,
11. K. Venkataramanappa, Entrepreneurial Development, SHB Publications
12. Anil Kumar : Small Business and Entrepreneurship, I.K. International
13. Rekha & Vibha – Entrepreneurial Management, VBH.

5.2 COMPUTER APPLICATION IN BUSINESS

OBJECTIVE

The objective of the subject is to make the students understand the concept of information systems used in business and to know the latest trends in doing business in internet environment.

Unit 1: INTRODUCTION TO INFORMATION SYSTEM 10 Hrs

Meaning and definition of system, information and information system – business information system – Features of Information system – Uses of Business Information Systems, Users of Information Systems – Components of Business Information Systems.

Unit 2: TYPES OF INFORMATION SYSTEMS 14Hrs

Management Support Systems (MSS), Management Information systems, , Transaction Processing systems, Decision Support Systems (DSS), Group Decision Support System (GDSS), Office Automation system, Process Control systems, Executive Information systems, Levels of management and Information systems.

Unit 3: MS OFFICE 12 Hrs

MS Word – editing a document- Formatting – Spell Checking – Page setup, Using tabs, Tables and other features Mail Merge, MS Excel – building work sheet- data entry in work sheets, auto fill – working with simple problems- formula – statistical analysis, sort, charts, MS Power point – Design, Side Show – Presentation.

Unit 4: DATABASE MANAGEMENT SYSTEMS 14 Hrs

Introduction- Purpose of Database Systems, Views of data, Data Models, Database language, Transaction Management, Storage Management, Database Administrator, Database Users, Overall System Structure, Different types of Database Systems

Unit 5: ACCOUNTING SOFTWARE 06Hrs

Introduction to Tally, Opening new company, Safety of Accounts or Password, Characteristics, Making Ledger Accounts, writing voucher, voucher entry, making different types of voucher, correcting sundry debtors an sundry creditors accounts, preparation of Trail Balance, Accounts books, Cash Book, Bank Books, Ledger Accounts, Group Summary, Sales Register and Purchase Register, Journal Register, Statement of Accounts, & Balance Sheet.

SKILL DEVELOPMENT

- Maintain a Record on Practicals.

BOOKS FOR REFERENCE

1. James Obrein, Management Information Systems, Tata McGraw Hill
2. M. Suman _ Computer Application Business, VBH
3. R.G. Saha – Computer Application Business, HPH.
4. Amrutha Gowri & Soundrarajana A, Computer Application Business, SHBP.
5. Manjunath, GunduRao – Computer Business Applications, HPH.
6. Sudaimuthu& Anthony: Computer Applications in Business, HPH.

7. S. Perekar, Anindita Hazra; Computer Application in Business
8. Srivatasava : Enterprise Resource Planning I.K. International
9. S Sadagopan, Enterprise resource planning (ERP), Tata McGraw Hill
10. S.P. Rajagopal, Computer Application in Business
11. C.S.V.Murthy: Management Information, HPH

5.3 INVESTMENT MANAGEMENT

OBJECTIVES:

1. To enable develop skills in analyzing various types of securities.
2. To develop necessary skills in students to design and revise a portfolio of securities.

Unit 1: Introduction Investment Management **10Hrs**

Investment management, nature and scope, investment avenues, types of financial assets and real assets, Security return and risk – Systematic and unsystematic risk - sources of risk, Measurement of risk and return, sources of investment information, Fixed income – securities – bonds, preference shares – sources of risk, valuation, duration of bonds – theory of interest rates – yield curve, Bond innovations and their valuation.

Unit 2: Securities Analysis **14Hrs**

Analysis of variable income securities, fundamental analysis – analysis of economy, industry analysis, company analysis – financial and non – financial, Equity valuation models, Options, futures, forwards, warrants, and their valuations, Technical analysis – Dow's theory, charts – Efficient market hypothesis and its implications, Tax aspects of investment, Securities Trading procedure. A Critical Survey of software packages for security analysis.

Unit 3: Portfolio Management **10Hrs**

Meaning of portfolio management, portfolio analysis, why portfolios? Portfolio objectives, portfolio management process, selection of securities. Portfolio theory, Markowitz Model, Sharpe's single index model. Efficient frontier with Lending and borrowing, optimal portfolio capital Asset pricing model, Arbitrage pricing theory two factor and multi factor models.

Unit 4: Portfolio Management Strategies **12Hrs**

Bond Portfolio Management strategies, Equity portfolio management strategies, strategies using derivatives, hedging. Portfolio revision – rebalancing plans, portfolio evaluation, Sharpe's index, Treynor's measure and Jenson's measure.

Unit 5: Mutual Funds **10Hrs**

Mutual funds, Investors life cycle, Personal investment, Personal Finance, Portfolio Management of funds in banks, insurance companies, pension funds, International investing, International funds management, emerging opportunities. A brief survey of software packages for Portfolio Management.

Skill Development

Seminars, Group Discussion and Case Studies on various aspects of syllabus.

Books for Reference

1. Bombay Stock Exchange Directory.
2. Donald E. Fischer and Ronald J. Jordan: Security Analysis and Portfolio Management, Pearson Ed.
3. Stanely S.C. Haung Maury Stall: Investment Analysis and Management, Allyn and Bacon Inco., Massachustes.
4. Jerome B. Cohen and Edward D. Zinbarg Etal: Investment Analysis and Portfolio Management, Ricchard D., Irwin Inc., Illinois.
5. J.C. Fancis: Investment Analysis and Management
6. Panduan Puneethavarty, Securities Analysis and Portfolio Management, Vikas Pub. House.
7. Fuller & Farrel, Modern Investment and Security Analysis, McGraw Hill International.

5.4 MANAGEMENT ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to understand the analysis and interpretation of financial statements with a view to prepare management reports for decision-making.

Unit 1: INTRODUCTION TO MANAGEMENT ACCOUNTING 06 Hrs

Meaning – Definition – Objectives – Nature and Scope of Management Accounting – Relationship between Financial Accounting, Management Accounting, and Cost Accounting

Unit 2: RATIO ANALYSIS 16 Hrs

Meaning and Definition of Ratio, Accounting Ratio and Ratio Analysis – Uses – Limitations - Classification of Ratios – Problems on Ratio Analysis - Preparation of Trading and Profit & Loss Account and Balance Sheet with the help of Accounting Ratios

Unit 3: FUND FLOW ANALYSIS 12Hrs

Meaning and Concept of Fund – Meaning and Definition of Fund Flow Statement – Uses and Limitations of Fund Flow Statement – Procedure of Fund Flow Statement – Statement of changes in Working Capital – Statement of Funds from Operation – Statement of Sources and Application of Funds – Problems.

Unit 4: CASH FLOW ANALYSIS 12Hrs

Meaning and Definition of Cash Flow Statement – Differences between Cash Flow Statement and Fund Flow Statement – Uses of Cash Flow Statement – Limitations of Cash Flow Statement – Provisions of AS-3 – Procedure of Cash Flow Statement – Concept of Cash and Cash Equivalents - Cash Flow from Operating Activities – Cash Flow from Investing Activities and Cash Flow from Financing Activities – Preparation of Cash Flow Statement according to AS-3 (Indirect Method Only).

Unit 5: MARGINAL COSTING AND BUDGETORY CONTROL 10Hrs

Marginal Costing: Meaning, Features and Assumptions - Calculation of Break Even Point – Equation Method, Graphic Method, Problems .

Budgetary Control: Introduction – Meaning & Definition of Budget and Budgetary Control – Objectives of Budgetory Control – Classification of Budgets –Functional Budgets – Problems on Flexible Budgets

SKILL DEVELOPMENT

- Collection of financial statements of any one organization for two years and preparing comparative statements
- Collection of financial statements of any two organization for two years and prepare a common Size Statements
- Collect statements of an Organization and Calculate Important Accounting Ratio's
- Draft a report on any crisis in an organization.

BOOKS FOR REFERENCE

1. PN Reddy & Appanaiah, Essentials of Management Accounting, HPH.
2. J. Made Gowda: Management Accounting, HPH.
3. R.G. Saha – Management Accounting, VBH.
4. Dr. S.N. Maheswari, Management Accounting, VBH.
5. Sexana, Management Accounting, Tata McGraw Hill
6. Sudhindra Bhatt; Management Accounting, Excel Books.
7. Dr. S.N. Goyal and Manmohan, Management Accounting
8. Jawaharlal : Essentials of Managerial Accounting, HPH.
9. B.S. Raman, Management Accounting, United Publishers.
10. Sharma and Gupta, Management Accounting, S J Publishers.
11. Soundra RajanA & Venkataramana. K, Management Accounting, SHBP.

6.1 INTERNATIONAL BUSINESS

OBJECTIVE

The objective of this subject is to facilitate the students in understanding International Business in a multi cultural world.

Unit 1: INTRODUCTION TO INTERNATIONAL BUSINESS 10Hrs

Meaning and Definition of International Business – Theories of International Trade – Economic Theories – Forms of International Business - Nature of International Business

Unit 2: MODES OF ENTRY INTO INTERNATIONAL BUSINESS 12 Hrs

Mode of Entry – Exporting – Licensing – Franchising – Contract Manufacturing – Turn Key Projects – Foreign Direct Investment – Mergers, Acquisitions and Joint Ventures – Comparison of different modes of Entry.

Unit 3: GLOBALIZATION 16Hrs

Globalization: Meaning - Features – Stages –Production –Investment and Technology, Globalization – Advantages and Disadvantages – Methods and Essential Conditions for Globalization. **MNC's and International Business**: Definitions – Distinction between Indian Companies – MNC – Global Companies and TNC – Organizational Transformations – Merits and Demerits of MNC's in India

Unit 4: INTERNATIONAL MARKETING INTELLIGENCE 8 Hrs

Information required – Source of Information – International Marketing Information System and Marketing Research.

Unit 5: EXIM TRADE 10 Hrs

Export Trade, Procedure, Steps & Documentation, Direction of India's Trade – Export Financing – Documents related to Export Trade – Export Marketing – Import Trade, Procedure, Steps, Documentations and Problems - EXIM Policy - Balance of Payment – Disequilibrium and Measures for Rectification - Institutions connected with EXIM Trade.

SKILL DEVELOPMENT

- List any three MNC's operating in India along with their products or services offered.
- Prepare a chart showing currencies of different countries
- Tabulate the foreign exchange rate or at least 2 countries for 1 month
- Collect and Paste any 2 documents used in Import and Export trade.

BOOKS FOR REFERENCE

1. Dr. Aswathappa International Business, Tata McGraw Hill.
2. P. SubbaRao – International Business – HPH
3. Shyam Shukla; International Business, Excel Books.
4. Francis Cherunilam; International Business, Prentice Hall of India
5. MahuaDutta, International Business, I.K. Intl
6. J. Maskeri- International Business
7. Rosy Joshi; International Business, Kalyani Publishers.
8. Venkataramana. K, International Business, SHBP.
9. Subhasre S – International Business, HPH.

6.2 E-BUSINESS

OBJECTIVE:
The objective is to expose the students to electronic modes of commercial operations.

UNIT 1 :E-BUSINESS 16Hrs
Introduction, E-Commerce – definition, History of E-commerce, types of E-Commerce B to B etc. Comparison of traditional commerce and e-commerce. E-Commerce business models – major B to B, B to C model, Consumer-to-Consumer (C2C), Consumer-to-Business (C2B) model, Peer to-Peer (P2P) model – emerging trends. Advantages/ Disadvantages of e-commerce, web auctions, virtual communities, portals, e-business revenue models.

UNIT 2 : SECURITY FOR E-BUSINESS 12 Hrs
Security threats – An area view – implementing E-commerce security – encryption – Decryption, Protecting client computers E-Commerce Communication channels and web servers Encryption, SSL protocol, Firewalls, Cryptography methods, VPNs, protecting, networks, policies and procedures

UNIT 3 : E-PAYMENTS 12Hrs
E-payment systems – An overview. B to C payments, B to B payments. Types of E- payment system – Credit card payment, debit cards, accumulating balance, online stored value payment systems, digital cash, digital (electronic) wallets, agile wallet, smart cards and digital cheques. Secure Electronic Transaction (SET) protocol

UNIT 4 : E-BUSINESS MARKETING TECHNOLOGIES 10 Hrs
E-Commerce and marketing B to B and B to C marketing and branding strategies. Web transaction logs, cookies, shopping cart database, DBMS, SQL, data mining, CRM (customer relationship Management) system – permission marketing, affiliate marketing, viral marketing.

UNIT 5 : CYBER LAWS 06Hrs
Legal Aspects of E-Business, Internet frauds – Cyber Laws. IT Act 2000 salient features.

SKILL DEVELOPMENT
- Visit Few Business Websites and note down in Practical Record Book

BOOKS FOR REFERENCE

1. Marriappa M – E- Commerce,
2. R. G. Saha, E-Business, HPH
3. M. Suman – E – Commerce & Accounting
4. Kalakota Ravi and A. B. Whinston : “Frontiers of Electronic Commerce”, Addison
5. Watson R T :“Electronic Commerce – the strategic perspective.” The Dryden press
6. Agarwala K.N and Deeksha Ararwala: “Business on the Net – Whats and Hows of E-Commerce”
7. Agarwala and Ararwala : “Business on the Net – Bridge to the online store front,”
8. Murthy CSV: “E. Commerce” Himalaya Publishing House Pvt.Ltd.

9. Diwan, Prag and Sharma, “Electronic Commerce – A manager guide to E-business”, Vanity Books International
10. P. Diwan, S. Sharma; “E-Commerce”, Excel Books.
11. JanalD.S :“Online Marketing Hand book.” Van Nostrand Reinhold Network
12. Kosiur David, “Understanding Electronic Commerce Microsoft”, press Washing-ton.
13. Minoli and Minol, “Web Commerce Technology Handbook”, TMH New Delhi.
14. Schneider Gary P, “Electronic Commerce- course Technology, Delhi.
15. Young Margaret Levine: “The complete reference to Internet”, TMH.
16. C.S.Rayudu: “Ecommerce and E Business”, HPH.
17. Kalakota Ravi: “E-business 2: Road map for success.” Pearson Education Ltd.
18. Kalkota Ravi. “Electronics Commerce”: A managers Guide.
19. Mariammal & Soundra Rajan, E-business, SHB.

6.3 INCOME TAX

OBJECTIVE

The objective of this subject is to expose the students to the various provision of Income Tax Act relating to computation of Income individual assesses only.

Unit 1: INTRODUCTION TO INCOME TAX **14 Hrs**

Income Tax: Brief History - Legal Frame Work – Types of Taxes - Cannons of Taxation – Important Definitions: Assessment – Assessment Year – Previous Year – Exceptions to the general rule of Previous Year - Assessee – Person – Income - Casual Income – Gross Total Income – Total Income – Agricultural Income

Residential Status: Determination of Residential Status of an individual (simple problems) - Incidence of Tax (Simple Problems on Computation of Gross Total Income).

Exempted Incomes: Introduction – Exempted Incomes U/S 10 (Restricted to Individual Assessee) – Only theory

Unit 2: INCOME FROM SALARY **16 Hrs**

Meaning & Definition – Basis of Charge – Allowances – Fully Taxable Allowances – Partly Taxable Allowances: House Rent Allowance, Entertainment Allowance, Transport Allowance, Children Education & Hostel Allowances - Fully Exempted Allowances – Perquisites – Tax Free Perquisites – Perquisites Taxable in all Cases: Rent free accommodation - Concessional accommodation, Personal obligations of the employee met by the employer – Perquisites Taxable in Specified Cases : Gardener, Sweeper, Gas, Electricity, Water and Motor car facility (when the motor car is owned or hired by the employer)– Provident Funds – Deductions from Salary U/S 16 – Problems on Income from Salary(excluding retirement benefits).

Unit 3: INCOME FROM HOUSE PROPERTY **10 Hrs**

Basis of Charge – Exempted Incomes from House Property – Annual Value – Determination of Annual Value – Loss due to Vacancy – Deductions from Annual Value – Problems on Income from House Property(Excluding Pre-Construction interest)

Unit 4: PROFITS AND GAINS FROM BUSINESS AND PROFESSION **10Hrs**

Meaning and Definition of Business & Profession – Expenses & losses Expressly Allowed – Expenses and losses Expressly Disallowed – Expenses Allowed on Payment Basis - Problems on computation of income from Business of Sole Proprietor.

Unit 5: COMPUTATATION OF TOTAL INCOME **06 Hrs**

Income from **Capital Gains (**excluding exemptions **-** Theory only) **- Income from Other Sources** (Theory only) - Deductions **U/S 80 C, D & G**. Simple problems on Computation of Total income of an Individual

SKILL DEVELOPMENT

- Form No. 49A (PAN) and 49B.
- Filling of Income Tax Returns.
- List of enclosures to be made along with IT returns (with reference to salary & H.P).

- Preparation of Form 16.
- Computation of Income Tax and the Slab Rates.
- Computation of Gratuity.
- Chart on perquisites.
- List of enclosures to be made along with IT returns (with reference to salary and house property incomes)

BOOKS FOR REFERENCE

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
4. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
5. Gaur &Narang: Income Tax, Kalyani Publisher s
6. 7 Lecturer – Income Tax – VBH
7. Dr.V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax – I, Vittam Publications

6.4 STRATEGIC MANAGEMENT OR PROJECT REPORT AND VIVA - VOCE

OBJECTIVE:

The Objective of this subject is to expose the students to the various strategic issues such as strategic planning, implementation and evaluation etc. and preparation of project reports.

Unit 1: INTRODUCTION TO STRATEGIC MANAGEMENT **10 Hrs**

Introduction - Meaning and Definition – Need – Process of Strategic Management – Strategic Decision Making – Business Ethics – Strategic Management.

Unit 2: ENVIRONMENTAL APPRAISAL **12 Hrs**

The concept of Environment – The Company and its Environment – Scanning the Environment, Technological, Social, Cultural, Demographic, Political, Legal and Other Environments Forces. SWOT Analysis – Competitive Advantage – Value Chain Analysis.

Unit 3: STRATEGIC PLANNING **12 Hrs**

Strategic Planning Process – Strategic Plans during recession, recovery, boom and depression – Stability Strategy – Expansion Strategy – Merger Strategy – Retrenchment Strategy – Restructure Strategy – Levels of Strategy – Corporate Level Strategy – Business Level Strategy and Functional Level Strategy – Competitive Analysis – Porter's Five Forces Model.

Unit 4: IMPLEMENTATION OF STRATEGY **14 Hrs**

Aspects of Strategy Implementation – Project Manipulation – Procedural Implementation – Structural Implementation – Structural Considerations –Organizational Design and Change – Organizational Systems. Behavioral Implementation – Leadership Implementation – Corporate Culture – Corporate Policies and Use of Power. Functional and Operational Implementation – Functional Strategies – Functional Plans and Policies. Financial – Marketing – OPERATIONAL and Personnel dimensions of Functional Plan and Policies – Integration of Functional Plans and Policies.

Unit 5: STRATEGY EVALUATION **08 Hrs**

Strategy Evaluation and Control - Operational Control - Overview of Management Control – Focus on Key Result Areas.

SKILL DEVELOPMENT

- Present a chart showing Strategic Management Process.
- Select any organization and undertake SWOT analysis.
- Present strategy followed by an FMCG company in Indian Market.
- Select any sector and make competitive analysis using Porter's five forces model.
- List social responsibility action initiated by any one company.
- Select any organization and identify the Key Result Areas

BOOKS FOR REFERENCE

1. Dr. Aswathappa, Business Environment for Strategic Management, Tata McGraw Hill.
2. Subbarao: Business Policy and Strategic Management, HPH.

3. Charles W.L Hill and Gareth R. Jones, Strategic Management an Integrated Approach, Cengage Learning
4. Azhar Kazmi, Business Policy and Strategic Management, Tata McGraw Hill
5. C. AppaRao; Strategic Management and Business Policy, Excel Books.
6. Ghosh P.K., Business Policy and Strategic Planning and Management, Tata McGraw Hill.
7. Pillai, Strategic Management,
8. Lawerence, Business Policy and Strategic Management, Tata McGraw Hill.
9. Sathyashekar : Business Policy and Strategic Management, I.K International Publishing House Pvt. Ltd.

ELECTIVE GROUPS

1. FINANCE GROUP

F. N 5.5 ADVANCED FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with Advanced Financial Analysis and Decisions.

Unit 1: INVESTMENT DECISIONS AND RISK ANALYSIS 12 Hrs

Risk Analysis – Types of Risks – Risk and Uncertainty – Techniques of Measuring Risks – Risk adjusted Discount Rate Approach – Certainty Equivalent Approach – Sensitivity Analysis - Probability Approach - Standard Deviation and Co-efficient of Variation – Decision Tree Analysis –Problems.

Unit 2: COST OF CAPITAL AND CAPITAL STRUCTURE 20Hrs

Part 1:Capital Structure: Meaning and Significance of Cost of Capital – Types of Capital – Computation of Cost of Capital – Specific Cost – Cost of Debt – Cost of Preference Share Capital – Cost of Equity Share Capital – Weighted Average Cost of Capital – Problems.

Part 2: Capital Structure: Introduction to Capital Structure – Capital Structure Theories - Net Income Approach - Net Operating Income Approach - Traditional Approach – MM Approach – Problems.

Unit 3: DIVIDEND THEORIES 10 Hrs

Introduction – Irrelevance Theory – MM Model. Relevance Theories - Walter Model - Gordon Model – Problems on Dividend Theories.

Unit 4: PLANNING AND FORECASTING OF WORKING CAPITAL 10 Hrs

Concept of Working Capital – Determinants of Working Capital – Estimating Working Capital Needs – Operating Cycle – Cash Management – Motives of Holding Cash – Cash Management Techniques – Preparation of Cash Budget – Receivables Management – Preparation of Ageing Schedule and Debtors Turnover Ratio – Inventory Management Techniques – Problems on EOQ.

UNIT 5: CORPORATE VALUATION 04 Hrs

DCF method, relative valuation method, net asset method, value based management. (Only concepts)

SKILL DEVELOPMENT

- Preparation of a small project report of a small business concern covering all components- (Finance, Marketing, Production, Human Resources, General administration) (Any one component can be selected as a title of the report)
- Designing a capital structure for a Trading concern
- Preparing a blue print on working capital of a small concern.
- Prepare a chart on Modes of cash budget.
- List out different modes of Dividend Policy.
- List out the Companies, which have declared dividends recently along with the rate of dividend.

BOOKS FOR REFERENCE

1. S N Maheshwari, Financial Management Principles and Practice, Sultan Chand and sons
2. Sudarshan Reddy: Advance Financial Management, HPH.
3. Narendra Singh : Advanced Financial Management, HPH.
4. Khan and Jain, Financial Management, Tata McGraw Hill
5. Ghousia Khatoon, Mahanada B. C. Advanced Financial Management VBH
6. P.K. Sinha; Financial Management, Excel Books.
7. Sharma and Sashi Gupta, Financial Management, Kalyani Publishers.
8. I M Pandey, Financial Management, Vikas Publishing house
9. Prasanna Chandra, Financial Management, Tata McGraw Hill.
10. Dr. K. Venkataramanappa, SHB Publications

F. N 5.6 FINANCIAL MARKETS & SERVICES

OBJECTIVE

The objective is to familiarize the students with Traditional and Modern Financial Services.

Unit 1: FINANCIAL MARKETS **12 Hrs**

Primary Market - Meaning – Features - Players of Primary Market – Instruments in Primary Market (Names) – Procedure for issuing Equity shares and Debentures - SEBI guidelines towards the issue of Equity Shares and Debentures - Merits and Demerits of Primary Markets. Secondary Market – Meaning – Structure – Functions – Trading and Settlement System of Stock Exchange Transactions - Players in the Stock Market – Merits and Demerits of Stock Markets – Reforms in Stock Market – OTCEI and NSE – Origin – Function – Merits – Demerits.

Unit 2: NON-BANKING FINANCIAL INTERMEDIARIES **12 Hrs**

Investment & Finance Companies - Merchant Banks - Hire Purchase Finance - Lease Finance - Housing Finance - Venture Capital Funds and Factoring.

Unit 3: SEBI **10Hrs**

Objectives of SEBI – Organization - Functions and Functioning of SEBI - Powers of SEBI - Role of SEBI in marketing of Securities and Protection of Investor Interest.

Unit 4: MUTUAL FUNDS **12Hrs**

Concept of Mutual Funds - Growth of Mutual Funds in India - Mutual Fund Schemes – Money Market Mutual Funds – Private Sector Mutual Funds – Evaluation of the performance of Mutual Funds – Functioning of Mutual Funds in India.

Unit 5: RECENT TRENDS IN FINANCIAL SERVICES **10 Hrs**

Personalized Banking – ATM – Tele-banking & E-banking - Credit & Debit Card - Customization of Investment Portfolio - Financial Advisors.

SKILL DEVELOPMENT

- Collection of Share certificate / debenture certificate.
- Chart showing modus operandi of leasing – hire purchase procedures.
- Collect any specimen of new Financial Instruments and record the same.
- Select any Mutual Fund and examine the various closed and open-ended schemes offered.
- Visit any Housing Finance Companies and analyse the features of various financing schemes offered.

BOOKS FOR REFERENCE

1. E Gardon& K Natarajan: Financial Markets & Services, HPH.
2. Vasant Desai : Financial Markets & Financial Services , Himalaya Publishing House.
3. K.Nanje Gowda, Financial Markets & Financial Services , VBH.
4. V.A. Avadhani : Financial Services in India, HPH.
5. Meir Kohn: Financial Institutions and Markets, Tata Mc Graw Hill
6. R.M Srivastava / D. Nigam; Dynamics of Financial Markets & Institutions in India, Excel Books.
7. L M Bhole: Financial Institutions and Markets, Tata Mc Graw Hill
8. Dr. K. Venkataramanappa, SHB Publications

F.N6.5 INTERNATIONAL FINANCE

OBJECTIVES:
To familiarize the students with International Financial environment, instruments and institutions.

UNIT – 1: INTRODUCTION TO INTERNATIONAL FINANCE 12 Hrs

Issues involved in International Business and Finance, methods of payment, International Monetary system – Fundamental terms and concepts – Home currency – foreign currency – direct quote – indirect quote – bid and ask, spot and forward rate - appreciation and depreciation – cross currency rates.

UNIT – 2: FOREIGN EXCHANGE AND BALANCE OF PAYMENTS 12 Hrs

Forex Market & Its Intermediaries, ADR, Foreign Exchange Rate, Theories of Foreign Exchange Rate Determination.

Components of Balance of Payments – Disequilibrium in the balance of payments- methods of correction of disequilibrium.

UNIT – 3: INSTRUMENTS IN INTERNATIONAL FINANCIAL MARKETS. 08 Hrs

Meaning-Definition-International Financial Markets-Globalization of Capital markets, Innovation in foreign securities and International Portfolio Management.

UNIT – 4: FOREIGN EXCHANGE RISK 10 Hrs

Exchange risks – Hedging, Forward, Future, Swaps Options, -Valuation of future and swaps- valuation of options and efficiency of the exchange market.

UNIT – 5:INTERNATIONAL FINANCIAL INSTITUTIONS AND LIQUIDITY 14 Hrs

The IMF, International liquidity and SDR's (special drawing rights) – International bank for reconstruction and development (World Bank), International development association, International investment guarantee agency.

SKILL DEVELOPMENT:

- Visit any authorized dealers' establishments and understand their activities.
- Analyze the trend of FDI into India in the last five years.

BOOKS FOR REFERENCE:

1. Avadhani B.K, International Finance Theory and Practice, HPH
2. Aswathanarayana T & K. Rajeswari – International Finance – VBH
3. K. Venkataramana, International Finance, SHBP.
4. Harris Manville, International Finance.
5. Madhu Vij, International Finance, Excel Books
6. Keith Pibean, International Finance, McMillan
7. Timothy Carl Kesta, Case and Problems in International Finance.
8. R.M Srivastava , Multinational Financial Management, Pragathi Publications
9. P.A. Apte, International Financial Management, TMH
10. Somanath : International Financial Management I.K. Intl
11. Levi, International Marketing Management.
12. Bandar D.C, International Finance.
13. Murthy E.N, International Finance & Risk Management.
14. M.L. Verma, Foreign Trade & Management in India.
15. Rao and Chary, International Finance.

F. N 6.6 STOCK AND COMMODITY MARKETS

OBJECTIVE:

The objective is to provide students with a conceptual framework of Stock Markets and Commodity Markets, functionaries in these markets and their mode of trading.

Unit 1: AN OVERVIEW OF CAPITAL AND COMMODITY MARKETS: **10Hrs**

Primary Market, Secondary Market (Stock Market), Depositories, Private placements of shares / Buy back of shares, Issue mechanism. Meaning of commodity and Commodity markets, Difference between Stock Market and Commodity Market.

Unit 2: STOCK MARKET: **12 Hrs**

History, Membership, Organization, Governing body, Functions of stock Exchange, on line trading, role of SEBI, Recognized Stock Exchanges in India (brief discussion of NSE BSE and Nifty). Derivatives on stocks: meaning, types (in brief).

Unit 3: TRADING IN STOCK MARKET: **12Hrs**

Patterns of Trading & Settlement – Speculations – Types of Speculations – Activities of Brokers – Broker Charges – Settlement Procedure, National Securities Depository Ltd.(NSDL) Central Securities Depository Ltd.(CSDL) (in brief).

Unit 4: COMMODITY MARKET: **12Hrs**

Evolution, Commodity derivatives, Commodity exchanges-Regional & National and International, Functions, role, objectives and types- Types of transactions in Commodity market – Spot, Future and Forward options markets.

Unit 5: TRADING IN COMMODITY MARKETS: **10 Hrs**

Patterns of Trading & Settlement, Price discover, Efficiency of Commodity Markets - Size of Commodity Markets in India - Benefits of Commodity Markets.

SKILL DEVELOPMENT

- Prepare the list of recognized stock exchanges in India
- Prepare the process chart of online trading of share and debentures.
- Prepare the chart showing Governing Body of the Commodities Market.
- Prepare the list of commodities traded on commodity market.
- Enlist the role of NSDL and CSDL.

BOOKS FOR REFERENCE:

1. Gurusamy, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
2. Srivastava RM : Management of Financial Institutions, HPH
3. Saunders, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
4. Bharat Kulkarni; Commodity Markets and Derivatives, Excel Books.
5. Khan, Indian Financial Systems, 6th edition, Tata McGraw Hill

6. Bhole, L.M. (2000), Indian Financial Institutions, Markets and Management, McGraw Hill, New York
7. PallaviModi: Equity – The Next Investment destination, HPH.
8. Avadhani (2010) Financial Markets and Services, Himalaya Publishers.
9. K. Venkataramanappa, SHB Publications

2. MARKETING GROUP

M.K. 5.5 CONSUMER BEHAVIOR

Unit 1: INTRODUCTION **10 Hrs**

Introduction to Consumer Behaviour - A managerial & consumer perspective; Need to study Consumer Behaviour; Applications of consumer behaviour knowledge; current trends in Consumer Behaviour; Market segmentation & consumer behaviour.

Unit 2: INDIVIDUAL DETERMINANTS OF CONSUMER BEHAVIOUR **12Hrs**

Consumer needs & motivation; personality and self-concept; consumer perception; learning & memory; nature of consumer attitudes; consumer attitude formation and change.

Unit 3: ENVIRONMENTAL DETERMINANTS OF CONSUMER BEHAVIOUR **12 Hrs**

Family influences; Influence of culture; subculture & cross cultural influences; group dynamics and consumer reference groups; social class & consumer behaviour.

Unit 4: CONSUMER'S DECISION MAKING PROCESS **12Hrs**

Problem recognition; Search & Evaluation; Purchase processes; Post-purchase behaviour; personal influence& opinion leadership process; Diffusion of innovations; Models of Consumer Behaviour; Researching Consumer behaviour; Consumer research process.

Unit 5: CONSUMER SATISFACTION & CONSUMERISM **10Hrs**

Concept of Consumer Satisfaction; Working towards enhancing consumer satisfaction; sources of consumer dissatisfaction; dealing with consumer complaint. Concept of consumerism; consumerism in India; The Indian consumer; Reasons for growth of consumerism in India; Consumer protection Act 1986.

SKILL DEVELOPMENT:

- Conduct an informal interview of a local retail store owner and determine what demographic and socio economic segments the store appears to satisfy. How did the owner select this segment or segments?
- Conduct formal interview to the managers of three retail-clothing stores. Determine the degree to which they believe consumer's personality and self-image are important to the marketing activities of the stores.
- Visit three local restaurants and assess how each attracts clientele in different stages of the family life cycle.
- You are the owner of two furniture stores, one catering to upper-middle class consumers and the other to lower-middle class consumers. How do social class differences influence each store's
    - Product lines & styles
    - Advertising media selection
    - The copy & communication styles used in the advertisements
    - Payment policies
- For each of the following Products & services, indicate who you would go to for information and advice;
    - The latest fashion in clothes

- Banking
- Air travel
- Vacation destinations
- A personal computer

- For each situation; indicate the person's relationship to you and your reasons for selecting him/her as the source of information and advice.

BOOKS FOR REFERENCE:

1. Leon. G. Schiffman & Leslve Lazer Kanuk; Consumer behaviour; 6th Edition; PHI, New Delhi, 2000.
2. Suja.R.Nair, Consumer behaviour in Indian perspective, First Edition, Himalaya Publishing House, Mumbai, 2003.
3. Batra/Kazmi; Consumer Behaviour.
4. David. L. Loudon & Albert J. Bitta; Consumer Behaviour; 4th Edition, Mcgraw Hill, Inc; New Delhi, 1993.
5. K. Venkatramana, Consumer Behaviour, SHBP.
6. Assael Henry; Consumer behaviour and marketing action; Asian Books(P) Ltd, Thomson learning, 6th Edition; 2001.
7. Jay D. Lindquist & M. Joseph Sirgy, Shopper, Buyer and Consumer Behaviour, 2003.
8. Blackwell; Consumer Behaviour, 2nd Edition.
9. S.A.Chunawalla : Commentary on Consumer Behaviour, HPH.
10. Sontakki; Consumer Behaviour, HPH.
11. Schiffman; Consumer Behaviour, Pearson Education.

M.K. 5.6 ADVERTISING & MEDIA MANAGEMENT

Unit 1: INTRODUCTION & BASIC CONCEPTS **12Hrs**

History of advertising; Advertising purpose and functions; Economic, social & ethical aspects of advertising; Advertising & the marketing mix, Advertising as a communication process; types of advertising; Major Institutions of Advertising Management.

Unit 2: ADVERTISING AND CAMPAIGN PLANNING **10Hrs**

Marketing strategy & Situation analysis; Advertising plan; Advertising objectives; DAGMAR approach; Advertising strategy; Advertising campaign-planning process.

Unit 3: CREATIVE STRATEGY & ADVERTISING BUDGET **12Hrs**

Creative approaches; The art of copywriting; Advertising copy testing; creativity in communication, motivational approaches & appeals, Advertising budget process; Methods of determining Advertising appropriations.

Unit 4: ADVERTISING MEDIA STRATEGY **10 Hrs**

Role of media; types of media; their advantages and disadvantages; Media research & advertising decisions; media planning, selection & scheduling strategies.

Unit 5: ADVERTISING EFFECTIVENESS & ORGANISING ADVERTISING FUNCTIONS. **12Hrs**

Methods of measuring advertising effectiveness; Advertising research; structure & functions of an advertising agency; Selection & co-ordination of advertising agency; Advertising regulations; Internet advertising.

SKILL DEVELOPMENT:

- Sketch the competitive position for the development of an advertising plan for Sahara Airlines & Tata Telephones.
- Define the advertising objectives on DAGMAR Approach for any product of your choice.
- By selecting an appropriate theme & appeal, create & enact an advertisement for a range of any established products. For this purpose, the class should be divided into groups and formal presentations have to be evaluated.
- Select two print & electronic media for the purpose of understanding the functions of advertising media. Comparative analysis of the same should be done & short reports must be prepared.
- Get into the exciting world of internet / Net advertising and identify the message content of 10 products / Services of your choice.

BOOKS FOR REFERENCE:

1. Rajeev Batra, John. G.Myers. T. David.A. Aaker; Advertising Management; 5th Edition, PHI Edition, New Delhi, 1998.
2. Kazmi/Batra; Advertising & Sales promotion 3rd Edition
3. Ghouse Basha, Advertising and Media Management, VBH

4. Jefkins&Yadin; Advertising, 4th Edition; Pearson Education, New Delhi, 2000.
5. Manendra Mohan; Advertising Management - Concepts & Cases; Tata McGraw Hill Publishing company Ltd, New Delhi 2001.
6. K. Venkataraman, Advertising & Media Management, SHBP.
7. S.A.Chunnawalia&K.c.Sethia Foundations of Advertising - Theory & Practice, Himalaya Publishing House, 2002.
8. Sonatakki, Advertising, Kalyani Publishers
9. Wells, Advertising.
10. Rayudu: Media and Communication Management, HPH.

M.K 6.5 BRAND MANAGEMENT

OBJECTIVE

The objective is to enable the students to acquire skills in Product & Brand Management

Unit 1: PRODUCT MANAGEMENT **05 Hrs**

Meaning of Product – Product Personality, Types of Products – Product Line, Product Mix.

Unit 2: PRODUCT DEVELOPMENT **12 hrs**

Factors influencing design of the product – Changes affecting Product Management – Developing Product Strategy; Setting objectives & alternatives, Product strategy over the lifecycle. New product development – Product Differentiation and Positioning strategies. Failure of New Product.

Unit 3: MARKET POTENTIAL & SALES FORECASTING **10 hrs**

Forecasting target market potential and sales – Methods of estimating market and sales potential, Sales forecasting, planning for involvement in international market.

Unit 4: BRAND MANAGEMENT **12 hrs**

Meaning of Brand – Brand Development: Extension, Rejuvenation, Re launch- Product Vs Brands, Goods and services, Retailer and distributors, People and organization, Brand challenges and opportunities, The brand equity concept, Identity and image.

Unit 5: BRAND LEVERAGING AND BRAND PERFORMANCE **12 hrs**

Establishing a brand equity management system, measuring sources of brand equity and consumer mindset, Co-branding, celebrity endorsement. Brand Positioning & Brand Building – Brand knowledge, Brand portfolios and market segmentation – Steps of brand building, Identifying and establishing brand positioning, Defining and establishing brand values.

Unit 6: DESIGNING & SUSTAINING BRANDING STRATEGIES **05 hrs**

Brand hierarchy, Branding strategy, Brand extension and brand transfer – Managing brand over time.

SKILL DEVELOPMENT :

- List out a few celebrity brand endorsements and the appropriateness of using them.
- Draw a chart showing the brand environment
- List out a few recent news and trends about brands
- List out some of the methods of brand valuation
- List out a few brands and the adjectives attached to their ads.

BOOKS FOR REFERENCE

1. Gupta SL: Brand Management, HPH.
2. Branding Concepts- Pati, Debashish, Macmillan India
3. Brand Building : M.Bhattacharjee, HPH.
4. Harsh V. Verma; Brand Management, Excel Books.

5. Subrato Sengupta, Brand Positioning Strategies for Competitive Advantage, McGraw Hill.
6. The New Strategic Brand Management- Kapfere, Jean-Noel, Kogan page 5th edition
7. Das & Naveen, Brand Management Perspectives and Practices, ICFAI University Press.
8. Chaturvedi, B.M, Total Brand Management: An Introduction-, ICFAI University Press.
9. Ray, Brand Management Financial Perspectives, ICFAI University Press.

M.K 6.6 RETAIL MANAGEMENT

OBJECTIVE

The objective is to enable students to acquire skills in Retail Management.

Unit 1: INTRODUCTION TO RETAILING **10 Hrs.**

Definition – functions of retailing - types of retailing – forms of retailing based on ownership. Retail theories – Wheel of Retailing – Retail life cycle. Retailing in India – Influencing factors – present Indian retail scenario. Retailing from the International perspective

Unit 2: RETAIL CONSUMER BEHAVIOUR **12 Hrs.**

Buying decision process and its implication to retailing – influence of group and individual factors. Customer shopping behaviour - Customer Service satisfaction. Retail planning process – Factors to consider – Preparing a complete business plan – implementation – risk analysis.

Unit 3: RETAIL OPERATIONS **12 Hrs.**

Choice of Store location – Influencing Factors, Market area analysis – Trade area analysis – Rating Plan method - Site evaluation. Retail Operations: Store Layout and visual merchandising – Store designing – Space planning, Retail Operations - Inventory management – Merchandise Management – Category Management.

Unit 4: RETAIL MARKETING MIX **12 Hrs.**

Retail marketing mix –Introduction. **Product** – Decisions related to selection of goods (Merchandise Management revisited) –Decisions related to delivery of service. **Pricing** – Influencing factors – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. **Place** – Supply channel – SCM principles – Retail logistics – computerized replenishment system – corporate replenishment policies. **Promotion** – Setting objectives – communication effects - promotional mix. Human Resource Management in Retailing – Manpower planning – recruitment and training – compensation – performance appraisal.

Unit 5: IMPACT OF IT IN RETAILING **10 Hrs.**

Non store retailing (E tailing) The impact of Information Technology in retailing - Integrated systems and networking – EDI – Bar coding – Electronic article surveillance – Electronic shelf labels – customer database management system. Legal aspects in retailing. Social issues in retailing. Ethical issues in retailing.

SKILL DEVELOPMENT:

- Draw a retail life cycle chart and list the stages
- Draw a chart showing a store operations
- List out the major functions of a store manager diagrammatically
- List out the current trends in e-retailing

BOOKS FOR REFERENCE

1. Barry Bermans and Joel Evans, "Retail Management – A Strategic Approach", 8th edition, PHI Private Limited, New Delhi, 2002.
2. Suja Nair: Retail Management, HPH.
3. A.J. Lamba, "The Art of Retailing", 1st edition, Tata Mc GrawHill, New Delhi, 2003.
4. SwapnaPradhan, Retailing Management, 2/e, 2007 & 2008, TMH
5. K. Venkatramana, Retail Management, SHBP.
6. A. Siva Kumar; Retail Marketing, Excel Books.
7. James R. Ogden & Denise T. Ogden, Integrated Retail Management 2007, Biztantra Cengage Learning
8. R.S. Tiwari : Retail Management , HPH
9. Araif Sakh: Retail Management, HPH.
10. Levy &Weitz, Retail Management,, TMH 5th Edition 2002
11. Rosemary Varley, Mohammed Rafiq, Retail Management, Palgrave Macmillan
12. Chetan Bajaj, Retail Management, Oxford Publication.
13. Uniyal & Sinha, Retail Management,, Oxford Publications.

3.HUMAN RESOURCE GROUP

H.R 5.5 EMPLOYEE WELFARE& SOCIAL SECURITY

OBJECTIVE

The objective is to enable students to acquire skills in Labor Welfare & Social Security.

Unit 1: SOCIAL & LABOUR WELFARE **12 Hrs.**

Social Welfare; Labour Welfare: Concept, Scope; Philosophy and Principles of Labour Welfare; Indian constitution and Labour Welfare; Labour Welfare Policy and Five Year Plans, Historical Development of Labour Welfare in India;

Unit 2: INDIAN LABOUR ORGANIZATION **12 Hrs.**

Impact of ILO on Labour Welfare in India; Agencies of Labour Welfare and their Roles, Labour Welfare Programmes: Statutory and Non-Statutory, Extra Mural and Intra Mural. Welfare Centers; Welfare Officer: Role, Status and Functions.

Unit 3: SOCIAL SECURITY **10 Hrs.**

Concept and Scope; Social Assistance and Social Insurance, Development of Social Security in India; Social Security measures for Industrial Employees.

Unit 4: LABOUR ADMINISTRATION – 1 **12 Hrs.**

Evolution of Machinery for Labour Administration; Central Labour Administrative Machinery in India, Labour Administration in India.

Unit 5: LABOUR ADMINISTRATION – 2 **10 Hrs.**

Director General of Employment and Training; Director General of Factory Advice Service; Provident Fund Organization; ESI Schemes; Central Board for Workers' Education;

SKILL DEVELOPMENT :

- Preparation of a list of statutory welfare measures by visiting industry
- Preparation of a list of voluntary welfare measures by visiting industry
- Preparation of list of social security measures by visiting industry

BOOKS FOR REFERENCE

1. Moorthy, M.V. Principles of Labour Welfare, Oxford & IBH Publishing Co., New Delhi.
2. Vaid, K.N. Labour Welfare in India, Sree Ram Centre for Industrial Relations and Human Resources, New Delhi.
3. K. Venkataramana, Employee Welfare& Social Security, SHBP.
4. Sharma, A.M. Aspects of Labour Welfare and Social Security, Himalaya Publishing, House, Mumbai.
5. Ram Chandra P. Singh, Labour Welfare Administration in India, Deep & Deep Pub., New Delhi.

6. Punekar, S.D. Deodhar S.B., Sankaran, Saraswathi, Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, Mumbai.
7. Pant, S.C., Indian Labour Problems, Chaitanya Publishing House, Allahabad.
8. Saxena, R.C., Labour Problems and Social Welfare, K. Nath & Co., Meerut.
9. Bhogiliwala, T.N. Economics of Labour & Industrial Relations, Sahitya Bhavan Publishing Agra.
10. Memoria, C.B. Dynamics of Industrial Relations in India, Himalaya Publishing. House, Mumbai.

H.R. 5.6STRATEGIC HRM

OBJECTIVE

The objective is to enable students to acquire skills in Strategic Human Resource Management.

Unit 1: INTRODUCTION TO STRATEGIC HRM **10 Hrs.**

Strategic Role of HRM, Planning and Implementing Strategic HR policies, HR Strategies to increase firm performance.

Unit 2: INVESTMENT PERSPECTIVES OF HR **12 Hrs.**

Investment Consideration, Investments in Training and Development, Investment Practices for improved retention, Job secure workforce, Nontraditional Investment Approaches.

Unit 3: MANAGING STRATEGIC ORGANIZATION **10 Hrs.**

Managing Strategic Organizational Renewal- Managing change and OD, instituting TQM Programmes, Creating Team based Organizations, HR and BPR, Flexible work arrangement.

Unit 4: ESTABLISHING STRATEGIC PLANS **12 Hrs.**

Establishing Strategic pay plans, Determining periods, Establishing periods, Pricing Managerial and professional jobs, Compensation trends, Objectives of International Compensation, Approaches to International Compensation, Issues related to double taxation. Cases.

Unit 5: GLOBAL HRM **12 Hrs.**

Managing Global Human Resources-HR and the internationalization of business, Improving international assignments through selections, Training and maintaining international employees, Developing International Staff and Multinational Teams - Multinational, Global, and Transnational Strategies - Strategic Alliances, Sustainable Global Competitive Advantage, Globally Competent Managers, Location of Production Facilities.

SKILL DEVELOPMENT:

- Prepare a statement showing man power requirements in an imaginary situation.
- Specimen of a payroll with imaginary roles.
- Preparation of job card with imaginary facts.
- Preparation of questionnaire on performance appraisal

BOOKS FOR REFERENCES

1. Gary Dessler, Human Resource Management, PHI, New Delhi, 2003.
2. Charles R. Greer, Strategic Human Resource Management, Pearson Education, 2003.
3. Mahananda B. C. Strategic Human Resource Management, VBH.
4. Luis R. Gomez-Mejia, David B. Balkin, Robert L. Cardy, Managing Human Resources, PHI,
5. Peter J. Dowling, Denice E. Welch, Randall S. Schuler, International Human Resource Management, Thomson South-Western, 2002.

H.R 6.5 ORGNISATIONAL CHANGE AND DEVELOPMENT

OBJECTIVE:

The objective is to enable the students to understand need for Organizational Change and Development and the OD interventions

Unit 1: CHANGE MANAGEMENT **10Hrs**

The importance and nature of change. Change and human response. Introducing change effectively: Basic steps, factors influencing change- resistance to change, overcoming resistance to change

Unit 2: ORGANIZATION EFFECTIVENESS **10Hrs**

Organization effectiveness: Concept, problems in measurement of effectiveness. System - level criteria of judging effectiveness.

Unit 3: ORGANIZATIONAL DEVELOPMENT **16 Hrs**

The nature of Organizational Development (OD): Assumptions and values. Relevant systems concepts. Action research, OD Interventions: Team interventions, Inter-group interventions, personal, interpersonal and group processes interventions: A descriptive inventory of OD interventions.

Unit 4: OD INTERVENTIONS **10Hrs**

Comprehensive interventions, Structural interventions, Job enrichment and MBO, Conditions for optimal success of OD.

Unit 5: CREATIVITY & INNOVATION **10Hrs**

Creativity & Innovation: Meaning, Need, Components of Creativity & Innovation, Organizational Constraints, Organizational environment for Creativity & Innovation,

SKILL DEVELOPMENT

- List out the recent OD interventions in Organizations.
- Discuss case studies on Impact of change on Organizational effectiveness.

BOOKS FOR REFERENCE

1. Dunnette, M.D. (Ed.) (1976). Handbook of Industrial and Organizational Psychology. Chicago: Rand McNully.
2. French, W.L.; & Bell, C.H. Jr. (1980). Organizational Development. London, Prentice Hall.
3. Herbert, T.T. (1981). Dimensions of Organizational Behavior. London: MacMillan.
4. Khandwalla, P.N. (1988). Organizational effectiveness. In J. Pandey (Ed.) Psychology in India: The State-of-the Art (Vol.3, pp. 97-215). New Delhi: Sage.
5. Luthans, F. (1989). Organizational Behaviour. London: McGraw Hill.
6. Margulies, N.; &Raia, A.P. (1975). Organizational Development: Values, process and technology. New Delhi: Tata McGraw Hill,
7. McGill, M.E. (1977). Organizational Development for Operating Managers. AMACO (a division of American Management Association).

8. Pareek, U. &Rao, T.V. (1986). Designing and Managing Human Resources Systems. New Delhi: Oxford.
9. Rudrabasavaraj, M.N. (1977). Executive Development in India. New Delhi: Himalaya Publishing House.
10. Sharma, R.A. (1982). Organizational Theory and Behaviour. New Delhi: Tata McGraw Hill,

H.R. 6.6 COMPENSATION MANAGEMENT

OBJECTIVE:

The objective is to enable the students to understand the various aspects of Compensation Management

UNIT-1: JOB EVALUATION AND PERFORMANCE APPRAISAL 10 Hrs

Job Evaluation - Definition - Traditional and New Techniques - Performance Appraisal -Basic concepts - performance standard - Appraisal methods.

UNIT-2: COMPENSATION MANAGEMENT 10 Hrs

Compensation - Definition - Classification - Types - Incentives - Fringe Benefits.

UNIT-3: WAGE AND SALARY ADMINISTRATION 16 Hrs

Theories of wages - wage structure - wage fixation - wage payment - salary administration. Difference between salary and wages - Basis for compensation fixation- Components of wages - Basic Wages - Overtime Wages - Dearness Allowance - Basis for calculation - Time Rate Wages and Efficiency Based Wages - Incentive Schemes - Individual Bonus Schemes, Group Bonus Schemes - Effect of various labour laws on wages-Preparation of Pay Roll

UNIT- 4:REWARDS AND INCENTIVES 10 Hrs

Rewards for Sales personnel - Pay - commission- Performance based pay system - incentives - executives compensation plan and packages.

UNIT- 5: REGULATORY BODIES FOR COMPENSATION MANAGEMENT 10 Hrs

Wage Boards - Pay Commissions - Compensation Management in Multi-National organizations.

SKILL DEVELOPMENT

- List out the fringe benefits offered to employees of any two companies
- Discuss the role of regulatory bodies in compensation management
- List out various Incentive Schemes of wage payments

BOOKS FOR REFERENCE

1. Compensation & Reward Management, BD Singh, Excel Books
2. Compensation, Milkovich & Newman, TMH
3. Strategic Compensation, Joseph J. Martocchio, 3rd Edition, Pearson Education
4 Compensation Management in Knowledge based world, Richard I. Anderson, 10th edition, Pearson Education
6 Compensation Management, Er Soni Shyam Singh, Excel Books.
7. Richard Thrope& Gill Homen : Strategic Reward Systems - Prentice-Hall.
8. Thomas. P. Plannery, David. A. Hofrichter & Paul. E. Platten: People, Performance & Pay – Free Press.
9. Michael Armstrong & Helen Murlis: Hand Book of Reward Management – Crust Publishing House.
10. Joseph. J. Martocchio: Strategic Compensation – A Human Resource Management Approach - Prentice-Hall.
11. Edwarde. E. Lawler III: Rewarding Excellence (Pay Strategies for the New Economy) – Jossey -Bass.

BANGALORE UNIVERSITY

REGULATIONS, SCHEME AND SYLLABUS

For the course

I to VI Semesters

BACHELOR OF COMPUTER APPLICATIONS

(BCA)

(Choice Based Credit System (Semester Scheme) –Y2K14 Scheme)

Revised w.e.f.

Academic Year 2014-2015 and onwards

Regulations, Scheme of study and Examination for BCA Degree Course
Under Choice Based Credit System - Semester System (Y2K14 SCHEME)
(Revised w.e.f. 2014 -2015)

R 1. a) Title of the course: **Bachelor of Computer Applications**

b) Duration of the Course: Durations of the undergraduate programmes shall extend over FOUR semesters (TWO academic years) for the Associate Degree(Advance Diploma), SIX semesters (Three academic years) for the regular Bachelor Degree.

c). Scheme of study:

i) There shall be five theory papers and two practical from first semester to fourth semester.

ii) There will be five theory, two practical and one project in fifth semester. There will be four theory, one practical and one project in sixth semester.

iii) The project work shall be carried out either independently or jointly (maximum of three students)

iv) Medium of Instruction: The medium of instruction shall be English.

d) Scheme of Examination:

At the end of each semester there be University Examination of three hours duration in each of the theory paper/practical.

R. 2. Each semester shall be of 4 months duration

R. 3. Attendance: As per Bangalore University regulations I n force for science degree courses.

R. 4. A Candidate is allowed to carry over all the previous uncleared (failed) theory papers/Practical to subsequent semesters as per Bangalore University regulations in force for science degree courses.

R. 5. The maximum period for completion of the course shall be six years form the date of admission.

R. 6. Eligibility for admission:

a) A candidate who has passed the two years Pre-University Examination conducted by the Pre-University Education Board in Karnataka

b) A candidate who has passed JODC / Three years Diploma in Engineering of Government of Karnataka or any other examination considered as equivalent thereto shall be eligible for admission.

a) Any student who has passed PUC –II Science, Arts or Commerce securing a minimum of 35% OF MARKS

OR

b) Any student who has passed JODC or Diploma in Engg. (of three year duration of Govt. of Karnataka) with minimum of 35% of marks in aggregate in all the semester /years.

R. 7. Admission Procedure:

a) Through Counseling in respective colleges

b) 50% weight age for entrance test in respective colleges

c) 50% weight age for performance at qualifying examination.

d) Merit list shall be prepared based on item No, 7(b) and 7(c)

e) Reservation: As per the notification /Govt. orders form the University /Govt. from time to time.

f) Tuition and other fees: As fixed by the University from time to time

R8. The total number of students to be admitted to the course shall be decided by the University.

R9. Results: Results of candidate shall be declared and the classes awarded as per the procedure followed by the University for B.Sc. Courses.

R10. POWER TO REMOVE DIFFICULTIES

1) If may difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may be order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary to expedient to remove the difficulty.

2) Every order made under this shall be subject to rectification by the appropriate University Authorities.

Title of Papers and Scheme of Study & Examination for BCA (Bachelor of Computer Applications) Under Choice Based Credit System - Semester System (Revised w.e.f. 2014-2015)

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
I	Part - 1	BCA101T	Indian Language	4	20	80	100	2	16
		BCA102T	English	4	20	80	100	2	
	Part – 2	BCA103T	Problem Solving Techniques using C	4	30	70	100	2	
		BCA104T	Digital Electronics	4	30	70	100	2	
		BCA105T	Discrete Mathematics	5	50	100	150	3	
		BCA103P	C Programming Lab	3	15	35	50	1	
		BCA104P	Digital Electronics Lab	3	15	35	50	1	
	Part – 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC		50		50	1	
II	Part – 1	BCA201T	Indian Language	4	20	80	100	2	16
		BCA202T	English	4	20	80	100	2	
	Part - 2	BCA203T	Data structures	4	30	70	100	2	
		BCA204T	Database Management System	4	30	70	100	2	
		BCA205T	Numerical and Statistical Methods	5	50	100	150	3	
		BCA203P	Data Structures Lab	3	15	35	50	1	
		BCA204T	DBMS Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
III	Part - 1	BCA301T	Indian Language	4	20	80	100	2	16
		BCA302T	English	4	20	80	100	2	
	Part - 2	BCA303T	Object Oriented Programming using C++	4	30	70	100	2	
		BCA304T	Financial Accounting and Management	4	30	70	100	2	
		BCA305T	Operating System	5	50	100	150	3	
		BCA303P	C++ Lab	3	15	35	50	1	
		BCA304T	Accounting Package Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
IV	Part - 1	BCA401T	Indian Language	4	20	80	100	2	16
		BCA402T	English	4	20	80	100	2	
	Part - 2	BCA403T	Visual Programing	4	30	70	100	2	
		BCA404T	Unix Shell programming	4	30	70	100	2	
		BCA405T	Operation Research	5	50	100	150	3	
		BCA403P	Visual Programming Lab	3	15	35	50	1	
		BCA404T	UNIX Lab	3	15	35	50	1	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
			CC & EC	-	50	-	50	1	

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
V	Part - 2	BCA501T	Data Communication and Networks	4	50	100	150	3	20
		BCA502T	Software Engineering	4	50	100	150	3	
		BCA503T	Computer Architecture	4	50	100	150	3	
		BCA504T	Java Programming	4	30	70	100	2	
		BCA505T	Microprocessor and Assembly Language	4	30	70	100	2	
		BCA504P	Java Programming Lab	3	15	35	50	1	
		BCA505P	Assembly Language Programming Lab	3	15	35	50	1	
		BCA506P	Project	8	50	100	150	3	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
VI	Part–2	BCA601T	Theory of Computation	4	50	100	150	3	20
		BCA602T	System Programming	4	50	100	150	3	
		BCA603T	Cryptography and Network Security	4	50	100	150	3	
		BCA604T	Web Programming	4	30	70	100	2	
		BCA604P	Web Programming Lab	3	15	35	50	1	
		BCA605P	Project Work	16	100	200	300	6	
	Part – 3	-	Skill Development Course	3	30	70	100	2	

FIRST SEMESTER BCA

BCA101T : INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA102T : ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA103T : PROBLEM SOLVING TECHNIQUES USING C

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, Algorithms and Flowcharts with examples. Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, Data types, Variables, Constants, Symbolic Constants , Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions.

[12 Hours]

Unit - II

Managing Input and Output Operation: Formatted and Unformatted I/O Functions, Decision making, branching and looping: Decision Making Statements - if Statement, if–else statement, nesting of if-else statements, else–if ladder, switch statement,?: operator, Looping - while, do-while, for loop, Nested loop, break, continue, and goto statements. Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions.

[12 Hours]

Unit - III

Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions. Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions. Storage Classes - Automatic, External, Static and Register Variables.

[12 Hours]

Unit-IV

Structures-Declaring and Initializing, Nested structure, Array of Structure, Passing Structures to functions, Unions, typedef, enum, Bit fields. Pointers – Declarations, Pointer arithmetic, Pointers and functions, Call by value, Call by reference, Pointers and Arrays, Arrays of Pointers, Pointers and Structures. Meaning of static and dynamic memory allocation, Memory allocation functions.

[12 Hours]

Unit-V

Files - File modes, File functions, and File operations, Text and Binary files, Command Line arguments. C Preprocessor directives, Macros – Definition, types of Macros, Creating and implementing user defined header files.

[12 Hours]

TEXT BOOKS

1. E. Balaguruswamy, “Programming In ANSI C”, 4th edition, TMH Publications, 2007
2. Ashok N. Kamthane, “Programming with ANSI and Turbo C”, Pearson Education, 2006

REFERENCES BOOKS

1. Ashok N. Kamthane et. al., "Computer Programming and IT", Pearson Education, 2011
2. Mahapatra, " Thinking In C ", PHI Publications, 1998.
3. Yashwant Kanetkar, "Let Us C", 13th Edition, PHP, 2013.

BCA104T: DIGITAL ELECTRONICS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to network theorems and AC fundamentals: Ohm's law: Statement, explanation. Kirchhoff's law: Statement & explanation of KCL and KVL. Mesh/loop analysis (up to 2 loops) and node voltage method, Numerical problems. Delta/star and star/Delta transformation: No derivation for Interco version equations, introduction of network, port of network (one port network, two port network), unilateral network, bilateral network, linear network. Need for application of network theorems. (DC Circuits only). Superposition theorem: statement, (only with TWO voltage sources) steps to apply the theorem explanation by considering a simple resistive network and problems. Thevenin's theorem: Statement, (Only with ONE voltage source) Steps to apply the theorem, explanation by considering a simple resistive networking and problems. Norton's theorem: Statement, (Only with ONE voltage source) steps to apply the theorem, explanation by considering a simple resistive network and problems. Maximum power transfer theorem: Statement, explanation of theorem by considering a simple resisting network, expression for maximum power deliver (P L (max) =Vth2/4Rth) (no derivation), graph of Vs Pl, numerical problems and applications. Reciprocity theorem, Statement, explanation using resistive network with dc source and numerical problems. AC Fundamentals: Representation of ac sine wave, instantaneous value, peak value, peak to peak value, average value, r.m.s value cycle, time period, frequency. (No derivations, only mention the expressions) Representation of non sinusoidal waves.

[12 Hours]

Unit - II

Semiconductor Devices: Introduction, atomic structure, energy level, energy band diagram in solids, classification of conductors, insulators and semiconductors. Semiconductor, properties, crystal structure of semiconductor, types – intrinsic and extrinsic semiconductor. Intrinsic semiconductor: Crystal structure (Ge& Si), thermal generated charges (electron and holes) carriers the effect temp on their motion. Extrinsic semiconductor: Doping, donor acceptor impurities, c-type, p-type semiconductor, majority and minority carriers, their currents, concept of immobile ions. Semiconductor devices : PN junction diode, formation of pn junction layer, potential barrier, energy level diagram of pn junction, Biasing of pn junction, behaviour of pn junction under forward and reverse biasing, break down in pn junction, avalanche and zener break down. Diode characteristics; V-I characteristic, forward and reverse bias, diode parameters, bulk resistance, knee voltage, static and dynamic resistance, PIV. Application of diode; As a rectifier, as logic gate, as a switch, etc. Rectifier, types, Half wave Full wave. Half wave rectifier: Circuit, working, wave forms and expression for ripple factor and efficiency (no derivation), advantages & disadvantages. Bridge wave rectifier: Circuit, working, wave forms and expressions for ripple factor and efficiently (no derivation), advantages & disadvantages. Logic families: Scale of integration, Digital IC's, classifications, DTL, TTL, ECL, MOS, CMOS, Mention of features: speed of operation, power dissipation, propagation delay, fan-in, fan-out. [12 Hours]

Unit – III

Number Systems: Introduction to number systems – positional and non-positional, Base /Radix. Decimal number system-Definition, digits, radix/base, Binary number system – Bit Byte, Conversions: Binary to Decimal and Decimal to Binary. Octal number system-Conversion from Octal to Decimal to Octal, Octal to Binary and binary to Octal. Hexadecimal number system –Conversion : Decimal to Hex, Hex to decimal, Hex to Binary, Binary to Hex, Octal to Hex, Hex to Octal, Binary, arithmetic –binary addition, subtraction, multiplication and division (only Integer part). 1's and 2's compliment: 2's complement subtraction. Binary code: BCD numbers, 8421 code, 2421 code- examples and applications. Gray code –Conversions-Gray to binary and Binary to Gray, application of gray code (Mention only). Excess-3 code – self complimenting property and applications. Definition and nature of ASCII code. Introduction to error detection and correction code, parity check. Boolean algebra:-Laws and theorems. AND, OR, NOT Laws, Commutative law, associative law, distributive law, Duality theorem. Demorgan's theorems-Statements, proof using truth tables; Simplification of Boolean expressions using Boolean laws. Definition of product term, sum term, minterm, maxterm, SOP, standard POS and Standard POS. Conversion of Boolean expression to Standard SOP and Standard POS forms. Karnaugh maps-Definition of Karnaugh map, K- map for 2, 3 and 4 variables. Conversion of truth tables into k-map grouping of cells, redundant groups and don't care conditions Karnaugh map technique to solve 3 variable and 4 variable expressions. Simplification of 3 and 4 variable Boolean expression using K-maps (SOP only)

[12 Hours]

Unit - IV

Logic Gates: AND Gate: Definition, symbol truth table, timing diagram, Pin diagram of IC 7408. OR Gate: Definition, symbol, truth table, timing diagram of IC 7432. NOT Gate: Definition symbol, truth table, timing diagram, Pin diagram of IC 7404. NAND Gate: Definition, symbol, truth table, Pin diagram of IC 7400, NOR Gate: Definition, symbol, truth table, timing diagram, Pin diagram of IC 7402. Exclusive OR Gate: Definition, symbol, truth table, timing diagram. Combinational logic circuits: Definition, applications. Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Half Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Full Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Adder – Subtractor; Logic circuit, Pin diagram IC 7483, IC 7486. Parallel Adder: 4 –bit parallel binary adder, BCD adder, IC 7483 NAND –NOR implementation of Adders.

[12 Hours]

Unit - V

Sequential Circuits: Importance of clock in digital circuit and introduction to flip flop. Flip –flop-difference between latch and flip-flop. Qualitative study of level and edge triggering. RS latch /unlocked, symbol and truth table. RS flip-flop using NAND gate, symbol, truth table and timing diagram. D flip –flop – Symbol, truth table, Realization of JK flip –flop using NAND gates, working, and timing diagram. Race around condition, present and clear inputs, pin diagram of IC 74112. T flip flop-Logic symbol, JK flip flop as a T flip –flop truth table and timing diagram. Master slave flip flop; Logic circuit, truth table and timing diagram, advantage of M/S flip-flop, pin diagram of IC 7473 IC 7476. Registers: Definition, types of registers-Serial in serial out, serial in parallel out, Parallel in serial out, Parallel in parallel our shift register (Block diagram representation for each), truth table, timing diagram and speed comparison.

[12 Hours]

Text Books:

1) Thomas L.Floyd ,''Digital Fundamentals", Peason Education Inc, New Delhi, 2003

Reference Books:

1) Morris Mano, "Digital Design", 5Th Edition, Prentice Hall, 2013
2) R.P.Jain, "Modern Digital Electronics", 3rd Edition, Tata Mc Graw Hill, 2003.
3) Bignell and Donovan, "Digital Electronics", 5th Edition, Thomson Publication, 2007.

BCA105T: DISCRETE MATHEMATICS

Total Teaching Hours: 65 No of Hours / Week: 05

Unit – I

Sets, Relations and Functions: Sets, Subsets, Equal Sets, Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, De-mogan's law, Simple Applications. Relations, Properties of Relations, Equivalence Relation, Function: Domain and Range, Onto, Into, One to One, one to many Functions, Composite and Inverse Functions. Mathematical Logic: Proposition and truth values, Logical Connectives and their truth tables, Converse, Inverse and Contrapositive, Tautology and Contradiction, Logical Equivalence – Standard Theorems, Switching Circuits.

[13 Hours]

Unit - II

Matrices: Review of fundamentals: Definition of matrix, order, Types of matrices: zero, row, column, square, diagonal, scalar, unit, symmetric, skew-symmetric. Determinant: Value of determinant of order 2x2, 3x3, minors, cofactors, adjoint, inverse of a matrix. Solutions of linear equations: Cramers rule and matrix method involving two and three variables. Eigen values and Eigenvectors: Characteristic equation, characteristic roots, characteristic vectors (without any theorems) only 2x2 order. Cayley Hamilton theorem. (Only statement), verification of Cayley Hamilton theorem (only 2x2 matrices), using the same finding the powers of A (A^4, A^5, A^{-1}, A^{-2}), Inverse of a Matrix using Cayley-Hamilton theorem.

[13 Hours]

Unit - III

Logarithms: Definition of Logarithm, Indices leading to Logarithms and vice versa, Laws of Logarithms with proofs, Problems, Common Logarithm: Characteristic and Mantissa, Use of Logarithmic Tables, Problems. Permutation and Combination: Fundamental Principle of Counting, Factorial n, Permutations: Definition, Examples, Derivation of Formula ${}^nP_r$, Permutation when all the objects are not distinct, Problems, Combinations: Definition, examples, Proving ${}^nC_r = {}^nP_r\ r!$, ${}^nC_r = {}^nC_{n-r}$, ${}^nC_r + {}^nC_{r-1} = {}^{n+1}C_r$, Problems based on above formulae.

[13 Hours]

Unit - IV

Groups: Binary operation, Define of group, properties (only statement), problems (both finite and infinite groups), subgroup, theorems (no proof), problems. Vectors: Definition of vector and scalar, vector addition, dot and cross product, projection of a vector on the other (no geometrical meaning), area of parallelogram, area of a triangle, scalar triple product, volume of parallelepiped, co planarity of three vectors, vector triple product.

[13 Hours]

Unit - V

Analytical Geometry in Two Dimensions: Coordinates, Distance formula, Section Formula, Area of the Triangle formula (no derivation), Locus of point. Straight Line: Slope of a line and angle between two lines, Various forms of equations of lines – Derivation and Problems. Equation of family of lines passing through the point of intersection of two lines, Distance of a point from line (only problems).

[13 Hours]

Text Books

1. Grewal, B.S.Higher engineering Mathematings, 36th Edition

Reference Books

1. Satyrs S.S, Engineering Mathematics.
2. Peter V.O'Neil. Advanced Engineering Mathematics, 5th Edition.

BCA103P: C PROGRAMMING LAB

PART – A

1) Write a C Program to find the roots of the given quadratic equation using if-else if statement.
2) Write a menu driven C program using switch-case to find: (a) Sum of the digits of number (b) Factorial of N.
3) Write a C program to find cos (x) using series $\cos(x) = 1 - x^2/2! + x^4/4! - \ldots\ldots\ldots x^n/n!$]
4) Write a Program to find whether a given number is prime number are not
5) Write a C program to arrange the given set of numbers in ascending and descending order.
6) Write a C program to find product of two N x M matrices.
7) Write a C program to calculate NCR= N!/ R! * (N-R)! Using function.
8) Write a C program to display Fibonacci series using recursive function.
9) Write a C program to concatenate two strings using pointers.
10) Write a C program to copy content of one file to another file.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA104P: DIGITAL ELECTRONICS LAB

1. Study of Logic Gates–AND, OR, NOT, NAND, NOR XOR (Using respective ICs)
2. Realization of AND, OR and NOT gates using Universal Gates.

3. Design and Realization of Half Adder/Subtracted using NAND Gates.
4. Design and Realization of Full Adder using Logic Gates.
5. Design and Realization of 4 bit Adder/Subtractor using IC 7483.
6. Design and Realization of BCD Adder using IC 7483.
7. Realization of J-K flip flop using IC 7400 and 7410.
8. Realization of T and D flip flop using IC 7476.
9. Implementation of PIPO Shift Registers using flip flops. (IC 7476).
10. Design and implementation of odd and even parity checker Generator using IC 74180.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

SECOND SEMESTER BCA

BCA201T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA202T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA203T: DATA STRUCTURES

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms. String Processing: Definition, Storing Stings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.

[12 Hours]

Unit-II

Arrays: Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays,

Matrices and Sparse matrices.

[12 Hours]

Unit-III

Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly liked list; Doubly liked list, Header liked list, Circular linked list.

[12 Hours]

Unit-IV

Stacks – Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.

[12 Hours]

Unit-V

Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph. Tree – Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree.

[12 Hours]

TEXT BOOKS

1. Seymour Lipschutz, "Data Structures with C", Schaum's outL*ines*, Tata McGraw-Hill, 2011.

REFERENCES BOOKS

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2013.
2. Robert Kruse, C.L.Tondo, Bruce Leung, Shashi Mogalla, "Data Structures and Program Design using C", Pearson Education, 2009.
3. Forouzan, "A Structured Programming Approach using C", 2nd Edition, Cengage Learning India, 2008.

BCA204T : DATA BASE MANAGEMENT SYSTEMS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Database and Database Users, Characteristics of the Database Approach, Different people behind DBMS, Implications of Database Approach, Advantages of using DBMS, When not to use a DBMS. Database System Concepts and architecture: Data Models, Schemas, and Instances. DBMS Architecture and Data Independence., Database languages and interfaces. The database system Environment, Classification of DBMS.

[12 Hours]

Unit - II

Data Modelling Using the Entity-Relationship Model: High level conceptual Data Models for Database Design with and example., Entity types, Entity sets, attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs, Relationship types of degree higher than two. Record Storage and Primary File Organization: Secondary Storage Devices. Buffering of Blocks. Placing file Records on Disk. Operations on Files, File of unordered Records (Heap files), Files of Ordered

Records (Sorted files), Hashing Techniques, and Other Primary file Organization.

[12 Hours]

Unit - III

Functional Dependencies and Normalization for Relational Database: Informal Design Guidelines for Relational schemas, Functional Dependencies, Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. Relational Data Model and Relational Algebra: Relational Model Concepts., relational Model Constraints and relational Database Schema, defining Relations, Update Operations on Relations., Basic Relational Algebra Operations, Additional Relational Operations., Examples of queries in the Relational Algebra., Relational Database design Using ER-to-Relational Mapping.

[12 Hours]

Unit – IV

Relational Database Language: Data definition in SQL, Queries in SQL, Insert, Delete and Update Statements in SQL, Views in SQL, Specifying General Constraints as Assertions, specifying indexes, Embedded SQL. PL /SQL: Introduction.

[12 Hours]

Unit - V

Transaction Processing Concepts: Introduction, Transaction and System Concepts, Desirable properties of transaction, Schedules and Recoverability, Serializability of Schedules, Transaction Support in SQL, Locking Techniques for Concurrency Control, Concurrency Control based on time stamp ordering.

[12 Hours]

Text book:

1. Remez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems", 5th Edition, Pearson Education, 2007.

References:

1. Abrahamsi. Silberschatz, Henry. F. Korth, S. Sudarshan, "Database System Concepts" 6th Edition, McGraw Hill, 2012.
2. C.J.Date, "Introduction to database systems", Eight Edition, Addison Wesley, 2003.

BCA205: NUMERICAL AND STATISCAL METHODS

Total Teaching Hours: 65 No of Hours / Week : 05

Unit - I

Floating-point representation and errors-Normalized floating-point forms, Errors in representing numbers, Floating point machine number and machine epsilon, Loss of significance and its avoidance. Roots of equations-locating roots of f(x)=0 Bisection method, Newton's method, Secant method.

[13 Hours]

Unit - II

Interpolation and numerical differentiation-polynomial interpolation, Lagrange and Newton form of interpolating Polynomial, Divided difference and recursive property, Inverse interpolation, First and Second derivative formulae via interpolation Polynomials. Numerical integration-Trapezoidal, Simpson's and adaptive Simpson rules.

[13 Hours]

Unit - III

System of linear equations-Gaussian elimination and back substitution-partial and complete pivoting, Doolittle, Cholesky and Crout LU decomposition methods, Jacobi and

Gauss – Seidel iterative methods. Power (and inverse power) method of obtaining largest (smallest) eigenvalue and corresponding eigenvector. Ordinary differential equations-initial value problem, Picard's, Taylor series, Runge-Kutta first, second and fourth order methods.

[13 Hours]

Unit – IV

Basics concepts and definition of statistics. Mean, Standard deviation, coefficient of Variation, skewness & kurtosis, Carl Pearson Correlation, Rank correlation and illustrated examples. Probability: Basic concept and definition of probability, probability axioms, Laws of Probability, Conditional probability, Bayes theorem , Problems and application.

[13 Hours]

Unit - V

Random variable and Expectation: Discrete and continuous random variables, expectation of random variables, theorems on expectation, illustrative examples. Probability Distribution: Probability function, Probability mass/density function, Discrete Distribution – Bernoulli, Binomial Distribution, Continuous distribution – Normal Distribution, applications and problems.

[13 Hours]

Text Books:

1. M.K.Jain, SRK Iyengar and R.K. Jain Numerical methods for Scientific and Engineering Computation: Wiley Eastern.
2. Ronald E Walpole & Raymond H Meyers : Probability & Statistics for Engineers and Scientists (Second Edition).

References

1. J.Medhi : Statistical Methods New Age Publications.
2. S.C.Gupta and V.K.Kapoor – Elements of Mathematics, Statistics, Sultan Chand and Sons.

BCA203P : DATA STRUCTURES USING C LAB

PART - A

1. Write a menu driven C program to perform the following string operations without using string functions: (i) String Length (ii) String Concatenation (ii) String Reverse
2. Write a C program to search for an element in an array using Binary search
3. Write a C program to sort a list of N elements using Selection Sort Algorithm.
4. Write a C program to construct a singly linked list and perform insertion, deletion and Display operations.
5. Write a C program to demonstrate the working of stack using liked list.
6. Write a C program for Towers of Hanoi problem.
7. Write a C program to find GCD of two numbers using recursion
8. Write a C program to convert infix arithmetic expression to post fix expression.
9. Write a C program to simulate the working of Circular Queue using an array.
10. Write a C program to create and traverse a binary search tree.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA304P: DATABASE MANAGEMENT SYSTEM LAB
PART - A

1. The STUDENT detail databases has a table with the following attributes. The primary keys are underlined. STUDENT(regno: int, name: string, dob: date, marks: int)

i) Create the above table.

ii) Remove the existing attributes from the table.

iii) Change the date type of regno from integer to string.

iv) Add a new attribute phoneno to the existing table.

v) Enter five tuples into the table.

vi) Display all the tuples in student table.

2. A LIBRARY database has a table with the following attributes.

LIBRARY(bookid:int, title:string, author:string, publication:string, yearpub:int, price:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the tuples in student table.

iv) Display the different publishers from the list.

v) Arrange the tuples in the alphabetical order of the book titles.

vi) List the details of all the books whose price ranges between Rs. 100 and Rs. 300

3. The SALARY database of an organization has a table with the following attributes.

EMPSALARY(empcod:int, empnamee:string, dob:date, department:string, salary:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the number of employees working in each dapartment.

iv) Find the sum of the salaries of all employees.

v) Find the sum and average of the salaries of employees of a particular department.

vi) Find the least and highest salaries that an employee draws.

4. Consider the insurance database given below. The primary keys are underlined and the data types are specified.

PERSON(driver-id-no: string, name: string, address:strong)

CAR(regno: string, model: string, year: int)

ACCIDENT(report-no: int, date: date, location: String)

OWNS(driver-id-no: string, regno: string)

PARTICIPATED(driver-id-no: string, regno: string, report-no: int, damage-amount: int)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you

   a) Update the damage amount for the car with a specific regno in the accident with report no 12 to 25000.

   b) Add a new accident to the database.

iv) Find total number of people who owned cars that were involved in accidents in 2002

v) Find the number of accidents in which cars belonging to a specific model were involved

5. Consider the following database of students enrollment in courses and books adopted for each course.

STUDENT(regno: string, name: string, major: strong, bdate: date)

COURSE(course-no: int cname: string, dept: string)

ENROLL(reg-no: string, course-no: int, sem: int, marks: int)

BOOK-ADOPTION(course-no: int, sem: int, book-isbn: int)

TEXT(book-isbn: int, book-title: string, publisher: string, author: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

iv) Produce a list of text books (include Course-no, book-isbn, book-title) in the alphabetical order for courses offered by the ‘Compute Science’ department that use more than two books.

v) List any department that has all its adopted books published by a specific publisher.

6. The following tables are maintained by a book dealer

AUTHOR(author-id: int, name: string, city: string, country: string)

PUBLISHER(publisher-id: int name: string, city: string, country: string)

CATLOG(book-id: int, title : string, author-id: int, publisher-id: int, category: int, year: int, price: int)

CATEGORY(category-id: int, description: string)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i) Create above tables by properly specifying the primary keys and the foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2010.

iv) Find the author of the book which has maximum sales.

v) Demonstrate how to increase price of books published by specific publisher by 10%

7. Consider the following database for BANK.

BRANCH(branch-name: string, branch-city: string, assets: real)

ACCOUNT(accno: int, banch-name: string, balance: real)

DEPOSITOR(customer-name: string, accno: int)

CUSTOMER(customer-name: string, customer-street: string, customer-city: string)

LOAN(loan-no: int, branch-name: string, amount: real)

ORROWER(customer-name: string, loan-no: int)

i) Create the above tables by properly specifying the primary keys and foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Find all the customers who have atleast two accounts at the main branch.

iv) Find all customer who have an account at all the branches located in a specific city.

v) Demonstrate how t0 delete all account tuples at every branch located in specific city.

8. Consider the following database for ORDER PROCEESING.

CUSTOMER(cust-no: int, cname: string, city: string)

ORDER(orderno: int, odate: date, ord-amt: real)

ORDER_ITEM(orderno: int, itemno:int, qty: int)

ITEM(itemno: int, unitprice: real)

SHIPMENT(orderno: int, warehouseno: int, ship-date: date)

WAREHOUSE(warehouseno: int, city: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) List the order number and ship date for all orders shipped from particular warehouse.

iv) Produce a listing: customer name, no of orders, average order amount

v) List the orders that were not shipped within 30 days of ordering

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 8 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

THIRD SEMESTER BCA

BCA301T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA302T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA303T: OBJECT ORIENTED PROGRAMMING USING C++

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction :Procedure Languages, definition of OOP, Basic concept of OOP, Object Class, Data Abstraction, Data Encapsulation, Data Hiding member functions , Reusability, Inheritance, Creating new Data Types, Polymorphism, Overloading , Dynamic binding and Message passing. C++ Features: The iostream class, C++ Comments, C++ Keywords, Variable declaration, The Const Qualifier. The Endl, Set Waste precision, Manipulators, The scope resolution operator, The new & delete Operations. Functions: Simple Functions, Function declaration, calling the function, function definition, Passing argument to, returning value from function, passing constants, Variables, pass by value , passing structure variables, pass by reference, Default arguments, return statements, return by reference, overloaded functions; Different number of arguments, Different Kinds of argument, inline function.

[12 Hours]

Unit - II

Objects & Classes: Classes & Objects, Class Declaration, Class member; Data Constructions, Destructors, Member functions, Class member visibility, private, public, protected . The scope of the class objects constructions, Default Constructor. Constructor with argument, constructor with default arguments, Dynamic constructor, copy constructor, Overloaded constructor, Objects as arguments returning objects from

functions, class conversion, manipulation private Data members, Destructors classes, object & memory, arrays as class member data: Array of objects, string as class member.

[12 hours]

Unit - III

Operator Overloading : Overloading unary operator: Operator Keyword, Operator arguments, Operator return value, Nameless temporary objects, limitations of increment operator, overloading binary operator, arithmetic operators, comparison operator, arithmetic assignment operator, data conversion; conversion between objects of different classes. Inheritance : Derived Class & Base Class: Specifying the Derived class accessing Base class members, the protected access specifier, Derived class constructor, Overriding member functions, public and private inheritance; Access Combinations, Classes & Structures, Access Specifiers, Level of inheritance; Multilevel inheritance, Hybrid inheritance, Multiple inheritance; member functions in multiple inheritance , constructors in multiple inheritance, Containership; Classes, within classes, Inheritance & Program development.

[12 Hours]

Unit - IV

Virtual functions: Normal member function accessed with pointers, Virtual member functions accessed with pointers, Dynamic binding, pure virtual functions, Friend function; Friends for functional notation, friend classes, the pointer; Accessing Member Data with this, using this for returning values. Templates & Exception Handling: Introduction, Templates, Class Templates, function templates, Member function templates, Template arguments, Exception Handling.

[12 Hours]

Unit V

Streams: The Stream class Hierarchy, Stream classes Header file, string I/O: Writing strings, reading strings, character I/O, Detecting End – of – file. Object I/O; writing an object to disk, reading an object from disk, I/O with multiple objects; the fstream class, The open function, File Pointers; Specifying the position, Specifying the offset. The tellg Function, Disk I/O with Memory Functions; Closing Files, Error Handling, Command Line Arguments.

[12 Hours]

Text books:

1. Lafore Robert, "Object Oriented Programming in Turbo C++", Galgotia Publications, 2012.

Reference:

1. Lippman, "C++ Primer", 3rd Edition, Pearson Education, 2010.
2. E. Balaguruswamy: Object Oriented Programming with C++, Tata McGraw Hill Publications, 2011.
3. Farrell, "Object Oriented Programming Using C++", 1st Edition 2008, Cengage Learning India

BCA304T: ACCOUNTING AND FINANCIAL MANAGEMENT

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History and Development of Accounting –Meaning Objectives and functions of Accounting-Book–keeping V/s Accounting –Users of accounting data – systems of book-keeping and accounting – branches of accounting –advantages and limitations of accounting. Accounting Concepts and conventions: Meaning need and classification, Accounting standards –meaning, need and classification of Indian

accounting standards. Accounting principles V/s Accounting standards.

[12 Hours]

Unit - II

Financial Accounting Process: Classification of accounting transaction and accounts, rules of debit and credit as per Double Entry System. Journalisation and Ledger position Preparation of different subsidiary books: Purchase Day Book Sales Day Book, Purchase Returns Day Books, Sales Returns Day Book, Cash Book. Bank Reconciliation Statement: Meaning, Need, Definition, preparation of BRS.

[12 Hours]

Unit - III

Accounting for bill of exchange: Meaning, Need, Definition, Partice to Bill of Exchange, Types of Bills. Accounts Procedure: Honour of the Bill, Dishonour of the Bill, Endorsement, Discounting, Renewal, Bills for collection, Retirement of the Bill, Accommodation Bills, Bill Receivable Book and Payable Book. Preparation of Trial Balance: Rectification of errors and journal Proper.

[12 Hours]

Unit - IV

Preparation of Final accounts: Meaning, need and classification, Preparation of Manufacturing, Trading, Profit and loss account and Balance-Sheet of sale –traders and partnership firms.

[12 Hours]

Unit V

Accounting Package like Tally

[12 Hours]

Text Book

1. S.Ramesh, B.S.Chandrashekar, a Text Book of Accountancy.

References

1. V.A.Patil and J.S.Korihalli, Book–Keeping and Accounting, (R. Chand and Co. Delhi).
2. R.S.Singhal, Principles of Accountancy, Nageen Prakash pvt.Ltd, Meerut.
3. B.S.Raman, Accountancy, (United Publishers, Mangalore)

BCA305T: OPERATING SYSTEMS

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Introduction: Batch Systems, Concepts of Multiprogramming and Time Sharing, Parallel, Distributed and real time Systems, Operating System Structures, Components & Services, System calls, System programs, Virtual machines. Process Management: Process Concept, Process Scheduling, Co – Operating process, Threads, Inter process communication, CPU Scheduling Criteria, Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution.

[13 Hours]

Unit - II

Process Synchronization and deadlocks: The Critical Section Problem, Synchronization hardware, Semaphores, Classical problems of synchronization, Critical regions, monitors, Dead locks – system model, Characterization, Dead lock prevention, avoidance and detection, Recovery from dead lock, Combined approach to deadlock handling.

[13 Hours]

Unit - III

Memory Management: Logical and Physical address space, Swapping, Contiguous allocation, Paging, Segmentation, Segmentation with paging in Mastics and Intel 386, Virtual memory-Demand paging and it's performance, Page replacement algorithms, Allocation of frames, thrashing, page size and other considerations. Demand Segmentation.

[13 Hours]

Unit - IV

File management (Systems, Secondary Storage Structure): File Concepts, Access methods, Directory Structure, Protection and consistency, File system structure, Allocation methods, Free space management, Directory Implementation, Efficiency and Performance, Recovery. Disk Management (Structure, Disk Scheduling Methods): Disk Structure & Scheduling methods, Disk management, Swap – Space management.

[13 Hours]

Unit - V

Protection and Security: Goals of protection, Domain Protection, Access matrix, Security Problem, Authentication, One time password, program threats, System threads.
Case Study of Windows and Linux Operating System

[13 Hours]

Text Books:

1. Abraham Silberschatz and Peter Baer Galvin, "Operating System Concepts", 7th Edition, Pearson Education, 2002.

Reference Books:

1. H.M.Deitel, "Operating Systems", Pearson Learning Solutions, 3rd Edition, 2003.
2. William Stallings, "Operating Systems", 6th Edition, Pearson Education, 2010.
3. Stuart, "Operating systems: Principles, Design and Implementation", 1st Edition 2008, Cengage Learning India

BCA303P : C++ PROGRAMMING LAB

PART-A

1. Write a program to prepare a shopping lists
2. Write a program to perform bank transactions.
3. Write a program to swap numbers using friend function.
4. Write a program to calculate area and circumference of circle using inline function
5. Write a program to perform multiplication of two matrices using operator overloading.
6. Write a program to implement operation on queue.
7. Write a program to create a student report using inheritance technique.
8. Write a Program to find the area and volume of respective figures using function overloading.
9. Write a program to show returning current object, accessing member data of current object and returning values of object using this pointer
10. Write a program to sort elements using template.

PART - B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA304P: ACCOUNTING PACKAGE LAB

FOURTH SEMESTER BCA

BCA401T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA402T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA403T: VISUAL PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Visual Programming: The intergrated Development Environment – menu bar, tool bar, from designer, project explorer , properties window , from layout window , The Visual Programing editor. The form object: Properties , events and methods pf forms ; Properties – Name , Captain , Backcolor, Borderstyle , controlbox , maxbutton , minbutton, moveable, startup position , height, width , left, top, scalemode, window, state ; Events –load ,unload , Clerk, Activate , Deactivate , Resize, methods – Show , hide , cls , Unload ,print , Controls –Properties and events of different controls such as command buttons , labels , textboxes image controls , timer, horizontal and vertical scroll bars , option buttons , check boxes , frames lists and combo boxes. Predefined Dialog Boxes – MsgBox and InputBO

[12 Hours]

Unit - II

Programming: Data types, variables; declaration and scope arithmetic operations, Study of form and code modules, private and public procedures , Main o procedure , Suba and Functions. Mathematical and string Functions; Branching and Looping Statement ; If – Then , if –Then –Else and Nested If Statements; Select Case –different forms; For – Next , While – Wend and Do – Loops statements ; Arrays- declaration . Static and dynamic arrays. Array and Function, menus and toolbars-Creating menus and toolbars, Working with the menu editor , Designing Multiple Document interface forms. Microsoft common controls.

[12 Hours]

Unit - III

OOP methods and properties of an object, class Modules , Encapsultation and Inheritance characteristics Dynamic Link Libraries (DLLs) and Windows API ; Designing Help files ; File handling – Sequential ,Random access and Binary files, Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.

[12 Hours]

Unit – IV

Visual C++ Programming: Objects-Classes-VC++Components – Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls – Files – MFC File Handling – Document View Architecture – Serialization.

[12 Hours]

Unit – V

Interfacing Other Applications – Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC.

[12 Hours]

Text Books:

1. Gurumit Singh, "Visual Basic 6", First Edition, Firewall Media, 2007.

Reference Books:

1. Charles Petzold, "Windows Programming", 5th Edition, Microsoft Press, 1999.
2. Steve Holzner, "Visual C++ Programming", Second Edition, PHI, 1994.
3. Go ttfried, "Programming with Visual Basic 6", PHI, 2000.

BCA404T : UNIX PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History, salient features, Unix system architecture, Unix command format, Unix internal and external commands, Directory commands, File related commands, Disk related commands, general utilities. Unix File System: Boot inode, super and data block, in-core structure, Directories, conversion of pathname to inode, inode to a new file, Disk block allocation. Process Management: Process state and data structures of a Process, User vs, kernel node, context of a Process, background processes, Process scheduling commands, Process terminating and examining commands.

[12 Hours]

Unit - II

Secondary Storage Management: Formatting, making file system, checking disk space, mountable file system, disk partitioning, file compression. Special Tools and Utilities: Filters, Stream editor SED and AWK, Unix system calls and library functions, Processes, signals and Interrupts, storage and compression facilities.

[12 Hours]

Unix - III

Shell Programming: Vi editor, shell types, shell command line processing, shell script features, executing a shell script, system and user-defined variables, expr command, shell screen interface, read and echo statement, command substitution, escape sequence characters, shell script arguments, positional parameters, test command, file test, string test, numeric test. [12 Hours]

Unit – IV

Conditional Control Structures-if statement, case statement Looping Control Structure-while, until, for, statements. Jumping Control Structures – break, continue, exit. Shell Programs covering the above concepts. [12 Hours]

Unit – V

Unix System Communication: Introduction, write, read, wall commands, sending and handling mails. System Administration: Roles of a System Administrator, File System Maintenance, System Startup and Shutdown, User Management, Backup and Restore, Doemons, Domain Name System DNS, Distributed File System.

[12 Hours]

Text Books:

1. M.G.Venkateshmurthy, "Introduction to UNIX & SHELL Programming", First Edition, Pearson Education, 2004.

Reference Books:

1. Forouzan,"Unix and Shell Programming", 1st Edition,2008 Cengage Learning India
2. UNIX and Shell Programming, Archana Verma, Firewall Media.

BCA405T: OPERATIONS RESEARCH

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Linear Programming Problems: Origin and development of operations research, Linear Programming Problem –formulation of Lenear Programming problem, Graphical solution. Theory of simplex method. Use of artifical variables and their solution.

[13 Hours]

Unit - II

Transportation Problem: Mathematical formulation of transportation problem, Initial basic Feasible solution, North West corner rule, Matrix minima method, Vogel's approximation method, MODI method to find optimal solution.

[13 Hours]

Unit - III

Assignment Problem: Mathematical formulation of an Assignment problem, Assignment algorithm, Hungarian Method to solve Assignment Problem.

[13 Hours]

Unit - IV

Network Analysis: Basic components of Network, Rules for drawing Network diagram Time calculation in Networks. Critical Path Method and PROJECT Evaluation and Review Techniques. Algorithm and flow chart for CPM and PERT.

[13 Hours]

Unit - V

Theory of Games: Two –person Zero –sum Games, the maximin and Minimax principle, Saddle point and value of the Game. Game without saddle points, mixed strategies, solution for 2X2 games, Graphical method Dominance property.

[13 Hours]

Text books:

1. Taha, "Operations Research", 7th edition, Pearson Education, 2007.

References Book:

1. Billey E. Gillett, "Introduction to Operations Research" , Himalaya Publishing House, Delhi, 1979.
2. Hamady A.Taha "Operations Research" , Collin Mac Millan, 1982.

FIFTH SEMESTER BCA

BCA501T: DATA COMMUNICATIONS AND NETWORKS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit – I

Introduction: Communication Network and services, Approaches to Network Design, Network Functions and Network Topology, Message ,packet and circuit Switching , Internet, Packet Switching ; Key factors in Communication Network Evolution ; Layered Architecture and Applications – Examples of Layering , OSI Reference Model, TCP/IP Model Telnet FTP and IP Utilities. Digital Transmission: Digital Representation of Information: Properties of digital transmission: Characterization of Communication Channels Frequency Domain and Time Domain : Fundamental limits in Digital Communication – The Nyquist Signalling rate, The Shannon channel capacity : Line coding , Modems & digital Modulations

[12 Hours]

Unit - II

Transmission Systems: properties of media and digital transmission Systems – Twisted Pair , Coaxial Cable, Optical Fibre, Radio Transmission Intrared Light Error detection and correction – Error detection , Two – dimensional parity checks , Internet checksum , Polynomial code; standardized Polynomial codes , Error detecting capability of a polynomial code, Multiplexing – frequency – Division , Time – Division , SONET; Wavelength Division Multiplexing Circuit switches; Telephone network , signalling Traffic and Overload control in Telephone networks – Concentration, Routing Control, Overload controls Cellular Telephone Networks, Satellite Cellular networks.

[12 Hours]

Unit – III

Peer –to-Peer Protocols:- Peer-to peer Protocols and service models ARQ Protocols stop and wait , Go –back-N Selective Repeat , Transmission efficiency of ARQ Protocols, Other adaptation functions , - Sliding window flow control Timing Recovery in Synchronous Services Reliable Stream Service, Data Link Control, HDLC, PPP ; Statistical Multiplexing.

[12 Hours]

Unit - IV

Local Area Networks and Medium access Control Protocols:- Multiple access communications; Local Area network – LAN Structure, MAC Sublayer, Logical link control layer, Random Access protocols ALOHA , Slotted ALOHA, CSMA, CSMA/CD, Scheduling approaches to medium access control – Reservation Systems, polling , Token passing rings, comparison of Random access & Scheduling access control Comparison of Radom access & SHEDULING MEDIUM access controls; Channelization – FDMA, TDMA, CDMA;

[12 Hours]

Unit - V

LAN Standard –Ethernet and IEF, 802.3 LAN Standard ; Token Ring and IEEE 8025 LAN standard , FDDI, Wireless LAN's and IEEE 802.11 Standards; LAN Bridges – Transparent Bridges , Source Routing Bridges , Mixed – media Bridges. Packet Switching Networks :- Network services & Internal Network Operation; Packet Network Topology; Datagrams & VIRTUAL circuits ; structure of switch/ Router, Connectionless packet switching ; Virtual – Circuit packet switching ; Overview of Routing and congestion in packet networks – Routing algorithms classification , Routing tables,

shortest path routing algorithms, Flooding , Hierarchical routing , Distance vector routing Link state routing , congestion control algorithms. [12 Hours]

Text Books:

1. Stallings, "Data and Computer Communications", 7th Edition,Pearson Education, 2012

Reference Books:

1. Andrew S Tanenbaim, "Computer Networks", 4th Edition, Pearson Education.
2. Behrouz Ferouzan, Introduction to Data Communication & Networking TMH, 1999.
3. Larry &Peterson & Bruce S Davis; Computer networks Second Edition , Morgan Kaufman, 2000.

BCA502T : SOFTWARE ENGINEERING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Software Products and Software process, Process models: Waterfall modal, Evolutionary Development, Bohemia's Spiral model, Overview of risk management, Process Visibility, Professional responsibility. Computer based System Engineering: Systems and their environment, System Procurement, System Engineering Process, System architecture modelling. Human Factors, System reliability Engineering. Requirements and Specification: The requirement Engineering Process, The Software requirement document, Validation of Evolution of requirements, Viewpoint – oriented & method based analysis , system contexts , Social 7 organizational factors . Data flow , Semantic, Objects, models , Requirement Specification, Non functional requirement.

[12 Hours]

Unit - II

Software Prototyping: Prototyping in software process, Prototyping techniques, User interface prototyping. Software Design: Design Process, Design Strategies, Design Quality , System Structuring control models, Modular decomposition , Domain Specific architecture.

[12 Hours]

Unit - III

Object Oriented& function oriented design: Objects, object Classes and inheritance Object identification, An object oriented design example, Concurrent Objects, Data flow design Structural decomposition, Detailed Design, A Comparison of design Strategies.
User interface design: Design Principles, User System interaction, Information Presentation, User Guidance, Interface Evaluation.

[12 Hours]

Unit - IV

Software Reliability and reusability : Software reliability metrics , Software reliability Specification , Statistical testing ,Reliability Growth modeling, Fault avoidance & tolerance, Exception handling & defensive programming , Software development with reuse, Software' development for reuse , Generator based reuse, Application System Portability.

[12 Hours]

Unit - V

Software Verification and Validation : The testing Process , Test Planning & Strategies, Black Box , Structural, interface testing , Program inspections , Mathematically based verification, Static analysis tools, Clean room software development. Management Issues: Project management, Quality management, Software cost estimation, Software maintenance. [12 Hours]

Text book

1. Ian Sommerville – Software Engineering, 9th Edition, Pearson Education Ltd, 2010.

Reference Books

1. Roger S. Pressman – Software Engineering, A Practitioner's approach, 7th Edition, McGRAW-HILL Publication, 2010.
2. Pankaj Jalote, "An integrated approach to Software Engineering", 3rd Edition, Narosa Publishing House, 2013.

BCA503T: COMPUTER ARCHITECTURE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

DIGITAL LOGIC CIRCUITS: Logic gates Boolean algebra, map simplification, combinational circuits, flip-flop, sequential circuits. INTEGRATED CIRCUITS AND DIGITAL FUNCTIONS: Digital integrated circuits, IC flip –flops and registers, decoders and multiplexers, binary counters, shift registers, random –access memories (RAM) read –only memories (ROM).

[12 Hours]

Unit - II

DATA REPRESENTATION: Data types, fixed-point representation, floating – point representation, other binary codes, error detection codes.

DATA TRANSFER OPERATIONS: Register Transfer, Memory Transfer and I/O Transfer.

[12 Hours]

Unit – III

BASIC COMPUTER ORGANISATION AND DESIGN: Instruction codes, computer instruction, timing and control, execution and instruction, input-output and interrupt, design of computer.

[12 Hours]

Unit - IV

CENTRAL PROCESSOR ORGANIZATION : Processor bus organization, arithmetic logic unit (ALU) instruction formats, addressing modes, data transfer and manipulation , program control, microprocessor organization.

[12 Hours]

Unit – V

INPUT-OUTPUT ORGANISATION: Peripheral devices . asynchronous data transfer , direct memory access (DMA) ,priority interrupt, input –output processor (IOP).

MEMORY ORGANIZATION : Auxiliary memory, microcomputer memory hierarchy , associative memory , virtual memory, cache memory.

[12 Hours]

Text Books

1. M.Moris Mano , Computer System, Architecture, 2nd Edition Prentice Hall of India.

References

1. Heuring and Jordan, Computer systems design and Architecture , Peason Edition
2. William Stallings , Computer Organisation and Archotecture, Peason Education
3. Floyed , Digital Fundamentals,8th Edition , Peason Education.
4. Andrew S. Temenbauam, Structured Computer Organization , 3rd Edition ; Prentice Hall of India.
5. David Patterson & Hennessy , Computer Organization & Design , Elsevier.

BCA504T: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to JAVA: JAVA Evolution: Java History, Java Features, How Java Differs from C and C++, Java and Internet, Java and World Wide Web, Web Browsers, Hardware and Software Requirements, Java Support Systems, Java Environment. Overview of JAVA Language: Introduction, Simple Java program, More of Java Statements, Implementing a Java Program, Java Virtual Machine, Command Line Arguments, Programming Style. Constants, Variables, and Data Types: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Values to Variables, Scope of Variables, Symbolic Constants, Type Casting, Getting Values of Variables, Standard Default Values, Operators and Expressions: Introduction, Arithmetic Operators, Relational Operators Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators, Type Conversion and Associativity, Mathematical Functions. Decision Making and Branching: Introduction, Decision Making with if Statement, Simple if Statement, The if…..else Statement, Nesting of if……Else Statements, The else if Ladder, The Switch Statement, The ?: Operator. Decision Making and Looping: Introduction. The while Statement, The do Statement, The for Statement, Jumps in Loops Labeled Loops.

[12 hours]

Unit -II

Classes, Arrays, Strings and Vectors: Classes, Objects and Methods: Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods, Inheritance: Extending a Class Overriding Methods, Final Variables and Methods, Finalizer methods, Abstract Methods and Classes, Visibility Control. Arrays, Strings and Vectors: Arrays, One-dimensional Arrays, Creating an Array, Two -Dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors, Wrapper Classes.

[12 Hours]

Unit - III

Interfaces, Packages, and Multithreaded Programming: Interfaces: Multiple Inheritance: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables. Packages: Putting Classes together: Introduction, Java API Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes. Multithreaded Programming: Introduction, Creating Threads, Extending the Thread Class, Stopping and Blocking a thread, Life Cycle of a thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

[12 Hours]

Unit - IV

Managing Exceptions, Applet Programming: Managing Errors and Exception: Introduction, Types of Exception Handling Code, Multiple Catch Statements, Using Finally Statement, Throwing Our Own Exceptions, Using Exceptions for Debugging. Applet Programming: Introduction, How Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle, Creating an Executable applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, running the Applet, More About HTML Tags, Displaying Numerical Values, Getting Input from the User.

[12 Hours]

Unit - V

Graphics Programming, Input/Output: Graphics programming: Introduction, The Graphics Class, Lines and rectangles, circles, and Ellipses, Drawing Arcs, Drawing Polygons, Lines Graphs, Using Control Loops in Applets, Drawing Bar Charts. Managing Input/Output Files in JAVA: Introduction, Concept of Streams, Stream Classes, Byte Stream Classes, Character Stream Classes, Using Streams, Other Useful I/O Classes, Using the File Class, Input / Output Exceptions, Creation of Files, Reading / Writing Characters, Reading / Writing Bytes, Handling Primitive Data Types, Concatenating and Buffering Files, Interactive Input and output, Other Stream Classes.

[12 Hours]

Text Books:

1. A.Balaguruswamy, "Programming with JAVA", A Primer, TMH, 1999.

Reference Books:

1. Thomas Boutel, "CGI programming in C and Perl", Addison – Wesley, 1996.
2. Jefry Dwight et al, Using CGI, Second Edition, Prentice Hall, India, 1997.
3. Patrick Naughton & Herbert Schildt, JAVA 2: The Complete Reference, THM, 1999.
4. Schildt, "JAVA The Complete Reference", 7th Edition.

BCA505T : MICROPROCESSOR AND ASSEMBLY LAGUAGE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Architecture and Operation: Introduction to 8085, Microprocessor organization/ architecture & its operation Microprocessor based system, memory interfacing , basic interfacing concepts ,interfacing I/O devices

[12 Hours]

Unit - II

Programming the 8085: Programming model, instruction classification , Instruction format, addressing modes, writing assembly level programs-overview of instruction set, timing diagrams data transfer, Arithmetic, Logic branch operations.

[12 Hours]

Unit - III

Programming techniques- Looping Counting and Indexing , 16 bit arithmetic operations , logic operations Compare and rotate operations . Counters and Time delays , Generation of pulse waveforms. Stacks and subroutines- conditional CALL and RETURN instructions. Advanced subroutine concepts. BCD to Binary and Binary to BCD conversions, BCD to 7 segment conversion , Binary to ASCII and ASCII to Binary code conversion, BCD addition and subtraction , multiplication and division.

[12 Hours]

Unit – IV

Memory Interface: Memory and I/O mapping and interfacing concepts. Interrupts : 8085 vectored interrupts , Restart as Software instructions, additional I/O concepts and processes.

[12 Hours]

Unit – V

Interfacing of peripherals (I/Os) and applications: Interfacing Keyboard (linear and matrix) and 7 segment display including multiplexes, 8279 programmable keyboard /display interface, 8255 PPI , 8259 PIC , DMA and 8257 DMA controller , Serial communication using 8251, D to A converters and interfacing, RS323 serial

communication standards.

[12 Hours]

Text books

1. R.S.Gaonkar – Microprocessor Architectutre , Programming and Application with 8085. Penram Int. 3rd Edn.

References

1. Douglas V.Hall- Microprocessors and digital systems, MH.
2. Kenneth L.Short - Microprocessor and Programmed Logic ‘’, PHI , 2nd Edn.
3. Aditya P. Mathur- Introduction to Microprocessors, 3RD Edn. TMH
4. Antonakos: Introduction to Intel family of Microprosessors Pearson Education
5. Hoffer: Modern Systems Analysis and Design Pearson Eduction Kendall, System Analysis and Design

BCA504P : JAVA PROGRAMMING LAB

PART - A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to display all prime numbers between two limits.
3. Write a program to sort list of elements in ascending and descending order and show the exception handling.
4. Write a program to implement all string operations.
5. Write a program to find area of geometrical figures using method.
6. Write a program to implement constructor overloading by passing different number of parameter of different types.
7. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
8. Write a program to calculate bonus for different departments using method overriding.
9. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
10. Write a program to implement mouse events and keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA505P: ASSEMBLY LANGUAGE PROGRAMMING LAB

PART - A

1. Exchange of two 16-bit numbers.
2. Addition & Subtraction of two 8 –bit HEX numbers.
3. Subtraction of two 16 –bit numbers.
4. Two n-byte Number addition.
5. Block Transfer.
6. 'N' Decimal Number addition.
7. 4-Digit BCD addition.
8. Subtraction of 16 –bit number.
9. Sorting of array in ascending order.
10. Multiplication of 2 digit BCD

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA506P : PROJECT

Students can develop a project in team (maximum three members). They should implement their project in college in any RDBMS package or any language available in the college. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 100 marks is distributed as follows:

Demonstration and Presentation	65 Marks
Viva-voce	25 Marks
Project Report	10 Marks

SIXTH SEMESTER BCA

BCA601T : THEORY OF COMPUTATION

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Finite Automata: The central concepts of Automata theory; Deterministic finite automata; Nondeterministic finite automata. An application of finite automata,

Finite automata with Epsilon transitions.

[12 Hours]

Unit - II

Regular Expressions: Finite Automata and Regular Expressions Applications of Regular Expressions. Regular languages; Proving languages not to be regular languages; Closure properties of regular languages; Decision properties of regular languages; Equivalence and minimization of automata.

[12 Hours]

Unit - III

Context–free grammars: Parse trees; Applications; Ambiguity in grammars and Languages. Definition of the Pushdown automata; the languages of a PDA; Equivalence of PDA's and CFG's.

[12 Hours]

Unit - IV

Deterministic Pushdown Automata:Normal forms for CFGs; The pumping lemma for CFGs; Closure properties of CFLs. Problems that Computers cannot solve.

[12 Hours]

Unit – V

The Turing machine:Programming techniques for Turing Machines. Undecidability, A Language that is not recursively enumerable; An Undecidable problem that is RE; Post's Correspondence problem.

[12 Hours]

Text Book:

1. John E. Hopcroft, Rajeev Motwani, Jeffrey D.Ullman: Introduction to Automata Theory, Languages and Computation, 3rd Edition, Pearson Education, 2011.

Reference Books:

1. John C Martin: Introduction to Languages and Automata Theory, 3rd Edition, Tata McGraw-Hill, 2007.
2. Daniel I.A. Cohen: Introduction to Computer Theory, 2nd Edition, John Wiley & Sons, 2009.
3. Thomas A. Sudkamp: An Introduction to the Theory of Computer Science, Languages and Machines, 3rd Edition,Pearson Education, 2006

BCA602T: SYSTEM PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Background: Machine Structure, Evolution of the Components of a Programming System, Assembler, Loaders, Macros, Compliers, Formal Systems. Machine Structure, Machine Language and assembly language: General Machine Structure, Machine Language, Assembly Language

[12 Hours]

Unit - II

Assemblers: General Design Procedure, Design of assembler, Statement of Problem, Data structure, Format of databases, algorithm, look for modularity, Table Processing: Searching and Sorting. The Problem, Searching a table, linear Search, binary Search, Sorting, interchange sort, Shell Sort, Bucket Sort, Radix Exchange Sort, address calculation sort, comparison of sorts, hash or random entry searching.

[12 Hours]

Unit - III

MACRO LANGUAGE AND THE MACRO PROCESSOR: Macroinstruction, Features of macro Facility, Macro instruction arguments, conditional macro Expansion, macro calls within macros, macro Instructions defining macros, Implementation, Statement of problem, implementation of a restricted facility, A two pass algorithm. A single pass algorithm, implementation of macro calls within macros. Implementation within an assembles.

[12 Hours]

Unit - IV

LOADERS: Loader schemes, Compile & go, General loading Scheme, absolute loaders, Subroutine Languages, Relocating loaders, Direct linking loaders, other loading Schemes – Binders, linking loaders, Overlays, Dynamic binders. Design of absolute loader, Design of a Direct linking loader Specification of problem, Specification of data structure, format of data bases algorithm.

[12 Hours]

Unit - V

COMPILERS: Statement of problem, Problem1: Recognizing basic Elements, Problem2: Recognizing Syntactic cutis & interpreting meaning, Problem3: Storage Allocation, Problem4: Code Generation. Optimization (machine independent) optimization (machine dependent), Assembly Phase, General Model of complier. PHASES OF COMPILERS: Simple Structure of Compiler, Brief introduction to 7 Phases of Compliers.

[12 Hours]

Text Books:

1. John J. Donowon, System Programming, TATA McGraw-Hill.

Reference Books:

1. Dhamdhere: System programming and Operating System TMH
2. Beck: System Software, 3/e Pearson Education.

BCA603T : CRYPTOGRAPHY AND NETWORK SECURITY

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Security Goals, Cryptographic Attacks, Services and Mechanism, Techniques. Mathematics of Cryptography: Integer Arithmetic, Modular Arithmetic, Matrices, Linear Congruence.

[12 Hours]

Unit – II

Traditional Symmetric-Key Ciphers: Introduction, Substitution Ciphers, Transpositional Ciphers, Stream and Block Ciphers. Data Encryption Standard (DES): Introduction, DES Structure, DES Analysis, Security of DES, Multiple DES, Examples of Block Ciphers influenced by DES. Advanced Encryption Standard: Introduction, Transformations, Key Expansion, The AES Ciphers, Examples, Analysis of AES.

[12 Hours]

Unit III

Encipherment using Modern Symmetric-Key Ciphers: Use of Modern Block Ciphers, Use of Stream Ciphers, Other Issues. Mathematics of Asymmetric-Key Cryptography: Primes, Primality Testing, Factorization, Chinese Remainder Theorem, Quadratic Congruence, Exponentiation and Logarithm. Asymmetric Key Cryptography: Introduction, RSA Cryptosystem, Rabin Cryptosystem, Elgamal Cryptosystem, Elliptic Curve Cryptosystems.

[12 Hours]

Unit - IV

Cryptography Hash Functions: Introduction, Description of MD Hash Family, Whirlpool, SHA-512. Digital Signature: Comparison, Process, Services, Attacks on Digital Signature, Digital Signature Schemes, Variations and Applications. Key Management: Symmetric-Key Distribution, Kerberos, Symmetric-Key Agreement, Public-Key Distribution, Hijacking.

[12 Hours]

Unit - V

Security at the Application Layer: PGP and S/MIME: Email, PGP, S/MIME. Security at the Transport Layer: SSL and TLS: SSL Architecture, Four Protocols, SSL Message Formats, Transport Layer Security. Security at the Network Layer: IPSec: Two modes, Two security protocols, Security association, security policy, Internet Key exchange, ISAKMP. [12 Hours]

Text Book:

1. Behrouz A. Forouzan, Debdeep Mukhopadhyay: Cryptography and Network Security, 2nd Edition, Special Indian Edition, Tata McGraw-Hill, 2011.

Reference Books:

1. Michael E. Whitman and Herbert J. Mattord: Principles of Information Security, 2nd Edition, Thomson, Cengage Delmar Learning India Pvt., 2012.
2. William Stallings: Network Security Essentials: Applications and Standards, 4th Edition, Pearson Education, 2012.

BCA604T: WEB PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Fundamentals of Web: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. XHTML: Origins and evolution of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables.

[12 Hours]

Unit - II

HTML and XHTML: Forms, Frames in HTML and XHTML, Syntactic differences between HTML and XHTML. CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The Box model, Background images, The and tags, Conflict resolution.

[12 Hours]

Unit -III

Java Script: Overview of JavaScript; Object orientation and JavaScript; General syntactic characteristics; Primitives, Operations, and expressions; Screen output and keyboard input; Control statements; Object creation and Modification; Arrays; Functions; Constructor; Pattern matching using expressions; Errors in scripts; Examples.

[12 Hours]

Unit - IV

Java Script and HTML Documents: The JavaScript execution environment; The Document Object Model; Element access in JavaScript; Events and event handling; Handling events from the Body elements, Button elements, Text box and Password elements; The DOM 2 event model; The navigator object; DOM tree traversal and modification.

[12 Hours]

Unit - V

Dynamic Documents with JavaScript: Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts; Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements; Dragging and dropping elements. XML: Introduction; Syntax; Document structure; Document Type definitions; Namespaces; XML schemas; Displaying raw XML documents; Displaying XML documents with CSS; XSLT style sheets; XML Processors; Web services.

[12 Hours]

Text Books

1. Robert W Sebesta, "Programming the World Wide Web", 4th Edition, Pearson Education, 2008.

Reference Books

1. M.Deitel, P.J.Deitel, A.B.Goldberg, "Internet & World Wide Web How to program", 3rd Edition, Pearson Education / PHI, 2004.
2. Chris Bates, "Web Programming Building Internet Applications", 3rd Edition, Wiley India, 2006.
3. Xue Bai et al, "The Web Warrior Guide to Web Programming", Thomson, 2003.
4. Sklar, "The Web Warrior Guide to Web Design Technologies", 1st Edition, Cengage Learning India.

BCA604P : WEB PROGRAMMING LAB

PART -A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to sort list of element in ascending and descending order and show the exception handling.
3. Write a program to implement all string operations.
4. Write a program to find area of geometrical figures using method overloading.
5. Write a program to implement constructor overloading by passing different number of parameter of different types.
6. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
7. Write a program to implement an apply by passing parameter to HTML.
8. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
9. Write a program to implement mouse events.
10. Write a program to implement keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks

Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA604P : WEB PROGRAMMING LAB

PART - A

1. Create a form having number of elements (Textboxes, Radio buttons, Checkboxes, and so on). Write JavaScript code to count the number of elements in a form
2. Create a HTML form that has number of Textboxes. When the form runs in the Browser fill the textboxes with data. Write JavaScript code that verifies that all textboxes has been filled. If a textboxes has been left empty, popup an alert indicating which textbox has been left empty.
3. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
4. Create a page with dynamic effects. Write the code to include layers and basic animation.
5. Write a JavaScript code to find the sum of N natural Numbers. (Use user-defined function)
6. Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a two Multiple choice lists and one single choice list

(a) The first multiple choice list, displays the Major dishes available

(b) The second multiple choice list, displays the Starters available.

(c)The single choice list, displays the Soft drinks available.

10. Create a web page using two image files, which switch between one another as the mouse pointer moves over the image. Use the on Mouse Over and on Mouse Out event handlers.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA605P : PROJECT WORK

Students should individually develop a project. They should implement their project in college in any RDBMS package or any language available in the college. The project should web based. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 200 marks is distributed as follows:

Demonstration and Presentation	130 Marks
Viva-voce	50 Marks
Project Report	20 Marks

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BANGALORE UNIVERSITY

REGULATIONS, SCHEME AND SYLLABUS

For the course

MASTER OF COMPUTER APPLICATIONS (MCA)

I to VI Semesters

(Choice Based Credit System –Y2K14 Scheme)

Revised w.e.f.

Academic Year 2014-15 and onwards

MCA PROGRAMME
JNANABHARATHI CAMPUS
BANGALORE UNIVESITY, BANGALORE

BANGALORE UNIVERSITY

Regulations of Master of Computer applications (MCA) Course

1 **TITLE OF THE COURSE:** The course shall be called MCA – Master of Computer Applications.

2 **DURATION OF THE COURSE**: The course of study shall be three years.

3 **ELIGIBILITY FOR ADMISSION**: A candidate with any degree of a minimum of 3 years duration (10+2+3) of Bangalore university or of any other University equivalent there in to with a minimum of 50% of marks in the aggregate of all subjects including languages, if any, provided further, that the candidate has studied mathematics / Computer science /Business Mathematics / Statistics / Computer Applications / Electronics as a subject at PUC level or equivalent HSC (XII Standard) or at Degree level is eligible for admission to MCA Course. Relaxation to SC/ST, Group I be extended as per University norms.

4 **ATTENDANCE**: In each Semester a candidate should be considered to have successfully undergone the prescribed Course of study if the candidate has attended at least 75% of the classes in each subject (Theory , Lab & Practical).

5 **SCHEME OF EXAMINATION**:

A The Internal Assessment marks should be decided for each of the theory subjects by conducting 2 tests , each of 60 minutes duration, spread over the span of a Semester. A seminar should also be given by the student in the third year and the same to be assessed and evaluated for internal assessment along with the two tests.

B The Internal Assessment marks in Practical course is based on the performance in the Laboratory. The Internal Assessment marks for Project work of a candidate is based on the dissertation Seminar.

6 **ELIGIBILITY TO GO TO THE HIGHER SEMESTER**:

A A Candidate is allowed to carry over all the previous uncleared (failed) theory papers and Practicals to subsequent semesters from the first to sixth semester.

B The maximum period for completion of the course shall be six years from the date of admission.

7 **MINIMUM FOR PASS AND DECLARATION OF RESULTS**

A For a pass in a semester, a candidate shall secure a minimum of 40% of the marks prescribed for a subject in the University Examination (Theory, Practical, Project work) and 50% of the marks in the aggregate inclusive of the Internal Assessment marks obtained in all subjects put together.

B The candidates who do not satisfy 7(a) shall be deemed to have failed and have to take exams in the subjects in which he has secured less than 40% at the University examination.

C Provision is made for rejection of results of all the subjects of a Semester only once, if the candidate decides to reappear for all the subjects of that semester. Such rejection should be made within 30 days of announcement of result, by making a written application, through the Head of the Institution. If such rejection is in respect of the results of all the subjects of one semester and earn fresh Internal marks as well.

D The results of any semester will be declared as pass or fail as the case may be in accordance with regulation 7(a).

E To be eligible for the award of the MCA degree, a candidate shall have completed the scheme of training and passed in all subjects prescribed for the Course

F Further to regulation 7(a), the classification followed by the University for all PG courses shall be made applicable for the declaration of results of each Semester.

8 **CLASSIFICATION OF RESULT FOR THE MCA COURSE AND DECLARATION OF RANKS**:

Further to regulations 7(a) and 7(f), the names of all successful candidates securing First Class with Distinction and First Class in the First attempt shall be arranged in the order of Merit and only first FIVE Ranks shall be declared.

9 A candidate shall complete examinations of all Semesters of MCA Course within - **SIX** years from the date of admission

SCHEME OF STUDY AND EXAMINATION FOR MASTER OF COMPUTER APPLICATIONS (MCA)

Sem	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
				IA	Exam	Total	Subject	Sem
I	MCA101T	Problem Solving Techniques using C	4	30	70	100	4	24
	MCA102T	Accounting and Financial Management	4	30	70	100	4	
	MCA103T	Digital Electronics and Microprocessor	4	30	70	100	4	
	MCA104T	Discrete Mathematics	4	30	70	100	4	
	MCA105P	C Programming Lab	8	30	70	100	4	
	MCA106P	Accounting Lab	8	30	70	100	4	
II	MCA201T	Data Structures	4	30	70	100	4	24
	MCA202T	Database Management System	4	30	70	100	4	
	MCA203T	Computer Networks	4	30	70	100	4	
	MCA204T	Operating System	4	30	70	100	4	
	MCA205P	Data Structures Lab	8	30	70	100	4	
	MCA206P	DBMS Lab	8	30	70	100	4	
III	MCA301T	File Structures	4	30	70	100	4	26
	MCA302T	Object Oriented Analysis and Design using UML	4	30	70	100	4	
	MCA303T	Theory of Computation	4	30	70	100	4	
	MCA304T	Statistical Analysis	4	30	70	100	4	
	MCA305P	File Structures Lab	8	30	70	100	4	
	MCA306P	Object Oriented Analysis and Design using UML Lab	8	30	70	100	4	
	MCA307T	Soft Core – Quantitative, Teaching and Research Aptitude	3	30	70	100	2	
IV	MCA401T	Advanced Java Programming	4	30	70	100	4	26
	MCA402T	Advanced Algorithms	4	30	70	100	4	
	MCA403T	Advanced Software Engineering	4	30	70	100	4	
	MCA404T	Quantitative Techniques	4	30	70	100	4	

	MCA405P	Advanced Java Programming Lab	8	30	70	100	4	
	MCA406P	Advanced Algorithms Lab	8	30	70	100	4	
	MCA407T	Soft Core – Soft Skills and Personality Development	3	30	70	100	2	
V	MCA501T	Advanced Web Programming	4	30	70	100	4	24
	MCA502T	Advanced Database Management Systems	4	30	70	100	4	
	MCA503T	Artificial Intelligence	4	30	70	100	4	
	MCA504T	Open Elective	4	30	70	100	4	
	MCA505P	Advanced Web Programming Lab	8	30	70	100	4	
	MCA506P	Mini Project	8	30	70	100	4	
VI	MCA601T	Elective – I	4	30	70	100	4	16
	MCA602T	Elective – II	4	30	70	100	4	
	MCA603P	Main Project	16	150	250	400	8	

List of Electives

1. Distributed Operating Systems
2. Software Testing
3. Parallel Algorithms
4. Compiler Design
5. Multimedia Communication
6. e-Governance
7. Image processing
8. Mobile Computing
9. TCP / IP
10. Cloud Computing
11. Storage Area Network
12. Data Mining
13. Big Data Analytics

FIRST SEMESTER MCA

MCA101T: PROBLEM SOLVING TECHNIQUES USING C

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, Algorithms and Flowcharts, Writing algorithms and drawing flowcharts for simple exercises. Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, structure of C program, executing a C program. Constants, variables, data types, declaration of variables, declaration of storage classes, assigning values to variables defining symbolic constants, declaring a variable as constant, declaring a variable as volatile, overflow and underflow of data, Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions.

UNIT – II [10 Hours]

Managing Input and Output Operations: The scanf() & printf() functions for input and output operations, reading a character, writing a character, (the getchar() & putchar() functions) , the address operator(&), formatted input and output using format specifiers, Writing simple complete C programs. Control Statements: Decision making with if statement, simple if statement, the if..else statement, nesting of if..else statements, the else..if ladder, the switch statement, the ?: operator, the goto statement, the break statement, programming examples. Loop Control Structures: The while statement, the do..while statement, the for statement, nested loops, jumps in loops, the continue statement, programming examples.

UNIT – III [10 Hours]

Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions. Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions. Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions. Storage Classes - Automatic, External, Static and
Register Variables.

UNIT – IV [10 Hours]

Structures and Unions: Defining a structure, declaring structure variables, accessing structure members, structure initialization, copying and comparing structure variables, operations on individual members, array of structures, structures within structures, structures and functions, Unions, size of structures, bit fields, programming examples. Pointers: Understanding pointers, accessing the address space of a variable, declaring and initialization pointer variables, accessing a variable through its pointer, chain of pointers, pointer expressions, pointers and arrays, pointer and character strings, array of pointers, pointer as function arguments, functions returning pointers, pointers to functions, pointers and structures, programming examples

UNIT – V [10 Hours]

File Management in C: Defining and opening a file, closing a file, input/output operations on files, error handling during I/O operations, random access files, command line arguments, programming examples. Dynamic Memory Allocation: Dynamic memory

allocation, allocating a block of memory: malloc, allocating multiple blocks of memory: calloc, releasing the used space: Free, altering the size of a block: realloc, programming examples. The Preprocessor: Introduction, macro substitution, files inclusion, compiler control directives, ANSI additions, programming exercises.

Reference

1. *E. Balaguruswamy, "Programming in ANSI C", 4th Edition, TMH Publications, 2007.*
2. *Ashok N. Kamthane, "Programming with ANSI and Turbo C", Pearson Education, 2006.*
3. *Mahapatra, " Thinking In C ", PHI Publications, 1998.*
4. *Yashwant Kanetkar, "Let Us C", 13th Edition, PHP, 2013.*

MCA102T: ACCOUNTING AND FINANCIAL MANGEMENT

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Accounting: Principles, concepts and conventions, double entry system of accounting, Introduction to basic books of accounts of sole proprietary concern, closing of books of accounts and preparation of trial balance. Final Accounts: Trading, Profit and Loss accounts and Balance Sheet of sole proprietary concern (Without adjustments).

UNIT - II [10 Hours]

Company accounts: features of company, types of companies advantages of companies, types of shares and debentures. Preparation of Final accounts of companies. (simple problems only).

UNIT - III [10 Hours]

Financial Management: Meaning, scope and role, A brief study of functional areas of financial management. Introduction to Various FM Tools: Financial statement analysis. Common size and comparative statement analysis of income and balance sheets

UNIT - IV [10 Hours]

Ratio Analysis, Fund flow statement & Cash flow statement.

UNIT - V [10 Hours]

Introduction to Cost Accounting: Nature, Importance & Basic Principles. Brief Introduction to methods of Costing & Elements of Cost, Unit Costing.

Reference

1. *Ramachandran, "Financial Accounting for Managers", Tata McGraw Hill – 2005*
2. *I.M. Pandey, "Financial Management", Vikas Publications, 2003*
3. *Neeraj Sharma "Computerized Accounting & Business Systems", Kalyani Publishers, 2004*

MCA103T: DIGITAL ELECTRONICS AND MICROPROCESSOR

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction to Number Systems: Positional and non-positional, Base/ Radix. Decimal number system, Binary number system, Octal Number System and Hexadecimal Number System, Conversion from one System to another System. Binary addition, subtraction, multiplication and division. 1's and 2's complement – 2's complement subtraction. Binary codes: BCD numbers, 8421 code, 2421 code- examples and applications. Gray code- Conversions- Gray to binary and Binary to Gray, application of gray code. Excess – 3 code - Self complementing property and applications. Boolean algebra: - Laws and Theorems. AND, OR, NOT Laws, Commutative law, Associative law, Distributive law, Duality theorem. Demorgan's theorems – Statements, proof using truth tables; Simplification of Boolean expressions using Boolean laws. Definition of product term, sum term, min term ,max term, SOP, standard SOP, POS and Standard POS. Conversion of Boolean expression to Standard SOP and Standard POS forms.

UNIT – II [10 Hours]

Karnaugh maps- Definition of Karnaugh map, K- map for 2, 3 and 4 variables. Conversion of truth tables into k-map, grouping of cells, redundant groups and don't care conditions. Karnaugh map technique to solve 3 variable and 4 variable expressions. Simplification of 3 and 4 variable Boolean expression using K-maps. AND Gate, OR Gate, NOT Gate, NAND Gate and NOR Gate - Definition, Symbol, Expression, Truth Table. Combinational logic circuits: Definition, applications. Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table. Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table.

UNIT – III [10 Hours]

Sequential circuit design: Latches, SR Flip Flops, concept of edge triggering, D- flip flop, JK- flip flop, Master slave flip flop, T- flipflop, Registers, shift Registers, asynchronous and synchronous counters, Mod 10 – counter. Introduction to Microprocessor: Introduction, Applications, Basic block diagram, speed, word size, memory capacity, classification of Microprocessors (mention of different microprocessors). 8086Architecture and programming: 8086 Architecture and programming model, registers, flags, memory segmentation, pin description, odd & even bank of memory, Bus buffering, latching, timing diagrams, wait state, MIN/MAX modes of operation.

UNIT – IV [10 Hours]

Addressing modes: Immediate addressing, register addressing, memory addressing, indexed addressing with displacement, I/O port addressing. 8086 Instructions: Instruction template for 8086 instructions, code generation using template. Data Transfer Instruction: Move date to register/memory from register/memory/immediate data, data transfer between a segment register and register/memory, PUSH and POP, exchange, data transfer with I/O ports.

UNIT – V [10 Hours]

Data Conversion instructions: XLAT, LEA, LDS, LES, LAHF and SAHF instructions. Arithmetic Instructions: Add, subtract, negate, compare, CBW, CWD, multiply and divide instructions. Logical Instructions: AND, OR, EX-OR, Test, NOT, ROTATE and shift instructions. Process Control Instructions: Instructions to set/reset flags, halt, wait, lock, prefix and escape to co-processor instructions. String Instructions: CMPS, MOVS, LODS, STOS, and SCAS instructions. Branch Instructions: JMP, conditional jump, LOOP, LOOPE, LOOPNE, JCXZ, CALL, RET. Assembly language programming: Assembly language programming examples, subroutines and macros, examples. Interrupts of 8086: Hardware interrupt, software interrupt and exception, priority of interrupts

Reference

1. *Thomas L Floyd, "Digital Fundamentals", Pearson Prentice Hall, 9th Edition, 2006.*
2. *M Morris Mano, "Digital Logic and Computer Design, Pearson, 10th Edition, 2008.*
3. *Tokheim, "Digital Electronics Principles and Applications, McGraw Hill, 6th Edition, 2004.*
4. *Barry B. Brey, "The Intel Microprocessors", Pearson Prentice Hall, 8th Edition, 2009.*
5. *Ramesh S. Gaonkar, "Microprocessor Architecture, programming and Applications", New Age International Pvt Ltd Publishers, 2nd Edition, 1995.*

MCA104T: DISCRETE MATHEMATICS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Set Theory: Sets and Subsets, Set Operations and the Laws of Set Theory, Counting and Venn Diagrams, Cartesian Products and Relations, Functions–One-to-One, Onto Functions, Function Composition and Inverse Functions; Properties of Relations, Computer Recognition – Zero-One Matrices and Directed Graphs, Partial Orders – Hasse Diagrams, Equivalence Relations and Partitions.

UNIT – II [10 Hours]

Fundamentals of Logic: Proposition, Logical Connectives and Truth Tables, Logic Equivalence – The Laws of Logic, Logical Implication – Rules of Inference; The Use of Quantifiers, Quantifiers, Definitions and the Proofs of Theorems

UNIT – III [10 Hours]

Mathematical Induction and Recursion: Sequences and summations, Mathematical Induction, The Well Ordering Principle, Recursive Definitions, Structural Induction, Recursive algorithms. Counting: Basics of counting, Pigeonhole Principle, Permutation and Combinations, Binomial coefficients.

UNIT – IV [10 Hours]

Discrete Probability: Introduction, Probability Theory, Expected value and Variance.
Advanced Counting Techniques: Recurrence relations and its solutions, Generating functions, Inclusion – Exclusion and its applications Relations: Introduction, n-ary relations and applications, Representing relations, Closures of Relations, Equivalence Relations, Partial Orderings

UNIT – V [10 Hours]

Graphs: Introduction, Representing Graphs & Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest path problems, Planar Graphs, Graph colouring. Trees: Introduction, Applications of Trees, Tree Traversal, Spanning Trees, Minimum Spanning Trees.

Reference

1. *Ralph P. Grimaldi, "Discrete and Combinatorial Mathematics", 5th Edition, Pearson Education, 2004.*
2. *Kenneth H. Rosen, "Discrete Mathematics and its Applications", 6th Edition, McGraw Hill, 2007.*
3. *Jayant Ganguly, "A Treatise on Discrete Mathematical Structures", SanguinePearson, 2010.*
4. *D.S. Malik and M.K. Sen, "Discrete Mathematical Structures: Theory and Applications", Thomson, 2004.*
5. *Thomas Koshy, "Discrete Mathematics with Applications", Elsevier, 2005, Reprint 2008.*

MCA105P: PROBLEM SOLVING TECHNIQUES USING C LAB

1. Write a C Program to demonstrate all the operators.
2. Write a C Program for electricity bill tacking different Categories of users, different slabs in each category.
3. Write a C Program to find check whether the given number is Prime or not.
4. Write a menu driven C Program to find the factorial of number (a) Without function (b) Using non-recursive function (c) Using Recursive Function.
5. Write a C Program to check the correctness of the date and compare two dates.
6. Write a C Program to find the sum of its individual digits repeatedly till the result is a single digit.
7. Write a program to enter integer number and find the largest and smallest digit of the number.
8. Write a program to read three digits +ve integer number 'n' and generate possible permutations of number using their digits.
9. Write a C Program to accept a text upto 50 words and perform following actions
    a) Count total vowels, constants, spaces, sentences and words with spaces.
    b) Program should erase more than one space between two successive words.
10. Write a C program to enter names of cities and display all the entered names alphabetically.
11. Write menu Driven C Program to calculate to calculate sin, cos and exponential series without using standard library function.
12. Write a C Program to accept array of elements in unsorted order, sort the array and search an element using binary search.
13. Write a C Program to add and multiply two matrices.
14. Write a C Program to display list of C program files and directories.
15. Write a program to use macros as an array and pointer.
16. Write a program to display the attributes of a file using dos interrupt.
17. Write a program to delete a file using dos interrupt.
18. Create user defined data type equivalent to int. Declare three variables of its type. Perform arithmetic operations using these variables.
19. Write a program to read a C program file and count the following in the complete program. a) Total number of statements b) Total number of included files c) Total number of brackets.
20. Write a program to display C Program files in current directory. The user should select one of the files. Convert the file contents in Capital and Display the same on the screen.
21. Write a program to interchange the contents of two files.
22. Write a program to change mouse cursor.

MCA106P: ACCOUNTING AND FINANCIAL MANAGEMENT LAB

1. Accounting software, introduction and installation.
2. Creation of accounts in the name of the trading and non-trading organisations, including alteration and deletion.
3. Creation of accounting groups and ledgers, using single and multiple options.
4. Creation of inventory groups and ledgers.
5. Vouchers, types and vouchers entry.
6. Creation of various accounting Ledgers.
7. Recording of various accounting transactions.
8. Inventory: classification and grouping using single and Multiple options.
9. Recording of inventory information.
10. Purchase order and sales order processing.
11. Correction of ledgers and vouchers using alter option.
12. Generating trial balance, income statement and balance sheet.
13. Displaying Income statement and balance sheet under different options and time periods.
14. Generation of accounting and inventory reports.
15. Printing of ledgers, invoice, cheques and statements.
16. Creation of pay roll records.
17. Recording of Pay roll information and salary statement.
18. Generating statutory reports.
19. Working with different accounting periods.
20. File import and export process.
21. Data protection and safeguard.
22. Practical training on preparation of computerised accounting for computer hardware stores.
23. Practical training on preparation of computerised accounting for a software development company.
24. Training on conversion of Manual accounting to computerised accounting.
25. Practical session on audit under computerised accounting environment.
26. Practical session on audit under computerised accounting environment.

SECOND SEMESTER MCA

MCA201T: DATA STRUCTURES

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms. String Processing: Definition, Storing Stings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.

UNIT – II [10 Hours]

Arrays: Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick Sort Searching: Linear Search, Binary search, Multidimensional arrays, Matrices and Sparse matrices.

UNIT - III [10 Hours]

Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly liked list; Doubly liked list, Header liked list, Circular linked list.

UNIT – IV [10 Hours]

Stacks: Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Conversion of infix expression to postfix expression, Evaluation of Postfix expression, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack. Queues: Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.

UNIT - V [10 Hours]

Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph. Tree – Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree, Heap, Heap Sort.

Reference

1. *Seymour Lipschutz, "Data Structures with C", Schaum's outLines, Tata McGrawHill, 2011.*
2. *Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2013.*
3. *Robert Kruse, C.L.Tondo, Bruce Leung, Shashi Mogalla, "Data Structures and Program Design using C", Pearson Education, 2009.*
4. *Forouzan, "A Structured Programming Approach using C", 2nd Edition, Cengage Learning India, 2008.*

MCA202T: DATA BASE MANAGEMENT SYSTEMS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction: Database and Database Users, Characteristics of the Database Approach, Different people behind DBMS, Implications of Database Approach, Advantages of using DBMS, When not to use a DBMS. Database System Concepts and architecture: Data Models, Schemas, and Instances. DBMS Architecture and Data Independence., Database languages and interfaces. The database system Environment, Classification of DBMS.

UNIT - II [10 Hours]

Data Modelling Using the Entity-Relationship Model: High level conceptual Data Models for Database Design with and example., Entity types, Entity sets, attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs, Relationship types of degree higher than two. Record Storage and Primary File Organization: Secondary Storage Devices. Buffering of Blocks. Placing file Records on Disk. Operations on Files, File of unordered Records (Heap files), Files of Ordered Records (Sorted files), Hashing Techniques, and Other Primary file Organization.

UNIT - III [10 Hours]

Functional Dependencies and Normalization for Relational Database: Informal Design Guidelines for Relational schemas, Functional Dependencies, Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. Relational Data Model and Relational Algebra: Relational Model Concepts., relational Model Constraints and relational Database Schema, defining Relations, Update Operations on Relations., Basic Relational Algebra Operations, Additional Relational Operations., Examples of queries in the Relational Algebra., Relational Database design using ER-to-Relational Mapping.

UNIT – IV [10 Hours]

Relational Database Language: Data definition in SQL, Queries in SQL, Insert, Delete and Update Statements in SQL, Views in SQL, Specifying General Constraints as Assertions, specifying indexes, Embedded SQL. PL /SQL: Introduction.

UNIT - V [10 Hours]

Transaction Processing Concepts: Introduction, Transaction and System Concepts, Desirable properties of transaction, Schedules and Recoverability, Serializability of Schedules, Transaction Support in SQL, Locking Techniques for Concurrency Control, Concurrency Control based on time stamp ordering.

Reference

1. *Remez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems", 5th Edition, Pearson Education, 2007.*
2. *Abrahamsi. Silberschatz, Henry. F. Korth, S. Sudarshan, "Database System Concepts"*
3. *6th Edition, McGraw Hill, 2012.*
4. *C.J.Date, "Introduction to database systems", Eight Edition, Addison Wesley, 2003.*

MCA203T: COMPUTER NETWORKS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Introduction: Growth of computer networking, Complexity in network system, Motivation and Tools: Resource sharing, Growth of the internet, probing the internet, interpreting the ping response, tracing a route. Transmission Media: Copper wires, glass fibers, radio, satellite, Geosynchronous satellites, low earth orbit satellites, Low earth orbit satellite arrays, Microwave, Infrared, Light from a laser. Local Asynchronous Communications: Introduction, the need for asynchronous communications, using electric current to send bits, standards for communication, baud rate, Framing and errors, Half and Full duplex asynchronous communication, the effect of noise on communication. Long distance Communication: Sending signals across long distances, Modem hardware used for Modulations and Demodulation, Leased analog data circuits, optical, radio frequency and dialup Modems, carrier frequencies and Multiplexing, baseband and broadband technologies, wave length division multiplexing, spread spectrum, time division multiplexing

UNIT - II [10 Hours]

Packets, Frames and Error Detection: Concept of Packets, packets and Time-division Multiplexing, Packets and Hardware Frames, byte Stuffing, transmission errors, Parity bits and Parity checking, error detection, Detecting errors with checksums, detecting errors with CRC, Burst errors, frame formats and error detection mechanism. LAN Technologies and Network Topologies: Direct point-to-point communications, Shared Communications channels, LAN Topologies, Ethernet, Carries sense on CSMA, Collision Detection and Back off wih CSMA/CD, Ring Topology and Token Passing, Self-Healing Token Passing Networks, ATM. Hardware addressing and Frame Type Identification: specifying a recipient, How LAN hardware uses addresses to filer packets, format of a physical addresses, broadcasting, Multicast addressing, identifying packet contents, frame headers and frame format.

UNIT - III [10 Hours]

LAN Wiring, Physical Topology and Interface Hardware: speeds of LANs and computers, Network Interface Hardware, The connection between a NIC and a network, original thick Ethernet wiring, connection multiplexing, thin Ethernet wiring, twisted pair Ethernet, Network interface cards and wiring schemes, categories of wires. Extending LANs: Fiber Optic Extensions, Repeaters, bridges, frame filtering, switching, Long-distance and Local Loop Digital Technologies: Digital telephony, Synchronous communication, SONET, ISDN, Asymmetric Digital Subscriber Line Technology, other DSL technologies, cable modem technology, upstream communication, Broadcast Satellite systems.

UNIT - IV [10 Hours]

WAN technologies and Routing: Large Networks and Wide Areas, Packet switches, forming a WAN, store and forward, Physical addressing in a WAN, Next-Hop forwarding, Source independence, Routing Table Computation, Shortest path computation in a Graph, distance vector routing, like-state routing, Example of WAN technologies. Network Characteristics: Network ownership, Network performance characteristics, Jitter. Protocols and Layering: the need for protocols, the seven layers, Stacks: Layered Software.

UNIT - V [10 Hours]

Internetworking: internet architecture, A virtual Network, Layering and TCP/IP protocols. Internet Protocol Addresses, APR, IP Datagram's and Datagram Forwarding, IP Encapsulation, Fragmentation, and Reassembly, IPv6, ICMP, UDP, TCP, Internet routing, DNS, WWW, MAIL.

Reference

1. *Douglas E Comer and M.S.Narayana, "Computer Networks and Internets", 5th edition, Pearson Education, 2013.*
2. *Andrew S.Tanenbaum, "Computer Networks", Fifth Edition, Prentice Hall, 2012*
3. *Behrouz Ferouzan, "Introduction to Data Communications and Networking", TMH, 1999.*
4. *S. Keshav, "An Engineering Approach to Computer Networks", Pearson Education, 2nd Edition.*

MCA204T: OPERATING SYSTEMS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction: Batch Systems, Concepts of Multiprogramming and Time Sharing, Parallel, Distributed and real time Systems, Operating System Structures, Components & Services, System calls, System programs, Virtual machines. Process Management: Process Concept, Process Scheduling, Co – Operating process, Threads, Inter process communication, CPU Scheduling Criteria, Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution.

UNIT – II [10 Hours]

Process Synchronization and deadlocks: The Critical Section Problem, Synchronization hardware, Semaphores, Classical problems of synchronization, Critical regions, monitors, Dead locks – system model, Characterization, Dead lock prevention, avoidance and detection, Recovery from dead lock, Combined approach to deadlock handling.

UNIT – III [10 Hours]

Memory Management: Logical and Physical address space, Swapping, Contiguous allocation, Paging, Segmentation, Segmentation with paging in Mastics and Intel 386, Virtual memory-Demand paging and it's performance, Page replacement algorithms, Allocation of frames, thrashing, page size and other considerations. Demand Segmentation.

UNIT – IV [10 Hours]

File management (Systems, Secondary Storage Structure): File Concepts, Access methods, Directory Structure, Protection and consistency, File system structure, Allocation methods, Free space management, Directory Implementation, Efficiency and Performance, Recovery. Disk Management (Structure, Disk Scheduling Methods): Disk Structure & Scheduling methods, Disk management, Swap – Space management.

UNIT – V [10 Hours]

Protection and Security: Goals of protection, Domain Protection, Access matrix, Security Problem, Authentication, One time password, program threats, System threads.
Case Study of Windows and Linux Operating System

Reference

1. *Abraham Silberschatz and Peter Baer Galvin, "Operating System Concepts", 7th Edition, Pearson Education, 2002.*
2. *H.M.Deitel, "Operating Systems", Pearson Learning Solutions, 3rd Edition, 2003.*
3. *William Stallings, "Operating Systems", 6th Edition, Pearson Education, 2010.*
4. *Stuart, "Operating systems: Principles, Design and Implementation", 1st Edition 2008, Cengage Learning India.*

MCA205P: DATA STRUCTURES LAB

1. Write a menu driven program to implement linear and binary search also find the location of its first occurrence
2. Write a menu driven program to sort the array in ascending/descending order using a) Quick sort b) Merge sort
3. Write a menu driven program to create a linked list and to perform insert and delete operations
4. Write a program to add two polynomials using a linked list/
5. Write a menu driven program to perform insert and delete operations in a circular linked list.
6. Write a menu driven program to perform operations on a stack (linked list implementation)
7. Write a menu driven recursive program to a) find factorial of a given number b) generate first N terms of a fibonacci sequence c) GCD of three numbers.
8. Write a program to solve the problem of towers of hanoi with 3 pegs and N discs.
9. Write a menu driven program to perform operations on a circular queue (linked list implementation).
10. Write a menu driven program to a) find the length of a string b) concatenate two strings c) to extract a substring from a given string d) finding and replacing a string by another string in a text (Use pointers and user-defined functions)
11. Write a program to convert the given infix expression into its postfix form.
12. Write a program to evaluate the postfix expression with a set of values.
13. Write a menu driven program to create binary tree and to perform insert and delete operations.
14. Write a menu driven program to create a binary search tree and to perform inorder, preorder and postorder traversals
15. Write a program sort the array of N elements using Heap Sort.

MCA206P: DATA BASE MANAGEMENT SYSTEMS LAB

1. Database Customization
2. Creating Databases/Table spaces
3. Create Objects
4. Moving Data
5. Recovery
6. Locking
7. Preparing Applications for Execution using a front end tool
8. Application Performance Tool

The students are supposed to practice and develop a mini application for above mentioned lab. The students can do the activity in a group (team) consisting of not more than 2 students.

The entire application to be submitted by each team should be done with all the above activities. The examiner may ask to perform any of the above act

THIRD SEMESTER MCA

MCA301T: FILE STRUCTURES

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction: File Structures: The Heart of the file structure Design, A Conceptual Toolkit; Fundamental File Operations: Physical Files and Logical Files, Opening Files, Closing Files, Reading and Writing, Seeking, Special Characters, The Unix Directory Structure, Physical devices and Logical Files, File-related Header Files, UNIX file System Commands; Buffer Management, Input /Output in UNIX. Fundamental File Structure Concepts, Managing Files of Records: Field and Record Organization, Using Classes to Manipulate Buffers, Using Inheritance for Record Buffer Classes, Managing Fixed Length, Fixed Field Buffers, An Object-Oriented Class for Record Files, Record Access, More about Record Structures, Encapsulating Record Operations in a Single Class, File Access and File Organization.

UNIT – II [10 Hours]

Organization of Files for Performance, Indexing: Data Compression, Reclaiming Space in files, Internal Sorting and Binary Searching, Key sorting; Index: Introduction, A Simple Index for Entry- Sequenced File, Object-Oriented support for Indexed, Entry-Sequenced Files of Data Objects, Indexes that are too large to hold in Memory, Indexing to provide access by Multiple keys, Retrieval Using Combinations of Secondary Keys. Consequential Processing and The Sorting of Large Files: A Model for Implementing Consequential Processes, Application of the Model to a General Ledger Program, Extension of the Model to include Multi-way Merging, A Second Look at Sorting in Memory, Merging as a Way of Sorting Large Files on Disk.

UNIT – III [10 Hours]

Multilevel indexing and B-Trees: The invention of B-Tree, Statement of the problem, Indexing with Binary Search Trees; Multi-Level Indexing, B-Trees, Example of Creating a B-Tree, An Object-Oriented Representation of B-Trees, B-Tree Methods; Nomenclature, Formal Definition of B-Tree Properties, Worst-case Search Depth, Deletion, Merging and Redistribution, Redistribution during insertion; B* Trees.

UNIT – IV [10 Hours]

Indexed Sequential File access and Prefix B+ Trees: Indexed Sequential Access, Maintaining a Sequence Set, Adding a Simple Index to the Sequence Set, The Content of the Index: Separators Instead of Keys, The Simple Prefix B+ Tree and its maintenance, Index Set Block Size, Internal Structure of Index Set Blocks: A Variable-order B- Tree, Loading a Simple Prefix B+ Trees, B-Trees, B+ Trees and Simple Prefix B+ Trees in Perspective.

UNIT – V [10 Hours]

HASHING: Introduction, A Simple Hashing Algorithm, Hashing Functions and Record Distribution, Collision resolution by progressive overflow, Buckets. How Extendible Hashing Works, Implementation, Deletion, Extendible Hashing Performance, Alternative Approaches.

Reference

1. *Michael J. Folk, Bill Zoellick, Greg Riccardi, "File Structures-An Object Oriented Approach with C++ -, 3rd edition, Addison-Wesley.*
2. *Raghu Ramakrishan and Johannes Gehrke, "Database Management Systems", 3rd Edition, McGraw Hill, 2003.*
3. *Robert L. Kruse, Bruce P. Leung, Clovis L.Tondo, "Data Structures and Program Design in C" (2nd Edition). Prenctice Hall I ndia, 2001.*
4. *Ellis Horowitz, Sartaj Sahni, Susan Anderson-Freed, "Fundamentals of Data Structures, 2007.*

MCA302T: OBJECT ORIENTED ANALYSIS AND DESIGN USING UML

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction: An overview - Object basics - Object state and properties, Behavior, Methods, Messages. Object Oriented system development life cycle, Benefits of OO Methodology. Overview of Prominent OO Methodologies: The Rumbaugh OMT, The Booch methodology, Jacobson's OOSE methodologies, Unified Process, Introduction to UML, Important views & diagram to be modelled for system by UML. Factional View (models): Use case diagram - Requirement Capture with Use case - Building blocks of Use Case diagram - actors, use case guidelines for use case models - Relationships between use cases - extend, include, generalize. Activity diagram - Elements of Activity Diagram - Action state, Activity state, Object, node, Control and Object flow, Transition (Fork, Merge, Join) - Guidelines for Creating Activity Diagrams - Activity Diagram - Action Decomposition (Rake) - Partition - Swim Lane.

UNIT – II [10 Hours]

Static structural view (Models): Classes, values and attributes, operations and methods, responsibilities for classes, abstract classes, access specification (visibility of attributes and operations). Relationships among classes: Associations, Dependencies. Inheritance - Generalizations, Aggregation. Adornments on Association: association names, association classes, qualified association, n-ary associations, ternary and reflexive association. Dependency relationships among classes, notations. Notes in class diagram, Extension mechanisms, Metadata, Refinements, Derived, data, constraint, stereotypes, Package & interface notation. Object diagram notations and modeling, relations among objects (links).

UNIT – III [10 Hours]

Class Modeling and Design Approaches: Three approaches for identifying classes - using Noun phrases, Abstraction, Use Case Diagram - Comparison of approaches - Using combination of approaches - Flexibility guidelines for class diagram: Cohesion, Coupling, Forms of coupling (identity, representational, subclass, inheritance), class Generalization, class specialization versus aggregation. Behavioral (Dynamic structural view): State diagram - State Diagram Notations, events (signal events, change events, Time events) - State Diagram states (composite states, parallel states, History states), transition and condition, state diagram behaviour (activity effect, do-activity, entry and exit activity), completion transition, sending signals.

UNIT – IV [10 Hours]

Interaction diagrams: Sequence diagram - Sequence diagram notations and examples, iterations, conditional messaging, branching, object creation and destruction, time constraints, origin of links, Activations in sequence diagram - Collaboration diagram - Collaboration diagram notations and examples, iterations, conditional messaging, branching, object creation and destruction, time constraints, origin of links, activations in sequence diagram. Approaches for developing dynamic systems: Top - down approach for dynamic systems - Bottom - up approach for dynamic systems - Flexibility Guidelines for Behavioral Design - guidelines for allocating and designing behaviors that lead to more flexible design.

UNIT – V [10 Hours]

Architectural view: Logical architecture: dependency, class visibility, sub systems - Hardware architecture: deployment diagram notations, nodes, object migration between node - Process architecture: what are process and threads and their notations in UML, object synchronization, invocation schemes for threads (UML notations for different types of invocations). Implementation architecture: component diagram notations and examples. Reuse: Libraries, Frame works components and Patterns: Reuse of classes, Reuse of components, Reuse of frameworks, black box framework, white box frame, Reuse of patterns: Architectural pattern and Design pattern.

Reference

1. *Charles Richter, "Designing Flexible Object Oriented systems with UML" , Macmillan Technical, 1999*
2. *Jackson, Burd Thomson, "Object Oriented Analysis & Design", Thomson Course Technology, 2004*
3. *James Rumbaugh. Micheal Blaha, Object oriented Modeling and Design with UML. Pearson, second edition, 2005.*
4. *Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language User Guide", Pearson Education, 1999.*
5. *James Rumbaugh, "Object Oriented Modeling and Design", Prentice Hall, 1991.*
6. *Joseph Schmuilers, "Teach Yourself UML in 24 Hours", Sams publication, 2004.*
7. *Mike O'Docherty, "Object-Oriented Analysis and Design: using UML", Wiley Publication, 2005.*

MCA303T: THEORY OF COMPUTATION

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Review of Mathematical Terms and Theory: Basic Mathematical Notations and Set Theory, Logic Functions and Relations, Language Definitions, Mathematical Inductions and Recursive Definitions. Finite Automata: Deterministic and Non Deterministic Finite Automata, U-Transitions, Conversion from NFA to DGA, Kleene's Theorem, Regular and Non Regular Languages.

UNIT – II [10 Hours]

Context Free Grammar: Introduction to CFG, CFG and Known Languages, Unions, Concatenations and *'s Notations and CFL, Derivatives of Trees and Ambiguity and Unambiguous CFG and Algebraic Expressions, Normal Forms and Simplified Forms.
Pushdown Automata, CFL and NFL: Introduction to PDA, Definition, DPDA, PDA Corresponding to CFG, CFG Corresponding to PDA, Introduction to CFL, Intersections and Complements of CFL, Decisions Problems and CFL.

UNIT – III [10 Hours]

Turing Machines, Recursive Language: Model of Computation and Church Turning Thesis, Definitions of Turing Machine, TM and Language Acceptors, Variations of TM, Non Deterministic TM, Universal TM, Enumerable and Language, Recursive and Non Recursive Enumerable.

UNIT – IV [10 Hours]

Computation Functions, Measuring, Classifications And Complexity: Primitive Recursive Functions, Halting Problem, Recursive Predicates and Some Bounded Operations, Unbounded Minimizations and μ-Recursive Functions, Godel Numbering, Computable Functions and μ-Recursive, Numerical Functions.

UNIT – V [10 Hours]

Tractable and Intractable Problems: Growth Rate and Functions, Time and Speed Complexity, Complexity Classes, Tractable and Possibly Intractable Problems, P and Np Completeness, Reduction of Time, Cook's Theorem, Np-Complete Problems.

Reference

1. *John E. Hopcroft, Rajeev Motwani, Jeffrey D.Ullman, "Introduction to Automata Theory, Languages and Computation", 3rd Edition, Pearson Education, 2011.*
2. *John C Martin, "Introduction to Languages and Automata Theory", 3rd Edition, Tata McGraw-Hill, 2007.*
3. *Daniel I.A. Cohen, "Introduction to Computer Theory", 2nd Edition, John Wiley and Sons, 2009.*
4. *Thomas A. Sudkamp, "An Introduction to the Theory of Computer Science, Languages and Machines", 3rd Edition, Pearson Education, 2006.*

MCA304T: STATISTICAL ANALYSIS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Sample spaces - events - Axiomatic approach to probability - conditional probability - Independent events - Baye's formula - Random Variables - Continuous and Discrete random variables - distribution function of a random variables - Characteristic of distributions - Expectation, variance - coefficient of variation, moment generation function - Chebyshev's inequality

UNIT – II [10 Hours]

Bivariate distribution - conditional and marginal distributions - Discrete distributions - discrete uniform, Binomial poison and geometric Distributions - Continuous distributions - Uniform, Normal, Exponential and Gamma distributions.

UNIT – III [10 Hours]

Correlation coefficient - Rank correlation coefficient of determination - Linear Regression - Method of Least squares - Fitting of the curve of the form $ax + b$, $ax^2 + bx + c$, ab^x and ax^b - multiple and partial correlation (3 - variables only).

UNIT – IV [10 Hours]

Concept of sampling – Methods of sampling - simple random sampling - Systematic sampling and stratified random sampling (descriptions only) - concepts of sampling distributions and standard error - point estimation (concepts only) - Interval Estimation of mean and proportion. Tests of Hypotheses - Critical Region - two types of Errors - Level of significance - power of the test - Large sample tests for mean and proportion - Exact tests based on Normal, t, F and Chi-square distributions.

UNIT – V [10 Hours]

Basic principles of experimentation - Analysis of variance - one way and two way classifications - computing randomized design - Randomized Block design - Time series Analysis - Measurement of Trend and Seasonal variations.

Reference

1. *Mood, A.M., Graybill, F. and Boes, 1974, Introduction to Mathematical Statistics, McGraw-Hill.*
2. *Trivedi, K.S, 1994, Probability and Statistics with Reliability, Queuing and Computer Science Applications. Prentice Hall India, New Delhi.*
3. *Arnold O. Allen, 1978, Probability, Statistics and Queuing Theory with Computer Science Application.*
4. *Bajpai, A.C. Calus, I.M. Fairley, J.A., 1979, Statistical Methods for Engineers and Scientists. John Wiley & Sons.*
5. *Doughlas, C.,Montagomery, Lynwood,A. & Johnson, 1976, Forecasting and Time Series Analysis, Tata McGraw-Hill, New Delhi.*
6. *Baisnab, A.P. and Manoranjan Jas, 1993, Elements of Probability and Statistics, Tata McGraw-Hill, New Delhi.*
7. *Kossack, C.F. and Hensschkec, C.I., Introduction to Statistics and Computer Programming, Tata McGraw-Hill, New Delhi.*

MCA305P: ADVANCED DATA STRUCTURES LAB

1. Write a C++ Program to read series of names, one per line, from standard input and write these names spelled in reverse order to the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the standard output.
2. Write a C++ program to read and write student object with fixed length records and the fields delimited by "|". Implement pack(), unpack(), modify(), and search() methods.
3. Write a C++ program to read and write student objects with Variable-Length records using any suitable record structure. Implement pack(), unpack(), modify(), and search() methods.
4. Write a C++ program to read and write student objects with Variable-Length records using any suitable record structure and to read from this file a student record using RRN.
5. Write a C++ program to implement simple index on primary key for a file of student objects. Implement add(), search(), delete() using the index.
6. Write a C++ program to implement index on secondary key, the name, for a file of student objects. Implement add(), search(), delete() using the secondary index.
7. Write a C++ program to read two lists of names and then match the names in the two lists using sequential Match based on a single loop. Output the names common to both the lists.
8. Write a C++ program to read k Lists of names and merge them using k-way merge algorithm with k = 8.
9. Write a C++ program to implement B-Tree for a given set of integers and its operations insert() and search(). Display the tree.
10. Write a C++ program to implement B+ Tree for a given set of integers and its operations insert() and search(). Display the tree.
11. Write a C++ program to store and retrieve student data from file using hashing. Use any collision resolution techniques.
12. Write a C++ program to reclaim the free space resulting from the deletion of records using liked list.

MCA306P: OBJECT ORIENTED ANALYSIS AND DESIGN USING UML LAB

1. The student should take up the case study of Unified Library application which is mentioned in the theory, and Model it in different views i.e. Use case view, logical view, component view, Deployment view, Database design, forward and Reverse Engineering, and Generation of documentation of the project.
2. Student has to take up another case study of his/her own interest and do the same whatever mentioned in first problem. Some of the ideas regarding case studies are given in reference books, which were mentioned in theory syllabus, can be referred for some idea.

MCA307T: QUANTITATIVE, TEACHING AND REASERCH APTITUDE

Total Teaching Hours: 48 No. of Hours / Week: 03

UNIT – I [8 Hours]

Numbers Property – Simplification – Divisibility – HCF and LCM – Decimal Fractions – Square roots and Cube Roots – Logarithms – Antilogarithms - Surds and indices - Permutation and Combination – Probability – Odd man out series - Number series - letter series – codes – Relationships – classification.

UNIT – II [10 Hours]

Time and work – Problems on Ages – Calendar – Clock – Pipes and Cistern – Time and Distance – Problems of Train – Boats and Streams. Area – Volume and surface Areas – Heights and Distances – Data Interpretation: Tabulation – Bar Graphs – Pie Charts – Line Graphs. Data Interpretation - Sources, acquisition and interpretation of data; Quantitative and qualitative data; Graphical representation and mapping of data.

UNIT – III [10 Hours]

Simple Interest – Compound Interest – Stocks and Shares – True Discount – Banker's discount. Averages – Percentage – Profit and Loss - Ratio and Proposition – Partnership – Allegation and mixture – Chain rule. Understanding the structure of arguments; Evaluating and distinguishing deductive and inductive reasoning; Verbal analogies: Word analogy Applied analogy; Verbal classification; Reasoning Logical Diagrams: Simple diagrammatic relationship, multidiagrammatic relationship; Venn diagram; Analytical Reasoning.

UNIT – IV [10 Hours]

Teaching: Nature, objectives, characteristics and basic requirements; Learner's characteristics; Factors affecting teaching; Methods of teaching; Teaching aids; Evaluation systems. Research Aptitude: Meaning, characteristics and types; Steps of research; Methods of research; Research Ethics; Paper, article, workshop, seminar, conference and symposium; Thesis writing: its characteristics and format. Reading Comprehension: A passage to be set with questions to be answered. Communication: Nature, characteristics, types, barriers and effective classroom communication.

UNIT – V [10 Hours]

Higher Education System: Governance, Polity and Administration; Structure of the institutions for higher learning and research in India; formal and distance education; professional/technical and general education; value education: governance, polity and administration; concept, institutions

Reference

1. *R.S. Aggarwal, Quantitative Aptitude, S. Chand & Company, New Delhi, 2012*
2. *Govind Prasad Singh and Rakesh Kumar, Text Book of Quickest Mathematics (for all Competitive Examinations), Kiran Prakashan, 2012.*
3. *R.S. Aggarwal, Objective Arithmetic, S. Chand & Company, New Delhi, 2005.*
4. *Dr. Lal, Jain, Dr. K. C. Vashistha, "U.G.C.- NET/JRF/SET Teaching & Research Aptitude", Upkar Prakashan, 2010.*
5. *"UGC NET/SLET: Teaching & Research Aptitude", Bright Publications.*

FOURTH SEMESTER

MCA401T: ADVANCED JAVA PROGRAMMING

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Introduction: Data Types, Operators, Classes, Inheritance, Packages and Interfaces. Exception Handling, Concurrency and Multithreaded programming, Enumerations, Autoboxing, Annotations, I/O, Generics, String handling

UNIT – II [10 Hours]

JVM: Java Class file, Class Loader, Linking model, Garbage collection, Type conversion, Floating Point Arithmetic, Method Invocation and Return, Thread synchronization. Java I/O: Closeable, Flushable Interfaces, The Stream classes, Bytes Streams, Character Streams, Console Class, Serialization. Java Networking - Networking
Classes and Interfaces, TCP/IP Sockets, Datagrams

UNIT – III [10 Hours]

Event Handling: Event Classes, Event Listener Interfaces, Adaptor Classes, Inner Classes. Comparable and Comparator. Java Sandbox security model, Applets. Server side programming - Java Servlets, JSP, Java XML library - JAXP, XML Parsing - DOM, SAX, Stax. Java Web Services – RESTful Web Services, SOAP Web Services

UNIT – IV [10 Hours]

Java Design patterns: Singleton, Observer, Adaptor, Proxy, Decorator, Factory, AbstractFactory, Fascade, Command, Template Method patterns, MVC.

UNIT – V [10 Hours]

Spring and Hibernate framework, Spring Flow, Hibernate Flow.

Reference

1. *Herbert Schildt, "Java The Complete Reference", 7th addition.*
2. *Ken Arnold, James Gosling, David Holmes, "The Java TM Programming Language", Addison-Wesley, 2006*
3. *Bill Venners, "Inside the Java 2 Virtual Machine", McGraw-Hill, 2nd edition, 2000.*
4. *Santhosh, "Spring and Hibernate", Tata McGraw-Hill.*

MCA402T: ADVANCED ALGORITHMS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Analysis Techniques: Growth of Functions: Asymptotic notations; Standard notations and common functions; Recurrences and Solution of Recurrence equations- The substitution method, The recurrence – tree method, The master method; Amortized Analysis: Aggregate, Accounting and Potential Methods.

UNIT-II [10 Hours]

Graph Algorithms: Bellman - Ford Algorithm; Single source shortest paths in a DAG; Johnson's Algorithm for sparse graphs; Flow networks and Ford-Fulkerson method; Maximum bipartite matching.

UNIT-III [10 Hours]

Polynomials and the FFT: Representation of polynomials; The DFT and FFT; Efficient implementation of FFT. Number -Theoretic Algorithms: Elementary notions; GCD; Modular Arithmetic; Solving modular linear equations; The Chinese remainder theorem; Powers of an element; RSA cryptosystem; Primality testing; Integer factorization.

UNIT-IV [10 Hours]

String-Matching Algorithms: Naïve string Matching; Rabin - Karp algorithm; String matching with finite automata; Knuth-Morris-Pratt algorithm Boyer – Moore algorithms. Approximation Algorithms: The vertex-cover problem; The traveling-sales-person problem; The set covering problem; The subset-sum problem.

UNIT-V [10 Hours]

Introduction Parallel Algorithms: Parallel Sorting Algorithms, Parallel Search Algorithms. Introduction to Amortization.

Reference

1. *T. H Cormen, C E Leiserson, R L Rivest and C Stein: "Introduction to Algorithms", 3rd Edition, Prentice-Hall of India, 2011.*
2. *Mark Allen Weiss, Data Structures and Algorithm analysis in C++, 3rd edition, PEA, 2011.*
3. *Ellis Horowitz, Sartaj Sahni, S.Rajasekharan: "Fundamentals of Computer Algorithms",1st edition, University Press, 2012.*

MCA403T: ADVANCED SOFTWARE ENGINEERING

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Agile development: Agile, Agility and cost of change; Agile Process, Extreme programming; Other agile process models. Web Application Design: Web application design quality; Design quality and design pyramid; Interface design; Aesthetic design; Content design; Architecture design; Navigation design; Component-level design; Object-oriented hypermedia design method.

UNIT - II [10 Hours]

Formal Modeling and verification: The cleanroom strategy; Functional specification; Cleanroom design; Cleanroom testing; Formal methods: Concepts; Applying mathematical notation for formal specification; Formal specification languages. Software Project Management: The management spectrum; The management of people, product, process and project; The W5HH Principle; Critical practices. Estimation for Software Projects: Software project estimation; Decomposition techniques, Examples; Empirical estimation models; Estimation for Object-Oriented projects; Specialized estimation techniques; The make / buy decision.

UNIT - III [10 Hours]

Software Project Scheduling: Basic concepts and principles of project scheduling; Defining task set and task network; Scheduling; Earned value analysis. Risk Management: Reactive versus proactive strategies; Software risks; risk identification; Risk projection; Risk refinement; Risk mitigation, monitoring and management; The RMMM plan. Maintenance and Reengineering: Software maintenance; Software supportability; Reengineering; Business process reengineering; Software reengineering; Reverse engineering; Restructuring; Forward engineering; The economics of reengineering.

UNIT - IV [10 Hours]

Software Process Improvement (SPI): Approaches to SPI; Maturity models; The SPI process; The CMMI; The People CMM; Other SPI frameworks: SPICE, Bootstrap, PSP and TSP, ISO; SPI return on investment.

UNIT - V [10 Hours]

Software Configuration Management (SCM): Basic concepts; SCM repository; The SCM process; Configuration management for web applications; SCM standards. Product Metrics: A framework for product metrics; Metrics for requirements model, design model, source code, testing and maintenance; Design metrics for web applications. Process and Project Metrics: Basic concepts; Software measurement; Metrics for software quality; Integrating metrics within the software process; Metrics for small organizations; Establishing a software metrics program.

Reference

1. *Roger S. Pressman, "Software Engineering: A Practitioner's Approach", Alternate Edition, 7th Edition, McGraw Hill, 2010.*
2. *Ian Sommerville, "Software Engineering", 8th Edition, Pearson, 2012.*

MCA404T: QUANTITAVE TECHNIQUES

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT - I [12 Hours]

Introduction to Operations Research: Basics definition, scope, objectives, phases, models and limitations of Operations Research. Linear Programming Problem – Formulation of LPP, Graphical solution of LPP. Simplex Method, Artificial variables, big-M method, two phase method, degeneracy and unbound solutions.

UNIT - II [10 Hours]

Transportation Problem: Formulation, Solution, Unbalanced Transportation Problem. Finding Basic Feasible Solutions – Northwest corner rule, least cost method and Vogel's approximation method. Optimality test: the stepping stone method and MODI method. Assignment Model: Formulation. Hungarian method for optimal solution. Solving unbalanced problem. Traveling salesman problem and assignment problem.

UNIT - III [10 Hours]

Network Models: Definition, Minimum Spanning Tree algorithm, Shortest Route problem, Maximum flow problem. CPM & PERT: Network representation, Critical Path Computations, Linear Programming formulation of CPM, PERT Networks.

UNIT - IV [10 Hours]

Dynamic programming: Characteristics of dynamic programming. Dynamic Programming approach for Priority Management employment smoothening. Games Theory. Competitive games, rectangular game, saddle point, minimax (maximin) method of optimal strategies, value of the game. Solution of games with saddle points, dominance principle. Rectangular games without saddle point – mixed strategy for 2 X 2 games.

UNIT - V [10 Hours]

Queuing System: Elements of Queuing model, Pure birth and death models, Generalized Poission Queuing model, specialized poission. Queues: Steady-state Measure of performance, single sever models, Multiple server models, Matching serving model.

Reference

1. *J K Sharma., "Operations Research Theory & Applications , 3e", Macmillan India Ltd, 2007.*
2. *P. Sankara Iyer, "Operations Research", Tata McGraw-Hill, 2008.*
3. *P. K. Gupta and D. S. Hira, "Operations Research", S. Chand & co., 2007. 4. H.A. Taha, "Operations Research", PHI, New Delhi. - 1996*

MCA405P: ADVANCED JAVA PROGRAMMING LAB

1. Write a Java program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -,*, % operations. Add a text field to display the result.
2. Write a Java program that creates three threads. First thread displays "Good Morning" every one second, the second thread displays "Hello" every two seconds and the third thread displays "Welcome" every three seconds.
3. Write a java program that simulates a traffic light. The program lets the user select one of three lights: red, yellow, or green. When a radio button is selected, the light is turned on, and only one light can be on at a time No light is on when the program starts
4. Write a Java Program to execute select query using JDBC
5. Write a Java Program to Create Thread using Interface and class.
6. Write a Java Program to Implement Producer and Consumer problem using Threads.
7. Write a Java Program to Implement DOM parser .
8. Write a Java Program to Implement SAX parser.
9. Write a Java Program to Implement Singleton design pattern using java.
10. Write a Java Program to Implement Factory and AbstractFactory design pattern using java.
11. Write a Java Program to Implement Observer Design pattern method using java.
12. Write a Java Program to Implement Adapter design design pattern using java
13. Write a Java Program to Implement proxy design pattern using java 14. Write a Java Program to Implement Helloworld program using servlets.
15. Write a JSP Program using Expression, Scriplet and Directive.

MCA406P: ADVANCED ALGORITHMS

1. Program to implement Bellman ford algorithm.
2. Program to implement Johnson algorithm.
3. Program to implement Ford-Fulkerson method
4. Program to solve Linear modular equation
5. Program to implement Rabin - Karp algorithm
6. Program to implement Knuth-Morris-Pratt algorithm
7. Program to implement Boyer – Moore algorithms.
8. Program to solve traveling-sales-person problem
9. Program to solve set covering problem
10. Program to solve Sum of subset problem.

MCA407T: SOFT SKILLS AND PERSONALITY DEVELOPMENT

Total Teaching Hours: 48 No. of Hours / Week: 03

UNIT – I [10 Hours]

Introduction to Soft Skills and Hard Skills, Break the ice berg –FEAR, Self Development - Etiquette and Manners. The Self Concept: Attitude, The process of attitude formation, positive attitude, How to build a success attitude, You are the chief architecture of yourself. Self Management Techniques. Believe in yourself: Self Image and Self Esteem, Building Self Confidence, Environment we mix with, How to build self-image.

UNIT - II [10 Hours]

Meaning and definition of personality, Personal Planning and Success Attitude: Prioritizing, Creating the master plan, Active positive visualization and Spot analysis. Self-Motivation and Communication: Levels of motivation, power of irresistible enthusiasm, etiquettes and manners in a group, public speaking, Importance of listening and responding.

UNIT - III [10 Hours]

Motivation Skills & Personality Development, Goal Setting, Career Planning, Resume Building, Psychometric Test, Priority Management & Time Management, Positive Attitude and Self Confidence. Verbal Communication includes Planning, Preparation Delivery, Feedback and assessment of activities like: Public speaking, Group Discussion, Oral Presentation skills, Perfect Interview, Listening and observation skills, body language and use of Presentation aids.

UNIT - IV [8 Hours]

Written communication that includes project proposals, brochures, newsletters, articles. Etiquettes that include: etiquettes in social as well as office settings, email etiquettes, telephone etiquettes. Improving Personal Memory, study skills that include rapid reading, notes taking and creativity.

UNIT - V [10 Hours]

Problem Solving and Decision Making Skills, Perceptive, Conceptual, Creative, Analytical and Decisive. Leadership as a process: co-ordination while working in a team, Leadership styles, Leader and Team player, Management of conflict, Profiles of great and successful personalities, Role of career planning in personality development, negotiation, Motivating.

Reference

1. *Wallace : Personality Development 1st Edition, 2008 Cengage Learning India.*
2. *Succeed for your self -Richard Denny (3rd edition) - Kogan page India www.vivagroupindia.com.*
3. *Unleashing Leadership – John Hoover & Angelo Valenti – Jaico publishing House –WWW.JAICOBOOKS.COM*
4. *Kundu, C.L - Personality development, Sterling Bangalore.*
5. *Listening and Responding – Sandra D.Collins-Cengage Learning India, 2nd Edition, 2008.*
6. *1,001 ways to inspire your organization, your team and your self – David E. Rye-Jaico publishing house, Career Press, 1998.*

FIFTH SEMESTER
MCA501T: ADVANCED WEB PROGRAMMING

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Perl, CGI Programming: Origins and uses of Perl; Scalars and their operations; Assignment statements and simple input and output; Control statements; Fundamentals of arrays; Hashes; References; Functions; Pattern matching; File input and output; Examples. The Common Gateway Interface; CGI linkage; Query string format; CGI.pm module; A survey example; Cookies.

UNIT – II [10 Hours]

Servlets and Java Server Pages: Overview of Servlets; Servlet details; A survey example; Storing information on Clients; Java Server Pages. PHP: Origins and uses of PHP; Overview of PHP; General syntactic characteristics; Primitives, operations and expressions; Output; Control statements; Arrays; Functions; Pattern matching; Form handling; Files; Cookies; Session tracking.

UNIT – III [10 Hours]

Database Access through the Web: Relational Databases; An introduction to SQL; Architectures for Database access; The MySQL Database system; Database access with PERL and MySQL; Database access with PHP and MySQL; Database access with JDBC and MySQL.

UNIT – IV [10 Hours]

Introduction to Ruby, Rails: Origins and uses of Ruby; Scalar types and their operations; Simple input and output; Control statements; Fundamentals of arrays; Hashes; Methods; Classes; Code blocks and iterators; Pattern matching. Overview of Rails; Document requests; Processing forms; Rails applications with Databases; Layouts.

UNIT – V [10 Hours]

Introduction to Ajax: Overview of Ajax; The basics of Ajax; Rails with Ajax.

Reference

1. *Robert W. Sebesta: "Programming the World Wide Web", 4th Edition, Pearson Education, 2012.*
2. *M. Deitel, P.J. Deitel, A. B. Goldberg: "Internet & World Wide Web How to program", 3rd Edition, Pearson Education, 4th edition, PHI, 2011.*
3. *Chris Bates: "Web Programming Building Internet Applications", 3rd Edition, Wiley India, 2011.*
4. *Joyce Farrell, Xue Bai, Michael Ekedahl: "The Web Warrior Guide to Web Programming", 1st edition, Thomson, 2010.*

MCA502T: ADVANCED DATABASE MANAGEMENT SYSTEMS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

NOSQL and Query Optimization: Definition of NOSQL, History of NOSQL and Different NOSQL products, Exploring MongoDB Basics: NOSQL Storage architecture, CRUD operations with MongoDB, Querying, Modifying and Managing NOSQL Data stores, Indexing and ordering data sets (MongoDB/CouchDB/Cassandra). Advanced NOSQL, NOSQL in CLOUD, Parallel Processing with Map Reduce, BigData with Hive. Working with NOSQL:, Query Optimization: Overview ,Transformation of Relational Expressions, Estimating Statistics of Expression Choice of Evaluation Plans, Materialized views Advanced Query Optimization: Motivation, Query Processing Phases, Logical Query Optimization.

UNIT – II [10 Hours]

SAN: Introduction to Information Storage and Management, Data Center Infrastructure, Information Lifecycle Components of Storage System Environment, Disk Drive Components, Disk Drive Performance, Fundamental Laws Governing Disk Performance, Logical Components of the Host, Application Requirements and Disk Performance. Data Protection, Intelligent Storage system: Implementation of RAID, RAID Array Components, RAID Levels, RAID Impact on Disk Performance.

UNIT – III [10 Hours]

Data Warehousing and Data Mining: Data Warehouse Architecture, Data Warehouse Implementation, Mining Methods, Mining Various Kinds of Association Rules. Data Mining: Data Mining Applications, Social Network Analysis;

UNIT – IV [10 Hours]

Big Data: Introduction to principles and practice of systems that improve performance through experience. Topics include statistical learning framework, supervised and unsupervised learning, performance evaluation and empirical methodology; design tradeoffs. Introduction to the Big Data problem. Current challenges, trends, and applications Algorithms for Big Data analysis. Mining and learning algorithms that have been developed specifically to deal with large datasets Technologies for Big Data management. Big Data technology and tools, special consideration made to the Map-Reduce paradigm and the Hadoop ecosystem.

UNIT - V [10 Hours]

Information Retrieval and Search Engines: Architecture of search engine, Ranking and Evaluation; CRAWLS AND FEEDS: Crawling the Web, Directory Crawling, Conversion Problem, Storing the Documents, Detecting Duplicates. Processing text: Text Statistics, Document Parsing, Document Structure and Markup, Link Analysis, Information Extraction, Internationalization; RANKING WITH INDEXES: Inverted indexes, Compression, Entropy and Ambiguity, Delta Encoding, Bit-aligned codes, Auxiliary Structures, Index Construction, Query Processing.

Reference

1. *"Professional NOSQL" by Shashank Tiwari, 2011, WROX Press The Definitive guide to MongoDB, The NoSQL Database for Cloud and Desktop Computing,by Eelco Plugge, Tim Hawkins, Peter Membrey Apress 2010*
2. *"NoSQL Handbook" by Mathias Meyer, 2011 Paperplanes.*
3. *MongoDB: The Definitive Guide, 2nd Edition,by Kristina Chodorow 2013 Silberschatz, Korth and Sudharshan Andreas Meister Otto-von-Guericke University Magdeburg*
4. *G. Somasundaram, Alok Shrivastava (Editors): Information Storage and Management: Storing, Managing & Protecting Digital Information in Classic, Visualized and Cloud Environments, 2 nd edition, EMC Education Services, Wiley- India, 2009. ISBN 978-1- 1180-9483-9*
5. *Jiawei Han and Micheline Kamber, Data Mining, Concepts and Techniques, Morgan Kaufmann Publisher, II Edition, 2006.*
6. *Machine Learning, Tom Mitchell. ISBN-10: 0070428077 | ISBN-13: 978-0070428072 | Edition: 1 (optional)*
7. *Hadoop Real World Solutions Cookbook by Jonathan R. Owens, Brian Femiano, and Jon Lentz Publication Date: February 7, 2013 | ISBN-10: 1849519129 | ISBN-13: 978- 1849519120*
8. *Search Engines: Information Retrieval in Practice: Trevor Strohman, Bruce Croft Donald Metzler, Kindle Edition, Pearson Education, 2011.*

MCA503T: ARTIFICIAL INTELLIGENCE

Total Teaching Hours: 52 No. of Hours / Week : 04

UNIT-I [12 Hours]

Introduction to Artificial Intelligence: Definition, AI Applications, AI representation, Properties of internal Representation, Heuristic search techniques. Best first search, mean and end analysis, A* and AO* Algorithm, Game Playing, Minimize search procedure, Alpha beta cutoffs, waiting for Quiscence, Secondary search.

UNIT-II [10 Hours]

Knowledge representation using predicate logic: predicate calculus, Predicate and arguments, ISA hierarchy, frame notation, resolution, Natural deduction. Knowledge representation using non monotonic logic: TMS (Truth maintenance system), statistical and probabilistic reasoning, fuzzy logic, structure knowledge representation, semantic net, Frames, Script, Conceptual dependency.

UNIT-III [10 Hours]

Planning: block world, strips, Implementation using goal stack, Non linear planning with goal stacks, Hierarchical planning, list commitment strategy. Perception: Action, Robot Architecture, Vision, Texture and images, representing and recognizing scenes, waltz algorithm, Constraint determination, Trihedral and non trihedral figures labeling.

UNIT-IV [10 Hours]

Learning: Learning as induction matching algorithms. Failure driver learning, learning in general problem solving concept learning. Neural Networks: Introduction to neural networks and perception-qualitative Analysis only, neural net architecture and applications.

UNIT-V [10 Hours]

Natural language processing and understanding and pragmatic, syntactic, semantic, analysis, RTN, ATN, understanding sentences. Expert system: Utilization and functionality, architecture of expert system, knowledge representation, two case studies on expert systems.

Reference

1. *E. Charnaik and D. McDermott," Introduction to artificial Intelligence",Pearson Education, 2012.*
2. *Dan W. Patterson, "Introduction to Artificial Intelligence and Expert Systems", PHI, 2013.*
3. *E. Rich and K. Knight," Artificial Intelligence", Tata McGraw Hill, 2013.*
4. *Nils J. Nilson, "Principles of Artificial Intelligence", Narosa Publishing Co. 2002.*

MCA505P: ADVANCED WEB PROGRAMMING LAB

1. Develop and demonstrate a XHTML file that includes Javascript script to generate first n Fibonacci numbers.
2. Develop and demonstrate the usage of inline and external style sheet using CSS
3. Develop and demonstrate, using Javascript script, a XHTML document that collects the USN (the valid format is: A digit from 1 to 4 followed by two upper-case characters followed by two digits followed by two upper-case characters followed by three digits; no embedded spaces allowed) of the user. Event handler must be included for the form element that collects this information to validate the input. Messages in the alert windows must be produced when errors are detected.
4. Develop and demonstrate, using Javascript script, a XHTML document that contains three short paragraphs of text, stacked on top of each other, with only enough of each showing so that the mouse cursor can be placed over some part of them. When the cursor is placed over the exposed part of any paragraph, it should rise to the top to become completely visible.
5. Design an XML document to store information about a student in a college affiliated to BU. The information must include USN, Name, Name of the College, Brach, Year of Joining, and e-mail id. Make up sample data for 3 students. Create a CSS style sheet and use it to display the document.
6. Write a Perl program to display a digital clock which displays the current time of the server.
7. Write a Perl program to insert name and age information entered by the user into a table created using MySQL and to display the current contents of this table.
8. Write a PHP program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
9. Write a PHP program to read student data from an XML file and store into the MYSQL database. Retrieve and display.
10. Write a Perl program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.
11. Write a CGI-Perl program to use a cookie to remember the day of the last login from a user and display it when run.
12. Write a Perl program to display various Server informations like Server Name, Server Software, Server protocol, CGI Revision etc.
13. Create a XHTML form with Name, Address Line 1, Address Line 2, and E-mail text fields. On submitting, store the values in MySQL table. Retrieve and display the data based on Name.
14. Write a Perl program to accept the User Name and display a greeting message randomly chosen from a list of 4 greeting messages.

MCA506P: MINI PROJECT

The students are supposed to develop a mini – project for above mentioned lab. The students can do the project in a group (team) consisting of not more than 2 students. A project report must be submitted by each team.

SIXTH SEMESTER

ELECTIVES

MCA6E1: DISTRIBUTED OPERATING SYSTEMS

Total Teaching Hours: 52 No. of Hours / Week : 04

UNIT – I [12 Hours]

Fundamentals: What is Distributed Computing Systems? Evolution of Distributed Computing System; Distributed Computing System Models; What is Distributed Operating System? Issues in Designing a Distributed Operating System; Introduction to Distributed Computing Environment (DCE). Message Passing: Introduction, Desirable features of a Good Message Passing System, Issues in PC by Message Passing, Synchronization, Buffering, Multidatagram Messages, Encoding and Decoding of Message Data, Process Addressing, Failure Handling, Group Communication, Case Study: 4.3 BSD UNIX IPC Mechanism.

UNIT – II [10 Hours]

Remote Procedure Calls: Introduction, The RPC Model, Transparency of RPC, Implementing RPC Mechanism, Stub Generation, RPC Messages, Marshaling Arguments and Results, Server Management, Parameter-Passing Semantics, Call Semantics, Communication Protocols for RPCs, Complicated RPCs, Client-Server Binding, Exception Handling, Security, Some Special Types of RPCs, RPC in Heterogeneous Environments, Lightweight RPC, Optimization for Better Performance, Case Studies: Sun RPC.

UNIT – III [10 Hours]

Distributed Shared Memory: Introduction, General Architecture of DSM Systems, Design and Implementation Issues of DSM, Granularity, Structure of Shared Memory Space, Consistency Models, Replacement Strategy, Thrashing, Other approaches to DSM, Heterogeneous DSM, Advantages of DSM. Synchronization: Introduction, Clock Synchronization, Event Ordering, Mutual Exclusion, Dead Lock, Election Algorithms.

UNIT – IV [10 Hours]

Resource Management: Introduction, Desirable Features of a Good Global Scheduling Algorithm, Task Assignment Approach, Load – Balancing Approach, Load – Sharing Approach Process Management: Introduction, Process Migration, Threads.

UNIT – V [10 Hours]

Distributed File Systems: Introduction, Desirable Features of a Good Distributed File System, File models, File– Accessing Models, File – Sharing Semantics, File – Caching Schemes, File Replication, Fault Tolerance, Atomic Transactions, Design Principles.

Reference

1. *Pradeep. K. Sinha: Distributed Operating Systems: Concepts and Design, PHI, 2007.*
2. *Andrew S. Tanenbaum: Distributed Operating Systems, Pearson Education, 2013.*

MCA6E2: SOFTWARE TESTING

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [12 Hours]

Basics of Software Testing and Examples: Basic definitions, Test cases, Insights from a Venn diagram, Identifying test cases, Error and fault taxonomies, Levels of testing. Examples: Generalized pseudo code, The triangle problem, The Next Date function, The commission problem, The SATM (Simple Automatic Teller Machine) problem. Decision Table-Based Testing: Decision tables, Test cases for the triangle problem, Test cases for the Next Date function, Test cases for the commission problem, Guidelines and observations. Data Flow Testing: Definition-Use testing, Slice-based testing, Guidelines and observations.

UNIT – II [10 Hours]

Levels of Testing: Traditional view of testing levels, Alternative life-cycle models, The SATM system, Separating integration and system testing. Integration Testing: A closer look at the SATM system, Decomposition-based, call graph- based, Path-based integrations, Case study. System Testing: Threads, Basic concepts for requirements specification, Finding threads, Structural strategies and functional strategies for thread testing, SATM test threads, System testing guidelines, ASF (Atomic System Functions) testing example.

UNIT – III [10 Hours]

Interaction Testing: Context of interaction, A taxonomy of interactions, Interaction, composition, and determinism, Client/Server Testing. Issues in Object-Oriented Testing: Units for object-oriented testing, Implications of composition and encapsulation, inheritance, and polymorphism, Levels of object-oriented testing, GUI testing, Dataflow testing for object-oriented software, Examples. Class Testing: Methods as units, Classes as units.

UNIT – IV [10 Hours]

Object-Oriented Integration Testing: UML support for integration testing, MM-paths for object-oriented software, A framework for object-oriented dataflow integration testing. GUI Testing: The currency conversion program, Unit testing, Integration Testing and System testing for the currency conversion program. Object-Oriented System Testing: Currency converter UML description, UML-based system testing, State chart-based system testing. Exploratory Testing: The context-driven school, Exploring exploratory testing, Exploring a familiar example, Exploratory and context-driven testing observations.

UNIT – V [10 Hours]

Model-Based Testing: Testing based on models, Appropriate models, Use case-based testing, Commercial tool support for model-based testing. Test-Driven Development: Test-then-code cycles, Automated test execution, Java and JUnit example, Remaining questions, Pros, cons, and open questions of TDD, Retrospective on MDD versus TDD. A Closer Look at All Pairs Testing: The all-pairs technique, A closer look at NIST study, Appropriate applications for all pairs testing, Recommendations for all pairs testing. Software Testing Excellence: Craftsmanship, Best practice of software testing,

Top 10 best practices for software testing excellence, Mapping best practices to diverse projects.

Reference

1. *Paul C. Jorgensen: Software Testing, A Craftsman's Approach, 3rd Edition, Auerbach Publications, 2012.*
2. *Aditya P Mathur: Foundations of Software Testing, Pearson, 2008.*
3. *Mauro Pezze, Michal Young: Software Testing and Analysis – Process, Principles and Techniques, 1st edition, John Wiley & Sons, 2011.*
4. *Srinivasan Desikan, Gopalaswamy Ramesh: Software testing Principles and Practices, 1st Edition, Pearson, 2012.*
5. *Brian Marrick: The Craft of Software Testing, 1st edition, Pearson, 2012.*

MCA6E3: PARALLEL ALGORITHMS

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT- I [12 Hours]

INTRODUCTION: Introduction to Parallel Algorithms – Models of Parallel Computation – Sorting on an EREW- SIMDPRAM Computer – Relation between PRAM Models – SIMD Algorithms – MIMD Algorithms –Selection – Desirable Properties for Parallel Algorithms - Parallel Algorithm for Selection –Analysis of Parallel Algorithms.

UNIT - II [10 Hours]

SORTING AND SEARCHING: Merging on the EREW and CREW Models - Fast Merging on EREW - Sorting Networks – Sorting on a Linear Array – Sorting on CRCW, CREW, EREW Models – Searching a Sorted Sequence –Searching a Random Sequence.

UNIT- III [10 Hours]

ALGEBRAIC PROBLEMS: Generating Permutations and Combinations in Parallel – Matrix Transpositions – Matrix by Matrix Multiplications – Matrix by Vector multiplication.

UNIT- IV [10 Hours]

GRAPH THEORY AND COMPUTATIONAL GEOMETRY PROBLEMS: Connectivity Matrix – Connected Components – All Pairs Shortest Paths – Minimum Spanning Trees – Point Inclusion – Intersection, Proximity and Construction Problems - Sequential Tree Traversal - Basic Design Principles – Algorithm – Analysis.

UNIT - V [10 Hours]

DECISION AND OPTIMIZATION PROBLEMS: Computing Prefix Sums – Applications - Job Sequencing with Deadlines – Knapsack Problem- The Bit Complexity of Parallel Computations.

Reference

1. *Selim G. Akl, "The Design and Analysis of Parallel Algorithms", Prentice Hall, New Jersey, 2009.*
2. *Michael J. Quinn, "Parallel Computing : Theory & Practice", Tata McGraw Hill Edition, 2013.*
3. *Justin R. Smith, "The Design and Analysis of Parallel Algorithms", Oxford University Press, USA , 2003.*
4. *Joseph JaJa, "Introduction to Parallel Algorithms", Addison-Wesley, 2002.*

MCA6E4: COMPILER DESIGN

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT-I [10 Hours]

Introduction to compiler- Complier and Translators-Phases of Compilation-One pass compiler, Lexical Analysis-Role of Lexical Analyzer-Regular expressions-Finite Automata-Design of lexical Analyzer- Context free grammars-Parse trees.

UNIT-II [07 Hours]

Parsers-Shift reduce parsing-Operator precedence parsing-Top down parsing Predictive parsers-Simple precedence parsers-LR parsers-SLR parser tables-LALR parsing tables-Ambiguous grammars.

UNIT-III [10 Hours]

Syntax directed translation-Construction of syntax trees-Evaluation of S attributed and L attributed definitions-Top down Translation-Recursive evaluators, Type checking-Simple type checker-Type conversions- Overloading of functions and operators-Polymorphic functions, Run time environment –Source language issues-Storage organization-Storage Allocation-symbol tables-Dynamic storage allocation techniques.

UNIT-IV [15 Hours]

Intermediate code generation-Languages-Declarations-Assignment statements-Boolean expression-Case statements- Backpatching-Procedure Calls, code optimization-Sources of optimization-Basic blocks-Loops-Global Data Flow analysis- Solution of data flow equations- Code improving transformations-Dealing with aliases-Data Flow analysis of flow graphs-Symbolic debugging of optimized code, Code generations-Issues in the design of code generator- Simple code generator Register allocation and assignment-DAG representations-PEE hole optimization- generation of code from DAG's-Code generation algorithm.

UNIT-V [10 Hours]

Approaches to compiler development-Complier environment- Testing and Maintenance Compiler for Pascal-Complier for C.

Reference:

1. *A.V.Aho Ravi Sethi and J.D Ullman : " The Principles of Compiler Design", Narosa Publishing House, 2007*
2. *D.M.Dhamdhere : "Compiler Construction, Principles and Practice", McMillian India Ltd., 2013*

MCA6E5: MULTIMEDIA COMMUNICATION

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT-I [06 Hours]

Introduction: What are multimedia, multimedia application, Goal and objectives, Multimedia building blocks, multimedia and internet

UNIT-II [12 Hours]

Multimedia Configuration: Multimedia PC workstation components, multimedia platform, multimedia development tool, authoring tool, Interactivity, High end multimedia architectures. MULTIMEDIA OPERATING SYSTEM File system (File format: TIEF, BMP, PCX, GIF etc.) Process management, multimedia communication system, multimedia database management system. Multimedia Audio: Basic sound concepts, audio capture, music, speech sound processor, sound recovery technique, VOC4WAV file formats for sound.

UNIT-III [14 Hours]

Multimedia graphics: 2D/3D animation fundamentals, color modules DIGITAL IMAGING: still and moving images; video capture animation video, Processing, video Recovery techniques, AVO, AVI file formats, NTSC, PAL, SECAM, HDTV, system video/audio conferencing techniques and standards, video streaming, motion of synchronization.

UNIT-IV [10 Hours]

Image Compression techniques: LZW, DCT run length coding, JPEG, MPEG, standard hypertext MHEG, Hypertext and Hypermedia, document architecture ODA, MHEG. Augmented and virtual reality and multimedia: Concept, VR devices: hand Gloves, head mounted tracking system, V R Chair, CCD, VCR ,3D, sound system, Head Mounted Displays and rendering software setup, Virtual objects, VRML.

UNIT-V [10 Hours]

Multimedia devices: Mass storage systems for multimedia requirements, Magnetic devices, Optical devices, CDROM, DVD. Scanners: Types and specifications. Windows support to Multimedia: Multimedia Databases (in Oracle), multimedia function calls, windows support for sound, animation, movies, music and midi controls. Multimedia and UNIX, Virtual Coffee house application.

Reference

1. *Ralf Steinmetz & Klara Nahr Stedt, PHI Publications: Multimedia - Computing, Communications and Applications. 2003*
2. *Judith Jefcoate, Multimedia in Practice: Technology and Application PHI 2008.*
3. *Durano R Begault, Virual Reality and Multimedia, AP Professionals. 2003*
4. *Micheal J Young, Windows multimedia and animation with C++ programming for Win95, AP Professional. 2004*

MCA6E6: E-GOVERNANCE

Total Teaching Hours: 52 No. of Hours / Week : 04

UNIT – I [12 Hours]

Introduction to e- Governance, Different Stages of e-Governance, Advantages, Problems and Challenges of e-Governance, National Statues, International Status, Securities in e-Governance.

UNIT – II [10 Hours]

National e-Governance Plan, Government of India guidelines for websites, W3C guidelines, web 2.0, web 3.0

UNIT – III [10 Hours]

Different UN Survey on e-Governance, UN Survey on e-Governance – 2014, e-Government Act, 2002, Adhaar Bill, 2016, II Administrative Reforms Committee Report 11, Digital India Programme, IT Act, 2008 Section 1 to 11A, Section 43 and 66

UNIT – IV [10 Hours]

Workflow Management in e-Governance, Digital Divide, Mechanism to handle Digital Divide, Bridge the digital divide, M-Governance, e-Learning, Role of Social Media in e-Governance, Big data Analytics in e-Governance, Semantic web Analytics.

UNIT – V [10 Hours]

Case Study: Election Commission, Indian Railway Reservation, Addhar – UID, Income Tax, SAKALA, Bhoomi, e-Commission, CET admission, Centralized Admission, Student Scholarship Management.

Reference

1. *Mishra D.S (2007). E-Governance as reform strategy for combating corruption in delivery of public services. Indian Journal of Public Administration. LIII (3).*
2. *Bhogle Srinivas (2009). E-Governance. Selected Readings on Information Technology Management: Contemporary Issues ed. George Kelley. Information Science Reference, New York.*
3. *Bhuiyan H Shahjahan (2011). Modernizing Bangladesh public administration through e-governance: Benefits and challenges. 28, 54-65.*
4. *The World Wide Web Consortium (2008). Web Content Accessibility Guidelines (WCAG) 2.0. Downloaded on 10th January, 2012 from http://www.w3.org/*
5. *Government of India (2009). Guidelines for Indian Government websites. Downloaded on 15th January, 2012 from http://darpg.nic.in/*
6. *e-Government Act (2002). https://www.gpo.gov/fdsys/pkg/PLAW-107publ347/pdf/PLAW-107publ347.pdf*
7. *Digital India Programme. http://www.digitalindia.gov.in/*
8. *Information Technolgy Act, 2008. http://www.dot.gov.in/act-rules/information-technology-act-2000*
9. *Second Adminstrative Reforms Committee Report. Report 11: Promoting e-Governance: The SMART way Forwardhttp://arc.gov.in/*

10. *UN Survey on e-Governmen, 2014 (or latest). https://publicadministration.un.org/egovkb/portals/egovkb/documents/un/2014-survey/e-gov_complete_survey-2014.pdf*
11. *The Adhaar Bill, 2016. http://www.prsindia.org/billtrack/the-aadhaar-targeted-delivery-of-financial-and-other-subsidies-benefits-and-services-bill-2016-4202/*

MCA6E7: DIGITAL IMAGE PROCESSING

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT-I [12 Hours]

DIGITAL IMAGE FUNDAMENTALS: Origin of Digital Image processing – fundamental steps –Components of Image Processing system –Visual perception –Light and EM spectrum –Image sensing and acquisition –Image sampling and Quantization – relationship between pixels, Two-Dimensional Mathematical Preliminaries

UNIT - II [10 Hours]

IMAGE ENHANCEMENT: Spatial Domain: Gray level transformation –Histogram processing –Arithmetic / Logic operations- Spatial filtering –smoothing filters – sharpening filters Frequency Domain: Fourier transform –smoothing frequency domain filters –sharpening filters –Homographic filtering

UNIT - III [10 Hours]

IMAGE RESTORATION: Image Restoration - Degradation Model, Unconstrained Restoration - Lagrange multiplier and Constrained restoration, Inverse filtering-removal of blur caused by uniform linear motion, Wiener filtering, Geometric transformations-spatial transformations.

UNIT- IV [10 Hours]

IMAGE SEGMENTATION: Edge detection, Edge linking via Hough transform, Thresholding, Region based segmentation, Region growing, Region splitting and Merging, Segmentation by morphological watersheds, Basic Concepts, Dam Construction, Watershed segmentation algorithm.

UNIT- V [10 Hours]

IMAGE COMPRESSION: Need for data compression, Fundamentals –Image compression models Huffman, Run Length Encoding, Shift codes, Arithmetic coding, Vector Quantization, Transform coding, JPEG standard, MPEG.

Reference

1. *Rafael C. Gonzalez, Richard E. Woods, , Digital Image Processing', Pearson, Second Edition, 2004.*
2. *Anil K. Jain, , Fundamentals of Digital Image Processing', Pearson 2002.*
3. *Kenneth R. Castleman, Digital Image Processing, Pearson, 2006.*
4. *Rafael C. Gonzalez, Richard E. Woods, Steven Eddins,' Digital Image Processing using MATLAB', Pearson Education, Inc., 2004.*
5. *D,E. Dudgeon and RM. Mersereau, , Multidimensional Digital Signal Processing', Prentice Hall Professional Technical Reference, 1990*
6. *William K. Pratt, , Digital Image Processing' , John Wiley, New York, 2002*
7. *Milan Sonka et aI, 'IMAGE PROCESSING, ANALYSIS AND MACHINE VISION', Brookes/Cole, Vikas Publishing House, 2nd edition, 1999*

MCA6E8: MOBILE COMPUTING

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT – I [12 Hours]

Introduction, issues in mobile computing, overview of wireless telephony: cellular concept, GSM: air-interface, channel structure, location management: HLR-VLR, hierarchical, handoffs, channel allocation in cellular systems, CDMA, GPRS.

UNIT -II [10 Hours]

Wireless Networking, Wireless LAN Overview: MAC issues, IEEE 802.11, Blue Tooth, Wireless multiple access protocols, TCP over wireless, Wireless applications, data broadcasting, Mobile IP, WAP: Architecture, protocol stack, application environment, applications.

UNIT – III [10 Hours]

Data management issues, data replication for mobile computers, adaptive clustering for mobile wireless networks, File system, Disconnected operations.

UNIT– IV [10 Hours]

Mobile Agents computing, security and fault tolerance, transaction processing in mobile computing environment.

UNIT– V [10 Hours]

Ad Hoc networks, localization, MAC issues, Routing protocols, global state routing (GSR), Destination sequenced distance vector routing (DSDV), Dynamic source routing (DSR), Ad Hoc on demand distance vector routing (AODV), Temporary ordered routing algorithm (TORA), QoS in Ad Hoc Networks, applications.

Reference

1. *J. Schiller, Mobile Communications, Addison Wesley, 2009.*
2. *A. Mehrotra, GSM System Engineering, Artech House, 1997.*
3. *M. V. D. Heijden, M. Taylor, Understanding WAP, Artech House, 2011.*
4. *Charles Perkins, Mobile IP, Addison Wesley, 2010.*
5. *Charles Perkins, Ad hoc Networks, Addison Wesley, 2009.*

MCA6E9: TCP/IP

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT I [12 Hours]

INTRODUCTION: Internetworking concepts and architecture model – classful Internet address – CIDR –Subnetting and Supernetting – AARP – RARP- IP- IP Routing – ICMP – IPV6.

UNIT II [10 Hours]

TCP: Services – header – connection establishment and termination – interactive data flow bulk data flow – timeout and retransmission – persist timer – keep alive timer – futures and performance.

UNIT III [10 Hours]

IP IMPLEMENTATION: IP global software organization – routing table – routing algorithms – fragmentation and reassembly – error processing (ICMP) – Multicast Processing(IGMP).

UNIT IV [10 Hours]

TCP IMPLEMENTATION I: Data structure and input processing – transmission control blocks – segment format –comparison – finite state machine implementation Output processing – mutual exclusion – computing the TCP Data length.

UNIT V [10 Hours]

TCP IMPLEMENTATION II**:** Timers – events and messages – timer process – deleting and inserting timer event –flow control and adaptive retransmission – congestion avoidance and control – urgent data processing and push function.

Reference

1. *Douglas E Comer,"Internetworking with TCP/IP Principles,Protocols and Architecture",Vol 1 and 2, Vth Edition*
2. *W.Richard Stevans "TCP/IP Illustrated" Vol 1.2003.*
3. *Forouzan, " TCP/IP Protocol Suite" Second Edition, Tate MC Graw Hill, 2003.*
4. *W.Richard Stevens "TCP/IP Illustrated" Volume 2, Pearson Education 2003*

MCA6E10: CLOUD COMPUTING

Total Teaching Hours: 52 No. of Hours / Week: 04

UNIT – I [10 Hours]

Introduction: Essentials, Benefits and need for Cloud Computing - Business and IT Perspective - Cloud and Virtualization - Cloud Services Requirements - Cloud and Dynamic Infrastructure - Cloud Computing Characteristics Cloud Adoption. Cloud Models: Cloud Characteristics - Measured Service - Cloud Models - Security in a Public Cloud Public versus Private Clouds.

UNIT - II [6 Hours]

Cloud Infrastructure Self Service. Cloud as a Service: Gamut of Cloud Solutions - Principal Technologies - Cloud Strategy Cloud Design and Implementation using SOA - Conceptual Cloud Model - Cloud Service Defined.

UNIT – III [14 Hours]

Cloud Solutions: Cloud Ecosystem - Cloud Business Process Management - Cloud Service Management - Cloud Stack - Computing on Demand (CoD) – Cloud sourcing. Cloud Offerings: Information Storage, Retrieval, Archive and Protection - Cloud Analytics Testing under Cloud - Information Security - Virtual Desktop Infrastructure - Storage Cloud. Cloud Management: Resiliency – Provisioning - Asset Management - Cloud Governance - High Availability and Disaster Recovery - Charging Models, Usage Reporting, Billing and Metering.

UNIT – IV [10 Hours]

Cloud Virtualization Technology: Virtualization Defined - Virtualization Benefits - Server Virtualization - Virtualization for x86 Architecture - Hypervisor Management Software - Logical Partitioning (LPAR) - VIO Server - Virtual Infrastructure Requirements. Cloud Virtualization: Storage virtualization - Storage Area Networks - Network-Attached storage - Cloud Server Virtualization - Virtualized Data Center.

UNIT – V [12 Hours]

Cloud and SOA: SOA Journey to Infrastructure - SOA and Cloud - SOA Defined - SOA and IaaS - SOA-based Cloud Infrastructure Steps - SOA Business and IT Services. Cloud Infrastructure Benchmarking: OLTP Benchmark - Business Intelligence Benchmark - e- Business Benchmark - ISV Benchmarks - Cloud Performance Data Collection and Performance Monitoring Commands - Benchmark Tools.

Reference

1. *Cloud Computing – Insight into New Era Infrastructure, Dr. Kumar Saurabh, Wiley India, 2011.*
2. *Cloud Computing, Roger Jennings, Wiley India, 2009.*
3. *Cloud Computing Explained, John Rhoton, Recursive Press,2009.*
4. *Cloud Computing Bible, Barry Sosinsky, Wiley, 2011.*

5. *Cloud Computing: Principles and Paradigms, Rajkumar Buyya, James Broberg, Wiley, 2011.*
6. *Cloud Computing for Dummies, Judith Hurwiz, Wiley Publishing, 2009.*
7. *The Cloud at your service, Rosenberg and Matheos, Manning Publications, 2010.*

MCA6E11: STORAGE AREA NETWORK

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT – I [10 Hours]

Introduction: Server Centric IT Architecture and its Limitations; Storage – Centric IT Architecture and its advantages. Case study: Replacing a server with Storage Networks The Data Storage and Data Access problem; The Battle for size and access.

UNIT – II [12 Hours]

Intelligent Disk Subsystems: Architecture of Intelligent Disk Subsystems; Hard disks and Internal I/O Channels; JBOD, Storage virtualization using RAID and different RAID levels; Caching: Acceleration of Hard Disk Access; Intelligent disk subsystems, Availability of disk subsystems. I/O Techniques: The Physical I/O path from the CPU to the Storage System; SCSI; Fibre Channel Protocol Stack; Fibre Channel SAN; IP Storage.

UNIT – III [10 Hours]

Network Attached Storage: The NAS Architecture, The NAS hardware Architecture, The NAS Sotfware Architecture, Network connectivity, NAS as a storage system. File System and NAS: Local File Systems; Network file Systems and file servers; Shared Disk file systems; Comparison of fibre Channel and NAS.

UNIT – IV [10 Hours]

Storage Virtualization: Definition of Storage virtualization; Implementation Considerations; Storage virtualization on Block or file level; Storage virtualization on various levels of the storage Network; Symmetric and Asymmetric storage virtualization in the Network. SAN Architecture and Hardware devices: Overview, Creating a Network for storage; SAN Hardware devices; The fibre channel switch; Host Bus Adaptors; Putting the storage in SAN; Fabric operation from a Hardware perspective.

UNIT – V [10 Hours]

Software Components of SAN: The switch's Operating system; Device Drivers; Supporting the switch's components; Configuration options for SANs. Management: Planning Business Continuity; Managing availability; Managing Serviceability; Capacity planning; Security considerations.

Reference

1. *Ulf Troppens, Rainer Erkens and Wolfgang Muller: Storage Networks Explained, Wiley India, 2007.*
2. *Marc Farley: Storage Networking Fundamentals – An Introduction to Storage Devices, Subsystems, Applications, Management, and File Systems, Cisco Press, 2005.*
3. *Robert Spalding: "Storage Networks The Complete Reference", Tata McGraw-Hill, 2003.*
4. *Richard Barker and Paul Massiglia: "Storage Area Network Essentials A CompleteGuide to understanding and Implementing SANs", Wiley India, 2006.*

MCA6E12: Data Mining

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT – I [10 Hours]

Data Warehousing: Overview, Definition, Delivery Process, Difference between Database System and Data Warehouse, Multi-Dimensional Data Model, Data Cubes, Stars, Snow Flakes, Fact Constellations, Concept hierarchy, Process Architecture, 3 Tier Architecture, Data Marting.

UNIT -II [10 Hours]

Aggregation, Historical information, Query Facility, OLAP function and Tools. OLAP Servers, ROLAP, MOLAP, HOLAP, Data Mining interface, Security, Backup and Recovery, Tuning Data Warehouse, Testing Data Warehouse.

UNIT – III [10 Hours]

Overview, Motivation(for Data Mining),Data Mining-Definition & Functionalities, Data Processing, Form of Data Preprocessing, Data Cleaning: Missing Values, Noisy Data,(Binning, Clustering, Regression, Computer and Human inspection),Inconsistent Data, Data Integration and Transformation. Data Reduction:-Data Cube Aggregation, Dimensionality reduction, Data Compression, Numerosity Reduction, Clustering, Discretization and Concept hierarchy generation.

UNIT– IV [10 Hours]

Concept Description:- Definition, Data Generalization, Analytical Characterization, Analysis of attribute relevance, Mining Class comparisions, Statistical measures in large Databases. Measuring Central Tendency, Measuring Dispersion of Data, Graph Displays of Basic Statistical class Description, Mining Association Rules in Large Databases, Association rule mining, mining Single-Dimensional Boolean Association rules from Transactional Databases– Apriori Algorithm, Mining Multilevel Association rules from Transaction Databases and Mining Multi-Dimensional Association rules from Relational Databases

UNIT – V [12 Hours]

Classification and Predictions: What is Classification & Prediction, Issues regarding Classification and prediction, Decision tree, Bayesian Classification, Classification by Back propagation, Multilayer feed-forward Neural Network, Back propagation Algorithm, Classification methods K- nearest neighbor classifiers, Genetic Algorithm. Cluster Analysis: Data types in cluster analysis, Categories of clustering methods, Partitioning methods. Hierarchical Clustering- CURE and Chameleon. Density Based Methods-DBSCAN, OPTICS. Grid Based Methods- STING, CLIQUE. Model Based Method –Statistical Approach, Neural Network approach, Outlier Analysis

Reference

1. *M.H.Dunham,"Data Mining:Introductory and Advanced Topics" Pearson Education,2013*
2. *Jiawei Han, Micheline Kamber, "Data Mining Concepts & Techniques" Elsevier, 2013.*

3. *Sam Anahory, Dennis Murray, "Data Warehousing in the Real World: A Practical Guide for Building Decision Support Systems, 1/e", Pearson Education. 2009.*
4. *Mallach,"Data Warehousing System", McGraw –Hill, 2008.*

MCA6E13: BIG DATA ANALYTICS

Total Teaching Hours: 52 No of Hours / Week: 04

UNIT – I [12 Hours]

UNDERSTANDING BIG DATA: What is big data – why big data, Data Storage and Analysis, Comparison with Other Systems, Rational Database Management System , Grid Computing, Volunteer Computing, convergence of key trends – unstructured data – industry examples of big data – web analytics – big data and marketing – fraud and big data – risk and big data – credit risk management – big data and algorithmic trading – big data and healthcare – big data in medicine – advertising and big data – big data technologies – introduction to Hadoop – open source technologies – cloud and big data – mobile business intelligence – Crowd sourcing analytics – inter and trans firewall analytics

UNIT- II [10 Hours]

NOSQL DATA MANAGEMENT: Introduction to NoSQL – aggregate data models – aggregates – key-value and document data models – relationships – graph databases – schema less databases – materialized views – distribution models – sharding — version – Map reduce – partitioning and combining – composing map-reduce calculations

UNIT -III [10 Hours]

BASICS OF HADOOP: Data format – analyzing data with Hadoop – scaling out – Hadoop streaming – Hadoop pipes – design of Hadoop distributed file system (HDFS) – HDFS concepts – Java interface – data flow – Hadoop I/O – data integrity – compression – serialization – Avro – file-based data structures

UNIT –IV [10 Hours]

MAPREDUCE APPLICATIONS: MapReduce workflows – unit tests with MRUnit – test data and local tests – anatomy of MapReduce job run – classic Map-reduce – YARN – failures in classic Map-reduce and YARN – job scheduling – shuffle and sort – task execution – MapReduce types – input formats – output formats

UNIT- V [10 Hours]

HADOOP RELATED TOOLS: Hbase – data model and implementations – Hbase clients – Hbase examples –praxis. Cassandra – Cassandra data model – cassandra examples – cassandra clients –Hadoop integration. Pig – Grunt – pig data model – Pig Latin – developing and testing Pig Latin scripts. Hive – data types and file formats – HiveQL data definition – HiveQL data manipulation – HiveQL queries.

Reference

1. *Tom White, "Hadoop: The Definitive Guide", Third Edition, O'Reilley, 2012.*
2. *Eric Sammer, "Hadoop Operations", O'Reilley, 2012.*
3. *Vignesh Prajapati, Big data analytics with R and Hadoop, SPD 2013.*
4. *E. Capriolo, D. Wampler, and J. Rutherglen, "Programming Hive", O'Reilley, 2012.*
5. *Lars George, "HBase: The Definitive Guide", O'Reilley, 2011.*
6. *Alan Gates, "Programming Pig", O'Reilley, 2011.*

MCA603P: Main Project

The students are supposed to develop a main – project for above mentioned lab. The students should do the individual project. A project report must be submitted by each students. The students needs to copy out the project for four days in a week, and two days needs to attend the classwork.

BANGALORE UNIVERSITY
MCA PROGRAMME

Open Elective: "Cyber Space"

Objectives: To understand cyber space, social media in cyber space, advantages, disadvantages, IT Act 2000/2008, Digital Signature, Electronic Signature, e-commerce, and e-governance

Unit I: Basics of internet, www, http, html, DNS, IP Address, electronic mail, web browsers, search engines, Social Media: Twitter, Facebook, Youtube, whatsapp, LinkedIn, advantages, disadvantages, privacy issues

Unit II: e-commerce, advantages of e-commerce, survey on popular e-commerce sites

Unit III: Introduction to e-governance, stages of e-governance, advantages, challenges, International Status, Indian status

Unit IV: IT Act, 2000 salient features, digital signature, electronic signature, Cyber Appellate Tribunal, Adjudicator, offences, and penalties.

Reference

1. *Information Technology Amended Act, 2008, Ministry of Law and Justice, Government of India.*
2. *SrinivasBhogle, "E-Governance" Chapter III in Selected Readings on Information Technology Management : Contemporary Issues, Information Science reference, Hershey, New York, page no. 40-61.*
3. *Tom Huskerson. Social Media, the Good, Bad, and Ugly: Volume. 3. 2014*
4. *RitendraGoel. "e-commerce", New Age International Publishers, 2008*
5. *Dougals E Comer. Computer Network and Internet. Pearson, 2008*

ACADEMIC REGULATIONS AND COURSE CONTENTS

GOVERNING MBA DEGREE [DAY] OF BANGALORE UNIVERSITY (2014-2015 ONWARDS)

UNDER CHOICE BASED CREDIT SYSTEM (BU-PG-CBCS, 2014)

(FRAMED UNDER SECTION 44(1), (C), OF K.S.U. ACT 2000)

CANARA BANK SCHOOL OF MANAGEMENT STUDIES
(Post Graduate Department of Management)
BANGALORE UNIVERSITY, CENTRAL COLLEGE CAMPUS,
PALACE ROAD , BANGALORE- 560 001.

Phone: 080-22961972
Email: directorcbsms@gmail.com
Website: www.cbsms.co.in

Dear Stakeholder, 28th March, 2015

Management Education in India and Karnataka is passing through an upheaval of crisis and uncertainty. Stakeholders have concern on its quality and excellence. One such idea is to make the course contemporary and relevant to the times through stakeholders approach. MBA syllabus of 2014-15 is a humble step in this direction.

CBSMS of Bangalore University undertook a scientific process of overhauling the curriculum. The expectations of 770 stakeholders were surveyed during December, 2013 and January, 2014. A StakeholdersSyllabus Review Committee was constituted by Board of Studies to arrive at the course matrix. This was reviewed and deliberated by all concerned vigorously. Various drafts of the syllabus were uploaded on the website for dissemination and feedback. Finally, the Academic Council approved it during the Golden jubilee year of Bangalore University on 27th March, 2015. All stakeholders played a very key role in the process of developing the syllabus.

I thank them immensely for their wholehearted support.

In particular, I would like to thank

- DrPankaj Chandra, Former Director IIMB; Dr N Jayashankaran, Advisor, NMIMS; DrPrashanthBharadhwaj, Indiana University of Pennysylvania; DrShalini Rajneesh, Government of Karnataka; DrGopalMahapatra, Chief Learning Officer, RPG Enterprises; DrVasanthiSrinivasan, IIMB; DrGiridharGyani of Association of Health Providers of India; SudheeshVenkatesh of National HRD Network; Dr M H Balasubramanya of Indian Institute of Science; Dr V Rajesh Kumar of VittamPravinaGurushala; Dr P NageshwaraRao of Osmania University; DrMustiary Begum of Mangalore University; N Sreenivasan, Former Director General, Confederation of Indian Industry; Dr D Gopalakrishna, Formerly Associate Professor, CBSMS, A N Chandramouli of BCIC and BasantNayak, Head of Business Development, AdaniAgrifresh Ltd
- Directors/Deans/Faculty members/Students/Alumni of various MBA colleges affiliated to Bangalore University
- Faculty colleagues of CBSMS, Prof K. Janardhanam, Dr.Cynthia Menezes, Dr.Y.Nagaraju, Dr.RitikaSinha and Dr. M. Nirmala
- Non-teaching staff, research scholars of CBSMS and staff of Central Placement Cell.
- All others who helped us directly and indirectly as well as those invisible/ silent heads, hands and hearts in and outside CBSMS.

The real challenge starts now. I need your best wishes and support.
Yours truly,

(Prof M.K.Sridhar, Ph.D.,)
Director, CBSMS
&
Chairman, Board of Studies

ACADEMIC REGULATIONS PERTAINING TO MBA DEGREE (DAY) OF BANGALORE UNIVERSITY

(2014 – 2015 ONWARDS)

Under Choice Based Credit System

(BU-PG-CBCS, 2014)

(Framed under section 44 (1), (C) of K.S.U. Act 2000)

FOR QUALITY & EXCELLENCE
IN HIGHER EDUCATION
Accredited by NAAC

CANARA BANK SCHOOL OF MANAGEMENT STUDIES,
BANGALORE UNIVERSITY, CENTRAL COLLEGE CAMPUS,
PALACE ROAD BANGALORE 560 001

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REGULATIONS PERTAINING TO MBA DEGREE (DAY) COURSE

1. TITLE

These regulations shall be cited as Academic Regulations Pertaining to MBA Degree (Day) of Bangalore University (2014 – 15 onwards) under Choice Based Credit System (BU-PG-CBCS, 2014) of Faculty of Commerce and Management under Bangalore University.

2. EXTENT OF APPLICATION

These regulations will apply to Post Graduate Program in Management being run in Canara Bank School of Management Studies and its affiliated colleges having approval of the University/AICTE as the case may be for the following course:

MASTER OF BUSINESS ADMINISTRATION (CHOICE BASED CREDIT SYSTEM) (MBA-CBCS – 2014 – 15 ONWARDS)

3. MINIMUM ELIGIBILITY FOR ADMISSION AND ADMISSION PROCEDURE

- A graduate degree under **10+2+3** or **10+2+4** pattern under any discipline securing at least 50% marks in aggregate including languages from a recognized University in India or abroad.
- Honors degree under 10+2+4 pattern from a recognized university under UGC Act having at least 50% marks in aggregate including languages.
- Candidates who have passed bachelor / master degree through correspondence / Open University system from this university or from any other university recognized by law are exempted from 10+2 pattern. The duration of the degrees must be three and two years respectively.
- Candidates who pass bachelor/master degree in any university system in single sitting pattern are not eligible.
- In case of SC/ST/Cat I candidates, there will be a relaxation of **5%** in the aggregate of marks obtained.
- All admissions to CBSMS and affiliated colleges will be made through an entrance test conducted by appropriate body as approved by Government of Karnataka and State Level Counseling based on Rank Merit and the reservation rules based on the seat matrix as announced by the Government of Karnataka from time to time.

4. DURATION OF THE COURSE

The duration of the MBA program shall extend over 4 semesters (two academic years) of 16 weeks or more each with a minimum of 90 actual working days of instruction in each semester and 2 to 3 weeks of examinations.

5. MEDIUM OF INSTRUCTION

The medium of instruction for all subjects and examination shall be English only.

6. MINIMUM CREDITS AND MAXIMUM CREDITS

- There shall be three categories of courses viz., Core and Compulsory Course, Specialization Course and Open Elective Course/Soft Core Course. The Open Electives are the University approved Courses offered by other Departments of Bangalore University.
- The credits for each of Compulsory Course and specialization course may vary from 2 to 4 credits. In case of open electives course, each paper shall be of 3 credits. A student is required to take one open elective course in III Semester

7. ATTENDANCE

- Each paper shall be taken for the purpose of calculating attendance.
- Students are required to attend for not less than 75% of the classes in each subject in order to be eligible to appear for the University examinations.
- The statement of attendance shall be displayed on the Notice Board by the institution at end of every month for information of students.
- Five marks in Internal Assessment shall be awarded based on the percentage of attendance as an incentive to the student for regularity in attendance.
- A student who does not satisfy the requirement of percentage of attendance shall not be permitted to take the examination of that paper(s).

8. SEMESTER-WISE CREDIT DISTRIBUTION:

CATEGORY	CREDITS TO BE COVERED IN				TOTAL CREDITS
	SEM -1	SEM – 2	SEM – 3	SEM – 4	
COMPULSORY CORE SUBJECTS	24	24	8	4	60
SOFT CORE SUBJECTS	2	2	*	*	4
SPECIALIZATION SUBJECTS	0	0	12	12	24
GENERAL OPEN ELECTIVE (INTER DISCIPLINARY)	*	*	3	*	3
INTERNSHIP	*	*	3	*	3
DISSERTATION	*	*	*	10	10
TOTAL	**26**	**26**	**26**	**26**	**104**

9. SCHEME OF EXAMINATION

A) Internal Assessment Test

Each of the course would have two components – the First being Internal Assessment Marks and Second being Semester end exams. The Internal Assessment (IA) are based on the continuous internal assessment.

- Each paper will carry 100 marks of which 30 marks for Internal Assessment and remaining 70 marks for written examination to be held at the end of each semester. The duration of the written examination for each paper shall be 3 hours.

- The various components of Internal Assessment for 30 Marks are as follows:

I AND II SEMESTERS	MARKS	III & IV SEMESTER	MARKS
Attendance	5	Attendance	5
Two internal tests *(one announced & one surprise)*	10	One internal test *(surprise)*	5
Assignment	5	Case Study Preparation	10
Presentation	5	Mini Project	10
Books/Journal article review	5		
Total	**30**	**Total**	**30**

% of Attendance	Marks
75 - 79 %	1
80 - 84 %	2
85 - 89 %	3
90 – 94%	4
95 +	5

B) Final Examination

There shall be a University examination at the end of each semester in the prescribed papers which carries 70 marks each. *(Online examination might be introduced subject to approval of appropriate bodies of Bangalore University in the course of present scheme.)*

10. TIME LIMIT FOR COMPLETION

The candidate shall complete the programme within the period as prescribed in the regulation governing the maximum period for completing MBA programmes from the dates of admissions. It is generally twice the number of years of the programme. The term completing the programme means passing all the prescribed examinations of the programme to become eligible for the degree.

11. MINIMUM FOR A PASS

11.1 A candidate shall be declared to have passed the PG program if he/she secures at least a CGPA of 4.0 (Course Alpha-Sign Grade C) in the aggregate of both internal assessment and semester end examination marks put together in each unit such as theory papers / practical / project work / dissertation / viva-voce.

11.2 The candidates who pass all the semester examinations in the first attempts are eligible for ranks provided they secure at least CGPA of 6.0 (or Alpha-Sign Grade A).

11.3 The results of the candidates who have passed the fourth semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed Lower semester examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

11.4 A candidate who passes the semester examinations in parts is eligible for only Class / CGPA and Alpha-Sign Grade but not for ranking.

11.5 There shall be no minimum in respect of internal assessment.

11.6 A Candidate who fails in any of the unit / project work / Project Report / dissertation / viva-voce shall reappear in that unit / project work / Project Report / dissertation / viva-voce and pass the examination subsequently.

12. CARRY OVER PROVISION

Candidates who fail the lower semester examinations may take higher semester examinations.

13. PROJECT WORK

Each candidate should undertake a Project work immediately after the second semester examination and submit a bound copy of the report within two weeks of commencement of III Semester. This project, under the guidance of a faculty of the institution, has to be on a live management problem/issue concerning either an organization or otherwise. The purpose of the project is to develop larger life skills and positive attitude among students who have to have wider perspective on society/organization. This could involve a desk study/data analysis/ extension work or exploration of an idea or its implementation. In other words, a Management student is expected to enrich with competency/skills/attitudes and perspectives about live society and organization.

The duration of the project is four weeks after the completion of II Semester and before the commencement of III Semester. There will be 25 marks for project report and 25 marks for viva voce. A minimum of 25 marks out of 50 is required for a pass in the project work. The viva and the project report will be evaluated by a member of the panel of examiners and the concerned faculty guide. Specific guidelines will be issued by PG Department of Management from time to time.

14. DISSERTATION

Every student is required to work on a project in the area of his/her specialization and prepare a dissertation report under the supervision of a Faculty guide. Prior to the actual work, the students are required to submit a synopsis of the dissertation incorporating the statement of problem, objectives and methodology to be followed and submit the same to the Director, Management Studies, BUB. The dissertation has to be organization specific but not a macro study or freelance.

The dissertation duly signed by the guide and certified by the principal/director is to be submitted in a bound copy and a soft copy to the university at the end of the fourth semester before the commencement of the semester examination. The dissertation shall be evaluated for two hundred marks by two examiners (One of them will be the faculty member who has guided the work and other will be the external examiner appointed by the BOE). A minimum of 100 marks is required for a pass in the dissertation. There shall be a viva-voce examination for 50 marks on the dissertation. Viva-voce will be conducted by Board of Examiners/examiners authorized by Chairman of BOE. A minimum of 25 marks is a must for pass in the viva-voce examination. Student has to work for not less than 45 days on full time basis on the Dissertation. There will be no classes during this period. Detailed guidelines will be issued by PG Department from time to time.

15. CLASSIFICATION OF SUCCESSFUL CANDIDATES: SEMESTER WISE

EIGHT POINT ALPHA – SIGN GRADING SCALE

GRADE POINT AVERAGE	<4	4-<5	5-<5.5	5.5-<6	6-<7	7-<8	8-<9	9-10
ALPHA-SIGN GRADE	D	C	B	B+	A	A+	A++	O

The Grade Point Average (GPA) in a Semester and the Cumulative Grade Point Average (CGPA) at the end of fourth semester shall be computed as follows:

16.1 COMPUTATION OF GRADE POINT AVERAGE (GPA):

The grade points (GP) in a course shall be assigned based on the basis of actual marks scored in that course as per the table below. They shall be generally percentages divided by 10. The Grade Point Weights (GPW) shall then be calculated as the product of the grade points earned in the course and the credits for the course. The total GPW for a semester is obtained by adding the GPW of all the courses of the semester.

ILLUSTRATION 1 (26 CREDITS)

PAPERS	P1	P2	P3	P4	P5	P6	P7	**TOTAL**
MAX. MARKS	100	100	100	100	100	100	100	**700**
% MARKS OBTAINED	77	73	58	76	64	66	82	**496**
GRADE POINTS EARNED (G.P.)	7.7	7.3	5.8	7.6	6.4	6.6	8.2	-
CREDITS FOR THE COURSE (C)	4	4	4	4	4	4	2	**26**
TOTAL GPW = GP X C	30.8	29.2	23.2	30.4	25.6	26.4	16.4	**182**

Semester Aggregate Marks : **496 / 700 = 70.86%**

Classification of Result**: First Class with Distinction**

The GPA shall then be computed by dividing the total GPW of all the courses of study by the total credits for the semester, GPA = Total GPW / Total Credits = 182 / 26 **= 7.0**

Semester Alpha Sign Grade: **A+**

ILLUSTRATION 2 (24 CREDITS)

PAPERS	P1	P2	P3	P4	P5	P6	**TOTAL**
MAX. MARKS	100	100	100	100	100	100	**600**
% MARKS OBTAINED	67	73	78	76	84	88	**466**
GRADE POINTS EARNED (G.P.)	6.7	7.3	7.8	7.6	8.4	8.8	**-**
CREDITS FOR THE PAPER	4	4	4	4	4	4	**24**
TOTAL GPW = GP X C	26.8	29.2	31.2	30.4	33.6	35.2	**186.4**

Semester Aggregate Marks: **466 / 600 = 77.67%**

Classification of Result**: First Class with Distinction**

GPA = Total GPW / Total Credits = 186.4 / 24 **= 7.77**

Semester Alpha Sign Grade: **A++**

16.2 CALCULATION OF CUMULATIVE GRADE POINT AVERAGE (CGPA)

The Cumulative Grade Point Average (CGPA) at the end of the fourth semester shall be calculated as the weighted average of the semester GPW. The CGPA is obtained by dividing the total of GPW of all the four semesters by the total credits for the programme.

ILLUSTRATION 3

SEMESTER	**I**	**II**	**III**	**IV**	**TOTAL**
TOTAL MARKS PER SEMESTER	700	700	600	600	2600
TOTAL MARKS SECURED	496	560	466	510	2032
SEMESTER ALPHA SIGN GRADE	A+	A++	A+	A++	-
SEMESTER GPA	7.0	8.0	7.77	8.5	-
SEMESTER CREDITS	26	26	24	24	100
SEMESTER GPW	182	208	186.5	204	822.9

Aggregate Percentage of Marks = 2032 / 2600 = 78.15 **%**

Classification of Result**: *First Class with Distinction***

Cumulative Grade Point Average (CGPA)

= Total of Semester GPW / Total Credits for the programme =

780.5 /100 **= 7.805**

Programme Alpha Sign Grade: **A++**

These are the sample illustrations of computing semester grade point averages and cumulative grade point average and the alpha – sign grades assigned.

17. PATTERN OF QUESTION PAPER

The pattern will be decided by the Board of Studies from time to time. The Post Graduate Department of Management of Bangalore University will communicate all affiliated colleges about the pattern as well as the changes therein.

18. OPEN ELECTIVE

One course is offered as open elective during the III semester of MBA Programme. Details of this course will be decided by the Board of Studies.

19. SPECIALIZATION STREAMS

The students have choice to go in for either dual specialization or single specialization depending upon their interest. In case of dual specialization, the students could opt for any two out of the specializations streams offered by Bangalore University. In each of the two specializations, the student has to choose for not less than 12 credits of elective papers under their respective specialization streams offered during III and IV Semester of MBA. In other words, the students have to opt for minimum of 12 out of 24 credits in any of the specialization stream during III and IV semesters.

In case the students choose to pursue a single specialization, then the student has to obtain 24 credits under the concerned specialization stream. In case of dual and single specialization, the statement of marks as well as degree certificate will display the specialization stream/s pursued by the student as per the regulations provided as above.

Each institution could decide about the minimum numbers of students required to offer any specialization. In any case, there must be a minimum of 10 students and the college could offer by fixing the minimum number either 10 or above depending upon the needs of the students and the availability of faculty. The Board of Studies of Management could explore collaborations and partnership either with associations, industry body, individual companies and other enterprises for the purposes of curriculum design, delivery, faculty development, publication of study material and case studies and placements. The BOS is also authorized to make necessary changes in the specialization streams as well as electives offered under the specialization streams

20. FOUNDATION COURSES AND ADD ON COURSES

The foundation courses to be designed and delivered by the institutions to their students enrolled under the present MBA Programme will be decided by the Board of Studies from time to time. In case of add on courses also, the Board of Studies could decide on the type and nature of the courses as well as the possible collaborations and partnership with various bodies. It is recommended that each college organize one week to ten days of induction programme for the student of I semester before the commencement of classes. Similar induction could be planned at the time of the commencement of III Semester of MBA also.

21. COURSE MATRIX

SUBJECTS	PAPER	INSTRUCTION HRS/WEEK	DURATION OF EXAM(HRS)	MARKS			CREDITS
				IA	EXAM	TOTAL	
A) I SEMESTER							
CORE SUBJECTS: 1.1 ECONOMICS FOR MANAGERS 1.2 ORGANIZATIONAL BEHAVIOUR 1.3 ACCOUNTING FOR MANAGERS 1.4 STATISTICS FOR MANAGEMENT 1.5 MARKETING FOR CUSTOMER VALUE 1.6 BUSINESS AND INDUSTRY	6T	6X4	6X3	6X30	6X70	6X100	6X4
SOFT CORE: 1.7 COMMUNICATION SKILLS	1T	1X2	1X3	1X30	1X70	1X100	1X2
						TOTAL CREDITS	**26**

SUBJECTS	PAPER	INSTRUCTION HRS/WEEK	DURATION OF EXAM(HRS)	MARKS			CREDITS
				IA	EXAM	TOTAL	
B) II SEMESTER							
CORE SUBJECTS: 2.1 TECHNOLOGY FOR MANAGEMENT 2.2 MANAGERIAL RESEARCH METHODS 2.3 ENTREPRENEURSHIP AND ETHICS 2.4 HUMAN CAPITAL MANAGEMENT 2.5 FINANCIAL MANAGEMENT 2.6 QUANTITATIVE TECHNIQUES AND OPERATIONS RESEARCH	6T	6X4	6X3	6X30	6X70	6X100	6X4
SOFT CORE: 2.7 INNOVATION MANAGEMENT	1T	1X2	1X3	1X30	1X70	1X100	1X2
						TOTAL CREDITS	**26**

SUBJECTS	PAPER	INSTRUCTION HRS/WEEK	DURATION OF EXAM(HRS)	MARKS			CREDITS
				IA	EXAM	TOTAL	
C) III SEMESTER							
CORE SUBJECTS: 3.1 STRATEGIC MANAGEMENT & CORPORATE GOVERNANCE 3.2 PROJECTS AND OPERATIONS MANAGEMENT **ELECTIVE SUBJECTS** 3.3 FINANCE 3.4 MARKETING 3.5 HUMAN RESOURCES 3.6 HEALTH CARE MANAGEMENT 3.7 BANKING FINANCE AND INSURANCE SERVICES MANAGEMENT (BFIS) 3.8 STARTUPS AND SMES MANAGEMENT *THREE ELECTIVES IN SPECIALIZATION STREAMS*	5T	5X4	5X3	5X30	5X70	5X100	5X4
3.9 OPEN ELECTIVE:	1T	1X3	1X3	1X30	1X70	1X100	1X3
3.10 PROJECT WORK FOR 4 WEEKS				1X50	-	1X50	1X3
						TOTAL CREDITS	**26**

SUBJECTS	PAPER	INSTRUCTION HRS/WEEK	DURATION OF EXAM(HRS)	MARKS			CREDITS
				IA	EXAM	TOTAL	
D) IV SEMESTER							
CORE SUBJECT: 4.1 INTERNATIONAL BUSINESS DYNAMICS **ELECTIVE SUBJECTS** 4.2 FINANCE 4.3 MARKETING 4.4 HUMAN RESOURCES 4.5 HEALTH CARE MANAGEMENT 4.6 BANKING FINANCE AND INSURANCE SERVICES MANAGEMENT (BFIS) 4.7 STARTUPS AND SMES MANAGEMENT *THREE ELECTIVES IN SPECIALIZATION STREAMS*	4T	4X4	4X3	4X30	4X70	4X100	4X4
4.8 DISSERTATION FOR 6 WEEKS	-	4	REPORT EVALUATION VIVA	1X50	1X200	1X250	1X8 1X2
						TOTAL CREDITS	**26**
						PROGRAM GRAND TOTAL OF CREDITS	**104**

ELECTIVES UNDER SPECIALIZATION STREAMS

III SEMESTER	IV SEMESTER
3.3 FINANCE	**4.2 FINANCE**
3.3.1 INDIAN FINANCIAL SYSTEM 3.3.2 CORPORATE TAX PLANNING AND MANAGEMENT 3.3.3 CORPORATE VALUATION AND RESTRUCTURING	4.2.1 INVESTMENT ANALYSIS AND MANAGEMENT 4.2.2 INTERNATIONAL FINANCIAL MANAGEMENT 4.2.3 RISK MANAGEMENT AND DERIVATIVES
3.4 MARKETING	**4.3 MARKETING**
3.4.1 RETAILING MANAGEMENT AND SERVICES 3.4.2 CONSUMER BEHAVIOR 3.4.3 RURAL AND AGRICULTURAL MARKETING	4.3.1 STRATEGIC BRAND MANAGEMENT 4.3.2 INTERNATIONAL MARKETING STRATEGY 4.3.3 DIGITAL MARKETING
3.5 HUMAN RESOURCES	**4.4 HUMAN RESOURCES**
3.5.1 LEARNING AND DEVELOPMENT 3.5.2 INDUSTRIAL AND EMPLOYEE RELATIONS 3.5.3 PERFORMANCE MANAGEMENT SYSTEM	4.4.1 STRATEGIC HRM 4.4.2 INTERNATIONAL HRM 4.4.3 TALENT AND KNOWLEDGE MANAGEMENT
3.6 HEALTH CARE MANAGEMENT	**4.5 HEALTH CARE MANAGEMENT**
3.6.1 PERSPECTIVES ON HEALTH CARE SECTOR 3.6.2 MANAGEMENT OF PUBLIC HEALTH SYSTEMS 3.6.3 HEALTH ECONOMICS	4.5.1 BASIC MANAGEMENT ASPECTS OF HEALTH CARE 4.5.2 STRATEGIC MANAGEMENT IN HEALTH CARE SETTINGS 4.5.3 MANAGEMENT OF HOSPITAL SERVICES
3.7. BANKING FINANCE AND INSURANCE SERVICES MANAGEMENT (BFIS)	**4.6 BANKING FINANCE AND INSURANCE SERVICES MANAGEMENT (BFIS)**
3.7.1 STRATEGIC CREDIT MANAGEMENT IN BANKS 3.7.2 INSURANCE PLANNING & MANAGEMENT 3.7.3 INDIAN FINANCIAL SYSTEM	4.6.1 BANKING TECHNOLOGY AND MANAGEMENT 4.6.2 INTERNATIONAL FINANCIAL MANAGEMENT 4.6.3 RISK MANAGEMENT FOR BANKS AND INSURANCE COMPANIES
3.8 STARTUPS AND SMES MANAGEMENT	**4.7 STARTUPS AND SMES MANAGEMENT**
3.8.1 PERSPECTIVES ON STARTUPS AND SME 3.8.2 BASIC MANAGEMENT ASPECTS OF SMALL BUSINESS 3.8.3 ESTABLISHMENT OF SMES	4.7.1 TECHNOLOGY AND INNOVATION 4.7.2 INTERNATIONALIZATION OF SMES 4.7.3 MANAGEMENT OF STARTUPS

MASTER OF BUSINESS ADMINISTRATION [DAY]
UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)

(2014 - 2015 ONWARDS)

COURSE CONTENT OF FIRST SEMESTER

CANARA BANK SCHOOL OF MANAGEMENT STUDIES,

BANGALORE UNIVERSITY, BANGALORE

COURSE MATRIX

FIRST SEMESTER

PAPER	SUBJECT
1.1	Economics for Managers
1.2	Organizational Behavior
1.3	Accounting for Managers
1.4	Statistics for Management
1.5	Marketing for Customer Value
1.6	Business and Industry
1.7	Communication Skills

1.1 ECONOMICS FOR MANAGERS

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

This course is designed to impart knowledge of the concepts and principles of Economics, which govern the functioning of a firm/organization under different market conditions. It further aims at enhancing the understanding capabilities of students about macro–economic principles and decision making by business and government.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To make the students aware of the various economic theories and principles
- To equip them with the required tools and techniques for improving their decision-making skills.

OUTCOMES

- The student must have micro and macro-economic perspective to understand the under pinning of management.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE: INTRODUCTION TO MANAGERIAL ECONOMICS **8 HOURS**

Introduction to Economics, Kinds of Economic Decisions, Significance and applicability of Managerial Economics in decision making, Role and responsibilities of Managerial

Economics, Economic principles relevant to managerial decision making, Opportunity cost, Production possibility curve, Concept of increments and Margin, Discounting principle, Theory of firm.

2

MODULE TWO: DEMAND ANALYSIS AND CONSUMER BEHAVIOR **10 HOURS**

Demand theory and analysis, Elasticity of Demand and its role in Managerial decision making, Demand forecasting, Techniques of Demand forecasting,

Consumers Equilibrium, Cardinal utility approach, Indifference curve approach, Theory of revealed preference, Consumer surplus

3

MODULE THREE: THEORY OF PRODUCTION AND ANALYSIS OF COST **10 HOURS**

Laws of variable proportions and Return to scale, Economies of scale, Isoquants and Isocost, Optimum combination of inputs, Elasticity of substitutions; Cost concepts: Kind of costs, Short run and long run cost functions, Interrelationship of cost, Cost reduction and cost control.

4

MODULE FOUR: DETERMINATION OF PRICE AND OUTPUT **10 HOURS**

Concept of Market equilibrium and Revenue curves, Characteristics of different market structures, Price determination and firms equilibrium under perfect competition, monopolistic competition, oligopoly and monopoly, Price discrimination, International price discrimination and dumping, Pricing methods

5

MODULE FIVE: FACTOR MARKET AND FACTOR PRICING **8 HOURS**

Theories of factor pricing: wages and rent, Theories of interest and investment decisions, Profit and profit functions.

6

MODULE SIX: MACROECONOMIC ANALYSIS AND POLICY **10 HOURS**

National Income: Concept and measurement, Circular flow of economic activities, Keynesian analysis: Keynesian theory of employment, consumption function, investment function, multiplier, relevance of Keynesian economics in underdeveloped countries, Business cycle, Money supply and Inflation.

5. PEDAGOGY

Case studies to testify the complexity of economic theory as applicable to real life and to provide enhanced insight to comprehend the economics concepts illustrated in each chapter.

6. TEACHING AND LEARNING RESOURCES

a) www.bibilomania.com/nonfiction/smith/wealth/index.html
b) www.planningcommission.gov.in/
c) www.wsj.com
d) www.netec.wustl.edu/WebEc/WebEc.html
e) www.nber.org
f) www.economist.com
g) www.slate.com
h) Economic and Political weekly, Mumbai, Economic & Political Weekly Research Foundation
i) Indian Economic review, Delhi school of Economics
j) Indian Economic Journal, Indian Economic Association.

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Dwivedi D.N, “Managerial Economics”, Vikas Publication
2. PindyckRubinfeld& Mehta, “Micro Economics”, Pearson

REFERENCES

1. RitikaSinha : Managerial Economics, SBPD Publishing House
2. Damodaran Suma: Managerial Economics, Oxford University Press
3. Petersen Lewis & Jain: Managerial Economics, Pearson
4. Paul A Samuelson and William D Nordhaus : Economics, McGraw Hill
5. Geethika, Ghosh&Choudary : Managerial Economics, McGraw Hill

1.2 ORGANIZATIONAL BEHAVIOUR

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Management deals with individuals in the organizational context. People have diversified personalities, attitudes, perceptions and behaviours. After their entry, they cannot remain as individuals. But, organizations have their own culture, leadership and conflicts. It is this subject which blends incompatible ones into a whole. Understanding the individual and organizational behaviours would go a long way in bringing about this perspective.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enhance the understanding of the dynamics of interactions between individual and the organization.
- To facilitate a clear perspective to diagnose and effectively handle human behavior issues in Organizations.
- To develop greater insight into their own behavior in interpersonal and group, team, situations.

OUTCOMES

- The degree to which one can make an individual to think beyond self is the real outcome of the course.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE ONE**	**6 HOURS**
	The meaning of OB, Why study organizational behaviour, Organizationalbehaviour models, Benefits of studying OB, Inter- disciplinary subject.	
2	**MODULE TWO**	**12 HOURS**
	Personality, Shaping of personality, Determinants of personality, Types of personalities, Personality and work,Self-concept, self-esteem and self-efficiency, Perception, perceptual process, Managing the perceptual process; Learning process, Reward systems and behavioral management, Theoretical process of learning, Principles of learning, Reward and punishment, Organizational reward system Attitude formation, Functions, Change of attitude, Types of attitudes, Values	
3	**MODULE THREE**	**19 HOURS**
	Management of motivation: Motivation in work settings, Managerial issues and challenges. Theories, Maslow's need theory, McGregor theory XY, Herzberg's Motivation Hygiene theory,Vroom's Valence and Instrumentality Team building and group dynamics,Working teams and team effectiveness, Intra team dynamics, Influence of the group on individual, Group decision making, Inter group relations, Collaboration and conflict, Conflict management Dynamics of managerial leadership, What is leadership, Transition in leadership theories, Leadership theories, Power and politics, Leadership and managerial change.	

4	**MODULE FOUR**	**8 HOURS**
	Conflict, Intra,interpersonal, intergroup conflicts and their resolution, Transactional analysis, Johari window	
5	**MODULE FIVE**	**5 HOURS**
	Culture, Types of culture in the organization, Culture, Discipline, Organizational effectiveness	
6	**MODULE SIX**	**6 HOURS**
	Change and organizational development, Meaning of change, Stages of change, Why do people resist change, Overcoming resistance to change, Meaning of OD and methods of OD	

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, role plays, experiences, exercises, instruments, videos and films

6. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Fred Luthans, "Organizational Behaviour", 12th Edition, McGraw Hill International Edition
2. Stephen P. Robbins, "Organizational Behaviour", 12th Edition, Prentice Hall
3. Aswathappa K, "Organizational Behaviour (Text, Cases and Games)", Himalaya Publication

REFERENCES

1. Gregory Moorhead & Ricky W. Griffin, “Organizational Behaviour, Managing people and organizations”, 3rd edition, Jaico
2. Jerald Greenberg, “Behavior in Organizations”, Tenth edition,Prentice Hall
3. Robert Krietner&AngeloKinicki, “Organizational Behaviour”, Eighth edition, Tata McGraw Hill
4. John M Ivancevich, Robert Konopaske, Michael T Matteson, “Organizational Behaviour and Management”, 7th edition, Tata McGraw Hill
5. PG Aquinas, “Organizational Behaviour: concepts, realities, application and challenges”, First edition, Excel
6. Jason A. Colquitt, Jeffery A. LePine& Michael J Wesson, “Organizational Behavior”, McGraw Hill
7. UdaiPareek, “Organizational Behavior”, Oxford University Press

1.3 ACCOUNTING FOR MANAGERS

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2 PERSPECTIVE OF THE COURSE

Decision making is the core function of a manager. A potential manager must be exposed to the skill of sourcing information and make timely and apt decisions. One document that provides ample information for many decisions is 'Annual Report'. The Annual report, a report prepared by the Management of the company to its owners (the shareholders) informing them about the performance of the company over the preceding financial year, the reasons and analysis for performance, gives adequate information for both insiders of the company and outside stakeholders. However, the big challenge is how to read and understand the report and how to elicit information for making decisions. This course captures the fundamental aspects of financial statements, its analysis and interpretation and techniques for managing cost.

3 COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enable the students gain knowledge about concepts, principles and techniques of accounting
- To enable the students use financial and cost data in planning, decision making and control

OUTCOMES

- Financial statements – concepts, conventions and standards that influence preparation of financial statements
- Identifying problem areas in business through various techniques of financial statement analysis
- Managing cost – that is, controlling and reducing cost
- Recent developments in Accounting and its relevance

4 COURSE CONTENT AND STRUCTURE

1	**MODULE ONE: CONCEPTUAL BASIS FOR ACCOUNTS**	**6 HOURS**
	Introduction, Meaning and definition, understanding forms of Business Organizations, Basic framework of Accounting, objectives and purpose of Accounting information, users of Accounting information, Branches of Accounting, Basic terminology, Fraud and Ethical Issues in accounting.	
2	**MODULE TWO: ORIENTATION TO FINANCIAL STATEMENTS**	**8 HOURS**
	Income statement, Balance sheet and notes to accounts – Terms and Jargons in financial statements, Accounting concepts and conventions and GAAP.	
3	**MODULE THREE: MEASURING AND REPORTING ASSETS, LIABILITIES AND EQUITY**	**8 HOURS**
	Current Assets, Inventory valuation, Cost formulas (AS-2) Fixed Assets Cost of Acquisition (AS-10), Depreciation methods (AS-6), Liabilities and its classification.	
4	**MODULEFOUR: ANALYZING AND INTERPRETING FINANCIAL STATEMENTS**	**14 HOURS**
	Objectives of financial statements analysis, sources of information, standards of comparison, Quality of earnings, window dressing, Beating window dressing, Techniques of financial statement analysis, Analyzing financial statements using Ratio Analysis and Du-Pont Model and Cash flow statement, understanding annual reports and earnings releases.	
5	**MODULE FIVE: ORIENTATION TO COST ACCOUNTING**	**12 HOURS**
	Meaning of Costs, Classification of Costs- mainly based on elements, functions and behavior. Cost Management – Techniques for controlling and reducing cost – Marginal Costing, Cost-volume-profit analysis, Budgetary Control.	

6	**MODULE SIX: CONTEMPORARY ISSUES IN ACCOUNTING**	**8 HOURS**
	IFRS, Human Resource Accounting, Forensic Accounting, Environmental Reporting, Corporate Social Reporting, Target Costing, Life Cycle Costing.	

5 PEDAGOGY

a) Lectures.

b) Demonstrations.

c) Practical Exercises – Individual and Group

d) Case Studies.

6 TEACHING AND LEARNING RESOURCES

a. www.icai.org/students/Bos-knowledge-portal.

b. www.icmai.in

c. Journal of Accounting

d. Indian Journal of Accounting

e. The Chartered Accountant.

7 RECOMMENDED READINGS

ESSENTIAL READINGS

1. Narayanaswamy R, Financial Accounting- A managerial perspective, PHI Learning Pvt Ltd 2014.
2. Gupta, Ambrish, “Financial Accounting for Management – An Analytical Perspective”; Pearson Publications
3. Ramachandran and Kakani- Financial Accounting for Management, Tata McGraw Hill.
4. Vijaykumar M P., “First Lessons in Financial Reporting”, Snow White Publications
5. Chandra, Prasanna, “Finance Sense – Finance for Non-finance Executives”, Tata McGraw Hill
6. Agarwal, V. Rakesh, “Systematic Approach to Cost Accounting”, Bharat Publications

REFERENCES

1. Tulsian and Tulsian, “ Financial Reporting”, S.Chand
2. Kishore, M. Ravi, “Advanced Cost Accounting and Cost systems”, Taxmann Publications
3. Ramachandran, and Kakani, “How to Analyze Financial Statements”, Tata McGraw Hill
4. Palat, Raghu, “How to Read Annual Reports and Balance Sheets”, JAICO Publishing House
5. Dash A.P., “Financial Wisdom – Finance for Non-Finance Executives”, Biztantra

1.4 STATISTICS FOR MANAGEMENT

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Statistics education research over the last decade has pointed out the development of statistical literacy and interpretive skills as a universally recognized goal of instruction (Rumsey, 2002; delMas, 2002). Chance (1997) argued that as instructional goals in statistics courses change emphasizing statistical literacy skills over procedural calculations, there is need for instructors to accompany these new goals with more authentic assessment techniques to evaluate progress towards these goals. This course is designed to adopt Gal's conception of adult statistical literacy as "the ability to interpret, critically evaluate, and communicate about statistical information and messages" (Gal, 2002).

Gal's statistical literacy model comprises two broad interrelated components; namely: (1) knowledge component which consists of five cognitive elements: literacy skills, statistical knowledge, mathematical knowledge, context knowledge, and critical questions; and (2) dispositional component which consists of three related but distinct concepts; namely: critical stance, beliefs and attitudes.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To elevate students' awareness of data in everyday life and prepare them for a career in today's age of information.
- To impart to students, an assured level of competence, or understanding, of the basic ideas, terms, and language of statistics.
- To develop statistical literacy skills in students in order to comprehend and practice statistical ideas at many different levels.

- To promote the practice of the scientific method in our students: the ability to identify questions, collect evidence (data), discover and apply tools to interpret the data, and communicate and exchange results.

OUTCOMES

- At the end of this course, students will achieve statistical literacy and will be able to find ways to move beyond the-what of statistics to the how and why of statistics.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE **8 HOURS**

Role of statistics: Applications of statistics in managerial decision-making; Phases of a statistical study, Presentation of data to convey meaning - Tables, Graphs and Frequency Distribution

Measures of central tendency: Mean, Median and Mode and their implications, Measures of Dispersion: Range, Mean deviation, Standard deviation, Coefficient of Variation, Skewness, Kurtosis

2

MODULE TWO **12 HOURS**

Time series analysis: Concept, Additive and Multiplicative models, Components of time series. Trend analysis: Least Square method, Linear and Non- Linear equations, Exponential shooting method, Applications in business decision-making.

Index Numbers: Meaning, Types of index numbers, Uses of index numbers, Construction of Price, Quantity and Volume indices, Fixed base and Chain base methods

Correlation: Meaning and types of correlation, Karl Pearson and Spearman rank correlation.

Regression: Meaning, Regression equations and their application

3

MODULE THREE **10 HOURS**

Probability: Concept of probability and its uses in business decision-making; Addition and multiplication theorems; Bayes'Theorem and its applications.

Probability Theoretical Distributions: Concept and application of Binomial; Poisson and Normal distributions

4

MODULE FOUR **8 HOURS**

Introduction to sampling distributions, Sampling distribution of mean and proportion, Sampling techniques

Estimation: Point and Interval estimates for population parameters of large sample and small samples, Determining the sample size.

5

MODULE FIVE **8 HOURS**

Estimation Theory and Hypothesis Testing: Sampling theory; Formulation of Hypotheses; Application of Z-test, t-test, F-test and Chi-Square test

Techniques of association of Attributes & Testing

ANOVA one and two way, Design of experiments

6

MODULE SIX **10 HOURS**

Chi-square test for single sample standard deviation, Chi-square tests for independence of attributes and goodness of fit, Sign test for paired data, Rank sum test

Kolmogorov-Smirnov, Test for goodness of fit, comparing two populations

Mann – Whitney U test and Kruskal Wallis test, One sample run test, rank correlation

Decision Theory – Decision under certainty, Decision making under risk (EMV criteria) and Decision making under uncertainty.

5. PEDAGOGY

Irrespective of where anindividual is involved in the chain of statistical information, there is a necessity for a rudimentary understanding of the concepts and language, a level of reasoning- the abilities to question, compare, and explain and a level of statistical thinking- applying the ideas to new problems and identifying new questions. Towards this end, case studies will be extracted from Newspapers and Magazines regarding daily life and explored. These case studies will be in addition to the actual teaching hours expended in imparting statistical methods.

6. TEACHING AND LEARNING RESOURCES

a) www.socr.ucla.edu/

b) www.ats.ucla.edu/stat/seminars/statteach/sites.htm

c) www.statsci.org/teaching.html

d) www.onlinestatbook.com/2/chi_square/Chi_Square.html

e) Any Online Newspapers, Journals and Magazines.

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. T N Srivastava, Shailaja Rego, Statistics for Management, Tata McGrawhill, Latest edition.
2. S P Gupta, Statistical Methods, Sultan Chand & Sons, Latest edn.
3. Glynn Davis and BrankoPecar, Business Statistics using Excel. Oxford University press, 2010
4. J. K. Sharma, Fundamentals of Business Statistics, 2nd Edition, Vikas Publication, 2014.

REFERENCE

1. SC Gupta, Fundamentals of Statistics, Himalaya Publications.2013.
2. N.D. Vohra, Business Statistics, Tata McGrawHill, 2013

1.5 MARKETING FOR CUSTOMER VALUE

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

This paper introduces students to the crucial role that marketing plays in business development. Marketing is an important function that brings companies and clients closer together. It is the application, tracking and review of a Company's marketing resources and activities. Establishing a marketing orientated organization with the emphasis on the customer is a core component in an organization's success. Students will obtain good knowledge and understanding of the key principles of marketing and will be able to relate what they learn in this paper to situations in their workplace.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To elevate students' awareness of an organization's resources required for Marketing in today's age of information
- To develop marketing skills
- To understand the requirements of a career in marketing

OUTCOMES

- The scope of a business' marketing management depends on the size of the business and the industry in which the business operates. Students will be able to use a company's resources to increase its customer base, improve customer opinions of the company's products and services, and increase the company's perceived value.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE ONE:ESSENTIALS OF MARKETING**	**8 HOURS**
	Importance of marketing, Core marketing concepts, Company orientation towards market place, Marketing management tasks, Marketing strategies and plans, SWOT analysis, Marketing environment, Competitive dynamics	
2	**MODULE TWO: CREATING/CHOOSING CUSTOMER VALUE**	**8 HOURS**
	Customer value, satisfaction and loyalty, Customer relationships, Life time value of customers, Customer databases, Buying decision process, Market segments and targets, Product life cycle strategies, Brand positioning, Brand equity	
3	**MODULE THREE: DESIGNING CUSTOMER VALUE**	**10 HOURS**
	Characteristics and classifications of products, Product and service differentiation, Product mix, hierarchy, line etc, Nature and characteristics of services, Excellence in services Pricing strategies: Pricing environment, Steps in price setting, Methods of pricing, Initiating and responding to price changes.	
4	**MODULE FOUR: DELIVERING CUSTOMER VALUE**	**10 HOURS**
	Marketing channels and value networks, Decisions on design and management of channels, Channel conflict and competition, Channel integration, E-Commerce marketing practices, New retail environment, Market logistics, Supply chain management	

5 **MODULE FIVE: COMMUNICATING CUSTOMER VALUE** **12 HOURS**

Role of Integrated marketing communications, Steps in designing effective communications, Communication mix, Managing mass communications like advertizing, sales promotion, events and experiences, public relations etc; Managing personal communications like direct marketing, interactive marketing, Email, SMS, Social media, sales force etc

6 **MODULE SIX: SUSTAINING GROWTH AND CUSTOMER VALUE** **8 HOURS**

New product development strategy, Steps in new product development

Managing holistic marketing organization: Internal marketing, CSR, Cause related and socially responsible marketing, Marketing control

5. PEDAGOGY

Irrespective of where an individual is involved in the course of business, there is a necessity for a rudimentary comprehension of the concepts and language of marketing. Students need to understand marketing situations and strategize towards these states. Towards this end, case studies will be extracted from Newspapers and Magazines regarding daily life and explored.

6. TEACHING AND LEARNING RESOURCES

a. www.mplans.com

b. www.marketingtoday.com

c. www.**indianjournal**of**marketing**.com

d. www.**indianjournal**ofmanagement.com

e. Journal of Marketing

f. Marketing Education Review

g. Journal of Consumer Marketing

h. Journal of Marketing Education

i. Journal of the Academy of Marketing Science

These case studies will be in addition to the actual teaching hours expended in imparting Marketing Management theory.

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Philip Kotler, Kevin Lane Keller, Abraham Koshy and MithileshwarJha, Marketing Management. Pearson Education, Latest edition.
2. Etzel, Walker, Stanton & Pandit, Marketing, Tata McGrawhill, Latest edition.

REFERENCES

1. Ramaswamy and Namakumari, " Marketing Management, Global Perspective, Indian context", McGraw Hill, Fifth edition, 2013
2. Paul Baines, Chris Hill and Kelly Page, Marketing Management, Adapted by PiyushSinha, Asian Edition, Oxford University Press.
3. Lambhair Sharma, McDaniel, Marketing Management. Cengage Learning Pvt. Ltd., 2012.
4. William D Perreault and Jerome McCarthy, " Basic Marketing: A Global Managerial Approach", Tata McGraw Hill, 2006
5. Adrian Palmer, Introduction to Marketing, Oxford

1.6 BUSINESS AND INDUSTRY

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE

Students are pursuing the management courses in the context of the world of business and industry. Such perspective during the course itself gives them an edge over others who graspsubsequent to their becoming insiders of organizations. Hence, this understanding must cover not only the Indian economy but Indian business/industry also. An overview of the context in which one is operating is essential. An attempt is made to give a feel and insight into the world of business and industry in India in particular and Indian economy in general.

3. OBJECTIVES AND OUTCOMES

This course aims at

- To enumerate the fundamentals of Indian economy, business and industry
- To study the present status of Business & Industryin India
- To get a glimpse of future challenges

The outcome of this course is the level ofunderstanding of the dynamics of business and industry by students.

4. COURSE CONTENT AND STRUCTURE

The course has been divided in to six modules to cover the several dimensions of Business and Industry and various aspects of environment in which they operate.

1

MODULE ONE: AN OVERVIEW OF INDIAN ECONOMY 6 HOURS

The structure of Indian Economy, Pillars of Economic Development, Role and contribution of Agriculture, Industry and Services; Performance, recent trends and future scenario of these sectors in Indian Economy. *(Relevant and latest data have to be used extensively wherever necessary)*

2

MODULE TWO: ESSENTIALS OF BUSINESS & INDUSTRY 10 HOURS

Meaning, nature, role and importance of business and industry, Functions and processes,Internal and external influences, Different forms of enterprises, Interaction and linkages with Government and civil society, Macro environment.

Types of Productive Systems, The Manorial or Feudal system, The Guild system, Characteristics of The domestic/putting-out/outsourcing systems, and the Factory system, Causes and Consequences of industrialization, The IT system of industrialisation-services, enabled services, linkage with Manufacturing & Agriculture

3

MODULE THREE: EVOLUTION OF BUSINESS & INDUSTRY IN INDIA 8 HOURS

Structure of Indian society, Glimpse of economic activity in ancient times, British Raj, Swadeshi movement, Post-Independence scenario, Licence-Permit Raj, LPG era, Economic reforms since 1991, Entrepreneurship Culture in India, Industrial Policy, 2014& Changing economic policy era.

4

MODULE FOUR: STRUCTURE AND STATUS OF BUSINESS & INDUSTRY IN INDIA

15 HOURS

Unregistered firms/Bagedari sector, Start-ups and MSME sector, Large Scale enterprises, Export oriented companies, MNCs in India, Family Business, Industry associations and bodies, Profile of eminent industry persons and houses.

Present status and performance of Agriculture and allied fields like horticulture, food

processing, animal husbandry, fishing, contract farming etc; Industry sectors like textiles, chemicals, sugar, paper, machine tools, auto components, engineering products, pharmaceutical, biotechnology, semiconductor, hardware products, coal, mining, consumer durables, FMCG etc.;Service sectors likeinformation technology, hospitality, tourism,health care, banking, financial services, insurance, tourism, retail etc.

5	**MODULE FIVE: GROWTH OF BUSINESS & INDUSTRY**	**8 HOURS**
	Nature and types of crisis, Physical damage crisis, non-physical damage crisis,Stages of crisis like pre crisis stage, acute crisis, post crisis,consequences of and strategies for managing crisis; Management of human and other resources, changing manpower requirements, Growth dimensions and phases, growth barriers, succession and exit strategies.	
6	**MODULE SIX: INTERFACE WITH VOLUNTARY ORGANIZATIONS**	**8 HOURS**
	Provisions of Companies Act 2013, CSR Rules, 2013;Meaning, characteristics and role of non-governmental organizations (NGOs), Voluntary Organisations (VOs), Non-profit organizations(NPOs),Civil society organizations (CSOs), Types of NGOs by orientation, level of co-operation, scope and coverage, Present status of third sector in India	

5. PEDAGOGY AND CASE STUDIES:

- Lectures
- Case Discussions and Practical Visits to Industry and NGOs
- Assignments and Presentations
- Workshops by Rural and NGO Promoters / Managers / Experts.

6. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Ashwani Mahajan & Gaurav Datt "Datt & Sundharam Indian Economy "S chand 2013, 69th Edition.
2. Nitin Dhingra & Ishwar C Dhingra "Developing New Enterprise" Cosmos Bookhive 2014, 1st edition.
3. Osama Lari "Industrial sociology" Word Press publication, 2010, 1st edition.
4. Uma Kapil, "Indian economy – Performance and Policies" Academic Foundation 2009, 8th edition.
5. Vaidyanathan. R "Reforming the reforms process" Silver jubilee research volume, IIMB India.
6. Harvard Business Essentials, "Crisis Management: Master the Skills to Prevent Disasters" Harvard Business Review Press (20 September 2011).
7. PRIA (2000) "Defining the sector in India –voluntary, civil or non-profit" Working paper 1 New Delhi.
8. Sushilaravindranath "The CII Entrepreneur's Handbook" Westland Ltd, 2010.

REFERENCES

1. Dr. Yogesh M. Kulkarni "Performance of Indian Industrial Sector" Binding: HBR Year: 2011
2. Bachcha & Pathak "industrial policy-India" Deep and Deep publication Pvt ltd, 2007.
3. C. V. Madhavi "Business in Crisis" Create Space Independent Publishing Platform.

7. TEACHING AND LEARNING RESOURCES

1. www.wikipedia.com
2. www.industryreview.com
3. www.bls.gov/opub/mlr/2008/12/art3full.pdf
4. http://en.wikipedia.org/wiki/Putting-out_system
5. http://www.universityofcalicut.info/SDE/BA_sociology_indian_society.pdf
6. http://en.wikipedia.org/wiki/Economic_history_of_India

7. http://orissa.gov.in/emagazine/Orissareview/aug2005/engpdf/the%20swadeshi%20movement.pdf

8. http://zeenews.india.com/business/slideshow/indian-economy-a-journey-of-last-66-years_68.html/10

9. http://business.mapsofindia.com/india-policy/liberalization-privatization-globalization.html

10. http://www.slideshare.net/shahavish/industrial-policy-from-1948-1991

11. http://msme.gov.in/Web/Portal/New-Default.aspx

12. http://www.eximguru.com/exim/eou/ch_1_export_oriented_units_eous_introduction.aspx

13. http://business.mapsofindia.com/india-company/multinational.html

14. http://www.encubeindia.com/downloads/indian_family_businesses.pdf

15. http://nrlp.iwmi.org/PDocs/DReports/Phase_01/04.%20WTO%20and%20agriculture%20-%20RPS%20Malik.pdf

16. http://mospi.nic.in/Mospi_New/upload/SYB2014/CH-9-HORTICULTURE/horticulture.pdf

17. http://www.asa.in/pdfs/surveys-reports/Food-Processing-Sector-in-India.pdf

18. http://pib.nic.in/archieve/others/2012/mar/d2012031308.pdf

19. http://www.slideshare.net/sathishhs7/nature-and-scope-of-contract-farming-in-india

20. http://www.slideshare.net/AnujDiwakar/gptaie

21. http://en.wikipedia.org/wiki/Chemical_industry

22. http://www.in.kpmg.com/pdf/Indian_Sugar_Industry.pdf

23. http://www.yieldopedia.com/paneladmin/reports/07dc15673834d4ced6b89a854c4b2980.pdf

24. http://dhi.nic.in/indian_machine_tools_industry.pdf

25. http://www.tsmg.com/download/article/Overview%20of%20the%20Indian%20Auto%20Component%20industry.pdf

26. http://www.cci.in/pdfs/surveys-reports/Engineering-Sector-in-India.pdf
27. https://www.in.kpmg.com/pdf/Indian%20Pharma%20Outlook.pdf
28. http://www.ebtc.eu/pdf/Indian_Biotechnology_Sector-Overview_VO1.pdf
29. http://www.ibef.org/download/Semiconductor_171109.pdf
30. http://nmcc.nic.in/pdf/ithardware_03july2010.pdf
31. https://www.pwc.in/assets/pdfs/industries/power-mining/icc-coal-report.pdf
32. http://pubs.iied.org/pdfs/G00615.pdf
33. http://www.surechill.com/pdf/India-refrigerator-market.pdf
34. http://www.ibef.org/download/FMCG_060710.pdf
35. http://perso.univ-rennes1.fr/eric.darmon/floss/papers/MATHUR.pdf
36. http://www.ibef.org/industry/tourism-hospitality-india.aspx
37. http://164.100.47.134/intranet/TourismSectrinIndia.pdf
38. http://www.slideshare.net/ankitag9/healthcare-industry-ppt
39. http://www.slideshare.net/verma786786/insurance-sector-ppt
40. http://www.rasci.in/downloads/2012/Retail_Industry_India_2012.pdf
41. http://www.scribd.com/doc/29700613/Crisis-Management-Ppt
42. http://www.tutor2u.net/business/strategy/crisis-management-introduction.html
43. http://www.slideshare.net/BabasabPatil/human-resource-management-ppt
44. http://www.cf-sn.ca/business/business_succession/common_exits.php
45. http://www.nesta.org.uk/sites/default/files/barriers_to_growth_0.pdf
46. http://hbr.org/1998/05/evolution-and-revolution-as-organizations-grow/ar/2
47. https://www.pwc.in/en_IN/in/assets/pdfs/publications/2013/companies-act-2013-Key-highlights-and-analysis.pdf

1.7 COMMUNICATION SKILLS

1. GENERAL INFORMATION

Credits	2
Hours per week	2

2. PERSPECTIVE OF THE COURSE

A fundamental part of a Manager's job is Decision making and Implementation. Initially, he assists in making decision by collecting information, analyzing and preparing a frame work for Decision Making. At a later stage when he reaches positions of higher responsibility, he takes decision and involves in implementation. A sound decision requires critical analysis of the problem, collection of relevant data; develop clear objectives and later workout an action plan. A logical approach and systematic analytical thinking, Reasoning, use of evidences are essential components of sound decisions. Apart from this, he must also have the required skills to present and communicate. One more dimension is inter-personal and group communication including negotiations. Hence, need of the hour is to develop all such skills hands on.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To sharpen the Analytical, Written, non-verbal, Spoken Communication and inter-personal Skills essential in organizations involving Decision making and implementation.
- To demonstrate good team work and negotiation skills

OUTCOMES

- At the end of this course, students will have the clarity about communication skills to be used in organizations.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE ONE: COMMUNICATION IN BUSINESS**	**4 HOURS**
	Importance of Communication, Forms of Communication, Communication Network of the Organization; Process of Communication: Different Stages, Difference between Oral and Written Communication	
2	**MODULE TWO: ORAL COMMUNICATION SKILLS**	**6 HOURS**
	Fundamentals, Barriers and Gateways, Public Speaking, Effective Power point presentation, body language, non-verbal, facial expressions, voice modulation, eye contact, audience research, questions from the audience, communication and emotional intelligence, creativity in oral communication, Communication through Telephonic, video and Skype, Group Discussion.	
3	**MODULE THREE: WRITTEN COMMUNICATION SKILLS**	**8 HOURS**
	Writing an Effective Report: Stages of Writing, Style and Tone; Five Ws and one H of Report Writing, Divisions, Numbering and use of Visual Aids, creativity in written communication, use of picture, diagram in written communication, Writing Commercial Letters, E- Mail Messages, Maintaining a Diary, Job applications & resume writing	
4	**MODULE FOUR: LISTENING SKILLS**	**4 HOURS**
	Importance and need, types, active and empathic listening, listening and judgment, developing skills, listening and understanding, Anatomy of poor Listening, Features of a good Listener	
5	**MODULE FIVE: INTERPERSONAL COMMUNICATIONSKILLS**	**8 HOURS**
	Advantages and disadvantages of utilizing the team work; characteristic features of successful teams; stages of the development of a team; team roles; challenges in team	

working, forms of non-team behaviour.

Conditions of negotiating; strategies of negotiating (win-win, win-loss); participative negotiations; negotiating tactics; cognition and emotions in negotiating; negotiating and ethics

Types and sources of conflicts; the influence of various cultures on the solving of conflicts

5. TEACHING AND LEARNING RESOURCES

a.http://eff.cls.utk.edu/fundamentals/eff_standards.htm

b. http://www.ndted.org/TeachingResources/ClassroomTips/Communication.htm

6. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Monipally MM, Business communication strategies, McGraw Hill
2. Bovee, Till and Schatzman, Business Communication today, Pearson

REFERENCES

1. Scot Ober, Contemporary Business Communication, Biztantra
2. ParagDiwan, Business Communication, Excel Book
3. Lesikar, R.V. &Flatley, M.E, Basic Business Communication Skills for Empowering the Internet Generation. Tata McGraw Hill Publishing Company Ltd
4. Ludlow, R. & Panton, F, The Essence of Effective Communications. Prentice Hall of India Pvt. Ltd
5. Chaturvedi P. D, &MukeshChaturvedi , Business Communication : Concepts, Cases And Applications –2/e, Pearson Education
6. Murphy, *Effective Business Communication,* McGraw-hill

MASTER OF BUSINESS ADMINISTRATION [DAY]
UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)

(2014 - 2015 ONWARDS)

COURSE CONTENTS OF SECOND SEMESTER

CANARA BANK SCHOOL OF MANAGEMENT STUDIES,

BANGALORE UNIVERSITY, BANGALORE

COURSE MATRIX

SECOND SEMESTER

PAPER	SUBJECT
2.1	Technology for Management
2.2	Management Research Methods
2.3	Entrepreneurship and Ethics
2.4	Human Capital Management
2.5	Financial Management
2.6	Quantitative Techniques and Operations Research
2.7	Innovation Management

2.1 TECHNOLOGY FOR MANAGEMENT

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Today's organizations rely heavily on computer systems. As day-to-day business goals are increasingly affected by these systems, qualified professionals, who can successfully manage, will be required in the business field. This paper is mandatory for aspiring managers who understand and embrace the role of technology within a business and who are ready to make the leap into management within an IT environment. Students are expected to gain skills in strategic information technology and management that they can apply immediately in the workplace.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To elevate students' awareness of information technology and develop an in-depth and systematic understanding of key aspects of IT Management
- To help students gain a strategic perspective on business
- To evaluate the value of emerging technologies and their competitive advantage

OUTCOMES

- By the end of the course, students will gain the skills required to navigate through the complexities of managing data and also become the appreciators of technological environment.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE ONE**	**4 HOURS**
	Introduction and definition of computer, Brief history (Analog, Digital, Binary language), Major components of a computer system, Interfacing with a computer, Hardware and Software with examples, Introduction to languages, compiler, interpreter and assembler. Operating Systems: Definition, Functions, Types and Classification, Elements of GUI based operating system-Windows-Use of menus, tools and commands of windows operating system, Linux and free and open software; Computer Networks: Overview and Types (LAN, WAN and MAN), Network topologies, Internet; Data representation and computer security	
2	**MODULE TWO**	**4 HOURS**
	Data and Information, MIS, Decision Making and role of MIS, Planning for MIS; System Development Methodologies; Conceptual and detailed designs of MIS	
3	**MODULE THREE**	**10 HOURS**
	Information systems for strategic advantage, Strategic role for information system, Breaking business barriers, Business process reengineering, Improving business qualities. Information system analysis and design, Information SDLC, hardware and software acquisition, system testing, documentation and its tools, conversion methods Decision Support System: Overview, components and classification, Steps in constructing a DSS, Role in business, Group decision support systems, Expert systems.	

4

MODULE FOUR **10 HOURS**

System implementation Strategies and process; System Evaluation and Maintenance, Applications – cross –functional MIWS; ERP; CRM; SCM; Transaction Processing; Artificial Intelligence technologies in business: neural networks, fuzzy logic, virtual reality; Executive information systems

5

MODULE FIVE **12 HOURS**

E-commerce: Introduction, Comparison between Traditional commerce and E-commerce, Advantages & disadvantages of E-commerce, Buying & Selling on Internet, Issues in Implementing Electronic Commerce. Applications of Information Technology: Information Technology (IT) applied to various functional areas of management, such as Production / Operations, Marketing, Human Resource, Finance and Materials Management.

Introduction to ERP Systems: Review of DBMS and Transaction processing concepts, Business Processes and integration across functions, Salient features of ERP systems offered by leading vendors, prerequisites and process of implementation.

6

MODULE SIX **16 HOURS**

Introduction to OS and Office Software: Use of MS-Office, Basics of MS-Word, MS-Excel and MS-PowerPoint; Application of these software for documentation and making reports, Preparation of questionnaires, Presentations, Tables and reports (Practical)

Database Management Systems: Overview of DBMS; Components of DBMS, Recent trends in database, RDBMS; MS Access: Overview of MS-Access. Creating tables, queries, forms and reports in MS-Access

Internet Basics, Basic ways of connecting to the internet, Internet Protocol, IP Address,Working with Google Services: Docs, Spreadsheet , presenter, sites etc; Introduction to Oracle or MySQL

5. PEDAGOGY

Irrespective of where an individual is involved in the chain of statistical information, there is a necessity for a rudimentary understanding of the concepts of information technology. Towards this end, case studies will be extracted from Newspapers and Magazines regarding daily life and explored. These case studies will be in addition to the actual teaching hours expended in imparting technology for Management theory.

6. TEACHING AND LEARNING RESOURCES

a) www.socr.ucla.edu/

b) www.ats.ucla.edu/stat/seminars/statteach/sites.htm

c) www.onlinestatbook.com/2/chi_square/Chi_Square.html

d) www.statsci.org/teaching.html

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Kenneth C. Laudon and Jane P. Laudon, "Information Systems", Pearson Publication.2013. Dorling Kindersley (India) Pvt. Ltd.
2. O'Brien, Management, Info Systems, Tata McGrawhill, Latest
3. Giridhar Joshi, Management Information Systems, Oxford University Press, 2013.

REFERENCES

1. Sudalaimuthu & Hariharan, Information Technology for Managers, Himalaya publications.
2. D.Monley & CS Parker, Understanding Computers Today & Tomorrow, Cengage/Thomson
3. ITL Education Solutions Ltd, Introduction to Computer Science, Pearson
4. D.P. Nagpal, Computer Fundamentals. S. Chand Publishers. 2013
5. Jaiswal & Mital, MIS, Oxford University Press, Latest edition.
6. Raju Chopra, Database Management Systems, S.Chand.

2.2 MANAGERIAL RESEARCH METHODS

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

This course is designed to help students undertake a research project and guide students through the entire research process. Business and management research involves undertaking systematic research to find out decision outcomes. It is trans-disciplinary, and engages with both theory and practice. The present paper intends to provide comprehensive knowledge &skills about the research methods that are employed to investigate problems in business. The paper discusses various steps in business research and introduces the concepts, tools and techniques that are used at each of these steps thereby, honing the research skills of future managers.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To instill a comprehensive and step-wise understanding of the research process with a balanced blend of theory and applicative technique.
- To familiarize students with the types of management problems of organizations.
- To facilitate them develop insights about basic concepts of research designs and methodology aimed at solving business problems.

OUTCOMES

- Students can be an asset to the organization by transforming into well equipped and scientifically skilled research professionals and managers by conducting research in every aspect of decision making in the organization.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE: INTRODUCTION TO MANAGEMENT RESEARCH **6 HOURS**

Definition, Nature and role of Management Research, Types of Research based on Purpose, Process, Outcome, Nature, Action and Logic, Research concepts, constructs, propositions and hypotheses, Features of a good Research Study, Research Process, and Ethical issues.

2

MODULE TWO: RESEARCH PROBLEM, RESEARCH HYPOTHESIS AND RESEARCH DESIGN **12 HOURS**

Identification and Selection of the Problem, Definition and Statement of the Problem, Evaluation of the Problem, Criteria and sources for identifying the problem, process of defining the problem.

Nature, Definition and Characteristics of Good Hypothesis, types of hypothesis. Formulation and testing of hypothesis

The Design of Research, Meaning, Need, dimensions and process, types of research design

3

MODULE THREE: DATA COLLECTION AND MEASUREMENT CONCEPTS **10 HOURS**

Scales of Measurement, Classification of Scales - Single Item v/s Multi Item Scales, Comparative v/s Non-Comparative scales, Continuous Rating Scales; Criteria for Good Measurement

Criteria for Questionnaire Designing; Types of Questionnaire; Questionnaire Design Procedure, Pilot test, validity and reliability of Questionnaire, Cronbachs alpha, interview schedule

Primary Data Collection, Classification of Survey methods, Evaluation Criteria for Survey Methods; Observation Techniques, Classification of Observation Methods, Advantages and Limitations of Observation Techniques

Secondary Data Collection, Classification of Secondary Data Sources, Evaluation of Secondary Data, Roadmap to use Secondary Data, Benefits and Drawbacks of Secondary data

Qualitative methods, Methods, Focus Group Method, Personal Interview Method and Projective Techniques

4 **MODULE FOUR: SAMPLING AND DATA PREPARATION** **10 HOURS**

Sampling,Concept of Sample and Target Population, Sample frame, Sample unit and sample size, Characteristics of a Good Sample, Sampling Design Process; Probability and Non Probability Sampling Design, Sampling v/s Non-Sampling Error; Determination of Sample Size.

Data Preparation, Field Validation, Data editing, Coding, Content Analysis, Classification and Tabulation of Data.

5 **MODULE FIVE : DATA ANALYSIS** **10 HOURS**

Basic data analysis: Descriptive Statistics, Univariate and Bivariate Statistical Analysis (concepts), Parametric & Non-Parametric Tests; Null & Alternative Hypothesis, Error in Testing of Hypothesis, Critical Region, Degrees of Freedom, One Tailed & Two Tailed Tests, Standard Error; Procedure for Testing of Hypothesis.Parametric test, Non parametric test and Factor Analysis: Conditions for applicability, practical applicability, Implementation and statistical Inference of the above test .

6 **MODULE SIX: RESEARCH REPORT WRITING** **8 HOURS**

Types of Research Report, Report Structure, Report Writing: Report Formulation, Guidelines for effective Documentation and visual representation (Graphs) and Research Briefing –Oral Presentation.

5. PEDAGOGY

Extensive exercises and activities, role playing, field work, Live Research, Use of statistical software and Case studies to see the linkages between the chapters and to provide enhanced insight to comprehend the research methodologies illustrated in each chapter.

6. TEACHING AND LEARNING RESOURCES

a) www.cmie.com/database
b) www.indiastat.com
c) www.hindu.com
d) www.economictimes.com
e) www.indianresearchjournals.com
f) Journal of Business Research
g) International Business & Economics Research Journal

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Deepak Chawla, NeenaSondhi, "Research Methodology concepts and Cases", Vikas Publishing House Pvt Ltd
2. William Zikmund, Barry Babin, Jon Carr, Mitch Griffin, "Business Research Methods", Cengage Learning.
3. Naval Bajpai, "Business Research Methods", Pearson Education

REFERENCES

1 Donald R Cooper, Pamela S Schindler, JK Sharma, " Business Research Methods", McGraw Hill

2 R. Panneerselvam, "Research Methodology", Prentice hall

3 SL Gupta, "Research Methodology", International Book House Pvt Ltd

4 Alan Bryman, Emma Bell, "Business Research Methods", Oxford University Press.

5 Naresh K Malhotra and Satyabhushan Dash, "Marketing Research", Pearson Education

2.3 ENTREPRENEURSHIP AND ETHICS

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

The entrepreneur who implements 'new combinations of means of production' plays a crucial role in disturbing the status quo through innovation — or 'creative destruction' — and thereby becomes an agent of change. As such, the 'dynamic equilibrium' achieved by a constantly innovating entrepreneur could generate the conditions for increasing opportunities for employment among other things. It is in the creation of more wealth, and in the constant innovation from prevailing to the next best practices, that the significance and importance of Entrepreneurship lies.

Entrepreneurship has been 'embedded in the Indian genius and is a part of its tradition'. Renowned economist, T.N. Srinivasan says, 'India has been an entrepreneurial society…we had the entrepreneurial skill but suppressed it for too long a time… and now it is thriving.'

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To inculcate the spirit and perspective of entrepreneurship among students
- To make the students job creators instead of job seekers.
- To enable the students to critically examine ethical dilemmas in entrepreneurship

OUTCOMES

- At the end of the course, the students would be aware of alternative to jobs and employment which will make them job providers in an ethical manner.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE ONE: ENTREPRENEURSHIP IN THE NEW MILLENNIUM**	**8 HOURS**
	Concepts of entrepreneur and entrepreneurship, Importance and Characteristics of entrepreneurs, Types of entrepreneurs, Benefits and potential risks of entrepreneurship, Myths of Entrepreneurship, Factors affecting growth of Entrepreneurship in India, Role of Entrepreneurship in Economic Development	
2	**MODULE TWO: OPPORTUNITY ASSESSMENT**	**10 HOURS**
	Opportunity Identification and Selection, Environmental dynamics and changes, Business Opportunities in emerging environment, challenges of new venture start-ups, Pit falls in selecting new ventures, Critical factors for new venture development, Why new ventures fail, Sources of Finance for New Venture.	
3	**MODULE THREE: FEASIBILITY ANALYSIS AND CRAFTING BUSINESS PLAN**	**12 HOURS**
	Feasibility analysis of Industry, Market , Product or service and Finance ; Business plan – Meaning, Significance, contents, formulation and presentation of Business Plan, Common errors in Business Plan formulation.	
4	**MODULE FOUR: LEGAL FORMS OF ENTREPRENEURIAL ORGANIZATIONS**	**6 HOURS**
	Identifying legal structures, Selection of an appropriate legal structure, Sole proprietorships, Partnerships, Companies, Companies under section 25, Franchising, Legal environment – patents, copyrights, trademarks.	
5	**MODULE FIVE: SOCIAL ENTREPRENEURSHIP**	**8 HOURS**
	Introduction, Meaning, Perspective of social entrepreneurship, Social entrepreneurship in practice, Boundaries of Social entrepreneurship, Few experiments.	

6	**MODULE SIX: ETHICS AND ENTREPRENEURSHIP**	**12 HOURS**

Meaning and Need for business ethics, Arguments for and against Business ethics, Ethics and laws, Establishing strategy for ethical responsibility, Approaches to managerial ethics, Ethics and Business decisions, Frame work for ethical decision making, CSR, Environmental awareness, Ethical leadership by entrepreneurs, Corporate citizenship.

5. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Kanaka SS- Entrepreneurial development, S Chand -Fourth edition.
2. Robert D. Hisrich and Michael P. Peters, 'Entrepreneurship '. McGraw – Hill
3. Poornima.M.Charantimath, Entrepreneurship Development Small Business Enterprises, Pearson Education
4. Hartman, Laura.P, Perspectives in Business Ethics, McGraw Hill.

REFERENCES

1. Thomas .W.Zimmerer&Norman.M.Scarboraugh, Essentials of Entrepreneurship and Small Business Management, PHI
2. Jeffry .A.Timmons& Stephen spinelli, New Venture Creation, Enterpreneurship for the 21st Century, Tata McGraw Hill.
3. Dr.ArunaKaulgud, Entpreneurship Management, Thomson.
4. Mandal.S.K, Ethics in Business and Corporate Governance, Tata McGraw Hill.
5. Vasant Desai , 'Dynamics of Entrepreneurial Development and Management' Himalaya Publishers
6. RashmiBansal, Take me Home, Westland Ltd, 2014

2.4 HUMAN CAPITAL MANAGEMENT

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Personnel of yester years have become human resources in the recent years. This will emerge as human capital in the coming years. Organizations need to address these paradigm shifts. The managers in these organizations would be change agents in this regard. Hence, students pursuing management courses have to facilitate this. Their understanding of not only basics but the shifts in philosophy and focus would go a long way in leveraging the changes occurring in the wider environment. This course addresses such felt needs.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enlighten the students on the principles and practices of HR as a capital factor
- To introduce the entire gamut of scope of HR
- To capture the changing landscape of HR

OUTCOMES

- The students must be in a position to address the challenges of organizational management through and with human resources. Thereby, the manager would become harbinger of change management.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE: ESSENTIALS OF HCM **8 HOURS**

Nature of HRM, Scope, functions and importance of HRM, Evolution of HRM, Difference with HRD, Contemporary issues and practices in HRM, Changing concept of HRM in India and in the globe.

2

MODULE TWO: HUMAN CAPITAL PLANNING AND EMPLOYEE HIRING **8 HOURS**

Nature of job Analysis, job design, Job evaluation, Human resource planning, Demand forecasting, HR supply forecasting, Need for and factors influencing HRP, Career planning, Promotion, transfer, demotion and separation; Employee hiring- Nature of Recruitment, Sources of recruitment-internal and external, Employee selection, process of employee selection, New recruitment practices Job portals, employee reference, campus recruitment etc.

3

MODULE THREE: HR DEVELOPMENT **10 HOURS**

Nature and importance of Training, Methods of training, TNA, Nature of HRD program, Methods of management development and Executive development programs, Development beyond training, Contemporary HRD practices

4

MODULE FOUR: PERFORMANCE MANAGEMENT SYSTEM **8 HOURS**

Nature and Importance of performance appraisal and PMS, Methods and models, Difference with Performance Appraisal, Future of performance management system.

5 **MODULE FIVE: COMPENSATION MANAGEMENT AND EMPLOYEE RELATIONS** **12 HOURS**

Introduction to compensation management, Components of employee and executive compensation, Factors affecting employee compensation, Employee incentive schemes, and Recent trends in compensations management.

Nature of employee relation, Industrial relations**,** Resolution of industrial disputes, Employee grievance, Trade union and their relevance.

6 **MODULE SIX: STRATEGIC HRM** **10 HOURS**

Introduction, characteristics and scope of SHRM, SHRM Vs Conventional HRM, Barriers to strategic HRM, Linking HR strategy with business strategy, SHRM and business performance.

5. PEDAGOGY

The syllabus, which builds upon theory and concepts, takes the students through examples from corporate in various countries. This will give students an insight in to a more logical and pragmatic manner. The students can apply these conceptsat appropriate situations.

6. TEACHING AND LEARNING RESOURCES

a) www.hreonline.com
b) www.successinhr.com
c) www.managementhelp.org/humanresources/
d) www.hr.com
e) www.human-resources.org
f) www.hrmguide.net
g) www.hronline.com
h) www.humancapitalonline.com
i) www.humanresources.about.com
j) www.iaeme.com/ijmhrm.asp
k) www.sagepub.in/journals
l) www.iupindia.in/Human_Resource_Management_Review.asp
m) The Human Resource Management Review
n) The International Journal of Human Resource Management

o) Human resource development quarterly
p) International Journal of Human Resource Development and Management (IJHRDM)
q) International Journal of Marketing & Human Resource Management (IJMHRM)
r) Journal of Strategic Human Resource Management
s) South Asian Journal of Human Resources Management
t) Human Resource Management Journal
u) Asia Pacific Journal of Human Resources

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Gary Dessler and BijuVarkkey (2013), Human Resource Management, Person Publication, 12th Edition.

2. P. Jyothi and D.N Venkatesh (2013), Human Resource Management. Oxford Publication. 2nd Edition.

3. BiswajeetPattanayak (2014),"Human Resource Management", PHI Publications, 4th Edition.

4. V.S.P.Rao and C.B. Mamoria (2012), "Personal Management (Text and Cases)", Himalaya Publications, Thirtieth Edition.

REFERENCES

1. A.M Sheikh, Human Resource development and Management, 3rd Revised edition, S Chand publication
2. Snell and Bohlander, Human Resource Management, South-Western Cengeage Learning. Indian Edition.
3. Uday Kumar Haldar and JuthikaSankar, Human Resource Management. Oxford Higher Education, 2012
4. SeemaSanghi, Human Resource Management, VikasPubllications, 2014
5. SharouPande and SwapnalekaBasak, Human Resource Management, Pearson Education, 2012
6. K. Aswathappa, Human Resource Management, McGraw Hill Education 7th edition, 2013)
7. D Gopalakrishna, Case incidents in Human resource Management, IK International Publishers, 2014

2.5 FINANCIAL MANAGEMENT

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Getting a business idea, making a product or designing a service, marketing the same and managing people are some of the important functions or activities of a business undertaking. A business may be successful in all these, yet could fail on account of improper financial management. Knowing how to fund the business enterprise, how to employ the funds mobilized effectively and productively, how to allocate resources among various opportunities, managing the day-to-day needs of the business etc., must not be experimented with. This course aims at equipping a potential manager the tools and techniques which help in making financial decisions of the business and thereby lead to achieving the goal of business – 'wealth maximization'.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide the concepts and foundations of managing finance in business enterprises.
- To equip students with tools and techniques for managing finance.
- To orient the students regarding financial management practices in Indian companies and Global enterprises.

OUTCOMES

- By the end of this course, a student would learn to identify financial challenges, tools and techniques for decisions and would get a glimpse of practices.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE: INTRODUCTION TO FINANCIAL MANAGEMENT **6 HOURS**

Concept of Financial management - Meaning and definitions, Scope of Financial Management, finance functions, Financial Goals of a firm, Agency problem, Emerging role of finance manager in India.

2

MODULE TWO: TIME VALUE OF MONEY **6 HOURS**

Compounding, Continuous Compounding, Effective Rate of Interest, Discounting – Single Cash Flows & Series of Cash Flows, Annuity – Future Value and Present Value, Present Value of Growing Annuity, Perpetuity – Present Value, Growing Perpetuity – Present value, Equated Annual Installments

3

MODULE THREE: LONG-TERM FINANCING DECISIONS **12 HOURS**

(CAPITAL STRUCTURE DECISIONS)

Sources of Funds: Short term sources, Long term sources, Venture Capital: features, stages and types of venture capital.Factors influencing capital structure,

Benefit to Owners – EBIT –EPS Analysis, Point of Indifference, Financial Break-even Point

Cost of Capital- Methods of computing cost of capital: Cost of Equity Capital, Cost of Preferred Capital, Cost of Debt Capital, Cost of internally generated funds, Weighted Average Cost of Capital (Theory and Problems)

Leverages-Types and Measurement

4 **MODULE FOUR: LONG-TERM INVESTMENT DECISIONS** **12 HOURS**

(CAPITAL BUDGETING DECISIONS)

Meaning of Capital Budgeting, Significance, Principles, Capital budgeting proposals, Methods of appraising proposals; Payback period, ARR, IRR, MIRR, NPV, Profitability Index, Utility Method, EVA Method, APV Method, Capital Rationing.

5 **MODULE FIVE: SHORT-TERM FINANCING AND INVESTMENT DECISIONS** **14 HOURS**

(WORKING CAPITAL MANAGEMENT)

Concept of working capital, factors determining working capital, Sources of working capital, estimating working capital needs, Managing cash, marketable securities, debtors and inventory.

6 **MODULE SIX: DIVIDEND DECISIONS** **6 HOURS**

Meaning, Theory of relevance and Theory of Irrelevance, Walter's Model, Gordon's Model (Theory and Problems) Types of dividends, Bonus Shares, Stock Splits.

5. PEDAGOGY

a) Lectures.
b) Demonstrations using Excel
c) Practical Exercises – Individual and Group
d) Case Studies.

6. TEACHING AND LEARNING RESOURCES

a) www.bseindia.com
b) www.capitalmarket.com
c) www.cmie.com
d) www.financeprofessor.com
e) www.moneycontrol.com
f) www.rbi.gov.in
g) www.sebi.gov.in

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. Van Horne, James, "Financial Management and Policy", Prentice Hall.
2. Brealy, Richards; and Myers, Stewart, "Principles of Corporate Finance", Tata McGraw-Hill
3. Ross, Stephen; Westerfeild, Randolph, Jaffe, Jeffrey and Kakani, Ram Kumar, "Corporate Finance", Eighth Edition, McGraw Hill.
4. Gitman, J. Lawrence, "Principles of Managerial Finance", Pearson Education.
5. Damodaran, Aswath, "Corporate Finance", John Wiley & Sons Inc.
6. DamodaranAswath, "Applied Corporate Finance", John Wiley & Sons Inc.
7. Chandra, Prasanna, "Financial Management – Theory and Practice", Tata McGraw-Hill Publishing Company Limited.
8. Pandey, IM,"Financial Management", Vikas Publications.
9. Khan, M.Y., and Jain, P.K., "Financial Management – Text, Problems and Cases", Tata McGraw-Hill Publishing Company Limited.

REFERENCES

1. Kishore, M. Ravi, “Financial Management – with Problems and Solutions”, Taxmann Allied Services (P) Ltd.
2. Rajiv Srivastava, Anil Misra- Financial Management, Oxford Higher Education 2013.
3. Shashi K Gupta, R K Sharma Financial Management- Theory and practice, Kalyani publishers 8th edition.
4. Bodhanwala, J. Ruzbeh, “Financial Management using Excel Spreadsheet”, Taxmann Allied Services (P) Ltd.
5. Bahal, Mohit, “Practical Aspects of Financial Management”, SuchitaPrakashan (P) Ltd.
6. Sharma, Dhiraj, “Working Capital Management – A conceptual Approach”, Himalaya Publishing House.
7. Bhalla, V.K., “Financial Markets and Institutions”, S.Chand and Co.
8. Hampton, John, “Financial Decision Making – Concepts, Problems and Cases”, Prentice Hall of India.
9. Hawawini, Gabriel and Viallet, Claude; “Finance for Non-finance Managers”, South-Western CENGAGE Learning.
10. Khan, M.Y; “Indian Financial System”, TheMcGraw Hill Companies.
11. Sharma, Meera; “Management of Financial Institutions”, Eastern Economy Edition.
12. Bhole and Mahakud, “Financial Institutions and Markets – Structure, Growth and Innovations”, TheMcGraw Hill Companies.
13. Guruswamy, S., “Financial Services and System”, McGraw Hill Companies.

2.6 QUANTITATIVE TECHNIQUES AND OPERATION RESEARCH

1. GENERAL INFORMATION

Credits	4
Hours per week	4

2. PERSPECTIVE OF THE COURSE

Resources are always critical in any organization. They are unavailable in unlimited manner. There are always constraints. Operation research is helpful in the situation of such constraint of resources. Managers have to manage limited available resources in such a way that neither production nor other activities get disturbed in the business. Facility design is a fascinating area for OR. The excitement of operation research lies in the application of Quantitative techniques to real world problems.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To impart knowledge in concepts and tools of OR and QT.
- To help students apply these tools in managerial decision making.

OUTCOMES

- The students must develop confidence and clarity in application of tools

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE **10 HOURS**

Origin and development: Importance, scope, techniques and characteristics, Optimization concept, Different types of models, Linear programming problem, Formulation, Product allocation, Blending and diet problems, Graphical solution, Simplex method (standard maximization)problems, Formulation of duality.

2

MODULE TWO **10 HOURS**

Transportation: Importance, terminologies used, different methods for finding Initial basic feasible solution; NWCM, LCM and VAM, unbalanced, degeneracy in transportation, test for optimality (MODI method only), maximization problems.

3

MODULE THREE **10 HOURS**

Assignment: Importanceand characteristics of assignment problem, methods-minimization, maximization, balanced, unbalanced, prohibited and travelling salesman and crew assignment problems.

Sequencing: terminologies and notations, types of sequencing problems; processing 'n' jobs through 2 machines, processing 'n' jobs through 'm' machines.

4

MODULE FOUR **10 HOURS**

Network analysis: Phases, objectives, basic rules, PERT and CPM techniques, critical path and float analysis, probabilities in PERT analysis, project crashing problems.

5	**MODULE FIVE**	**6 HOURS**
	Theory of games: Types, pure and mixed strategies with two people zero sum game, principle of dominance. Queuing Theory(waiting line): **S**ingle server/single queue, essential features of queuing system, single queue, operating characteristics of queuing system, probability distribution in queuing system, multi server, description of other queuing models (only description).	
6	**MODULE SIX**	**10 HOURS**
	Simulation: Basic concepts, procedures and application, Monte Carlo simulation using Random numbers. Replacement Models: Failure mechanism of items, assumptions of replacement theory, types of replacement problems, replacement of items which deteriorates with time, replacement of items that fail completely including group replacement.	

5. PEDAGOGY

OR is a discipline that deals with the application of advanced analytical methods to help make better decisions. Operations research arrives at optimal or near-optimal solutions to complex decision-making problems. Because of its emphasis on human-technology interaction and because of its focus on practical applications, operations research has overlap with other disciplines, notably industrial engineering and operations management.

6. TEACHING AND LEARNING RESOURCES

a) http://www.igi-global.com/journal/...journal-operations-research

b) http://www.ifors.org/web/India/

c) http://www.inderscience.com/ijmor

d) http://www.ijorlu.ir/

e) Institute of operation research and management sciences (INFORMS) – interface journal

f) International federation of operational research societies (INFORS)

g) International conference proceedings/publications and international journals

h) Operation research society of India- publications

i) International Journal of Operations Research (IJOR)

j) International federation of operation research societies (IFORS)

k) International Journal of Mathematics in Operational Research

l) Operational Research Society of India (ORSI)

m) International Journal of Applied Operational Research

7. RECOMMENDED READINGS

ESSENTIAL READINGS

1. K.K.Chawla and Vijay Guptha,Operation research, quantitative techniques for management,Kalyani, 7th edition, 2014
2. N.D. Vohra (2012), "Quantitative techniques in management", Tata McGraw-Hill Publications, 4th Edition.
3. P.C Tulsian and Vishal Pandey (2012), quantitative techniques. Pearson Practice series. Low price Edition.
4. J.K.Sharma,Quantitative methods and operation research, Excel publication, 2012

REFERENCES

1. David M. Lenine (2012), quantitative techniques for management. Pearson publication.
2. Fedric S Hiller and Gerald J Lieberman (2012), introduction to operation research. 8th edition.

3. Er. Prem Kumar Guptha and Dr. D.S. Hira (2014), operation research. S.Chand publications.
4. VeerabadrappaHarinal (2012),An introduction to operation research. New Age international publishing.
5. Anand Sharma (2014), quantitative techniques for decision making. Himalaya Publishing House.
6. S. Kalavathi (2013), operation Research. Vikas Publications. 4th edition.
7. HamdyATaha (2013), operation research. Pearson publication. 9th edition.
8. G.V Shenoy and V.K. Srivathsava (2013), operation research for managerial decision. New Age international publishing.
9. PradeepprakashkarPai (2013), operation research principle and practices. Oxford Higher Education.
10. P.Rama Murthy (2014), operation Research. New Age international publishing. 2nd Edition.
11. C.K. Mustafi (2009), operation Research methods and practices. New Age international publishing. 3rd Edition

2.7 INNOVATION MANAGEMENT

1. GENERAL INFORMATION

Credits	2
Hours per week	2

2. PERSPECTIVE OF THE COURSE

India is increasingly becoming a top global innovator for high-tech products andservices. Still, the country is underperforming, relative to its innovation potential—with direct implications for long-term industrial competitiveness and economicgrowth.About 90 percent of Indian workers are employed in the informal sector, andthis sector is often characterized by underemployment, as well as low-productivityand low-skill activities. Although India has the benefit of a dynamic youngpopulation—with more than half of the country's population under 25 years old—only 17 percent of people in their mid-20s and older have a secondary education. To sustain rapid growth and help alleviate poverty, India needs to aggressively harness its innovation potential, relying on innovation-led, rapid, and inclusive growth to achieve economic and social transformation.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES:

- To apprise on value of innovation
- To impart skills of innovation
- To enable students think and act on innovation

OUTCOMES:

- Conceptual and application clarity on innovation.

4. COURSE CONTENT AND STRUCTURE

1

MODULE ONE: EXPLORING INNOVATIONS **8 HOURS**

Concept of innovation, historic retrospective, typology of innovations, innovation process, Macroeconomic view of innovation approaches to innovations, Assumptions and barriers to innovations, Innovation sources, i.e. science and R&D, technology transfer, push and pull approaches. Processes used to explore innovations along the technology, market and strategy dimensions as the innovation moves from idea to market

2

MODULE TWO: APPLICATION OF INNOVATION **8 HOURS**

Organizational aspects of innovation, Soft methods and techniques of innovation management, Creative approaches, Systemic and analytical methods and techniques of innovation management, Economic aspects of innovations encompassing sources of innovation financing

3

MODULE THREE:MARKETING INNOVATIONPRODUCTS **5 HOURS**

Strategic considerations on innovations, innovation platforms that incorporate new product development, process innovations, service innovation, service design innovation, multiple product options, portfolios and standards

4

MODULE FOUR: EVALUATION OF INNOVATION **5 HOURS**

Effectiveness evaluation, integration of risks, factors influencing economic effectiveness, Post implementation analysis of innovation projects, Intellectual property of innovations, legal aspects of innovations

5

MODULE FIVE : INNOVATION IN REALITY **4 HOURS**

Mindset, lateral thinking, out of box approach, creativity, innovation for problem solving

5. TEACHING AND LEARNING RESOURCES

a) www.iciindia.com
b) www.johnstark.com
c) www.shell.com/Innovation
d) www.jugaadtoinnovation.com
e) www.super30.org
f) Harvard Business Review
g) Journal of Product Innovation & Management
h) Journal of Business Strategies
i) Journal of Business Venturing

6. RECOMMENDED READINGS

ESSENTIAL READINGS

1. CK Prahalad and MK Krishnan : The new age of innovation, McGraw Hill
2. Paul Traut: Innovation Management and New product Development ,Pearson
3. Khandwalla: Corporate Creativity, McGraw hill

REFERENCES

1. Mauborgne, René, Blue Ocean Strategy, Boston, Harvard Business School Press, 2005.
2. Snyder, Duarte, Unleashing Innovation, How Whirlpool Transformed an Industry, Jossey-Bass, 2008
3. Mass, Harvard Business School Press, 2006
4. Fraser, Healther, Design Works; Toronto: University of Toronto Press, 2012
5. Govindarajan, Vijay & Trimble, Chris, 10 Rules for Strategic Innovators; Boston: Harvard Business School Press, 2005
6. Govindarajan, Vijay & Trimble, Chris, Reverse Innovation; Boston: Harvard Business School Press, 2012
7. Hamel, Gary, The Future of Management; Boston: Harvard Business School Press, 2007

MASTER OF BUSINESS ADMINISTRATION [DAY]
UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)

(2014 - 2015 ONWARDS)

COURSE CONTENT OF THIRD SEMESTER

CANARA BANK SCHOOL OF MANAGEMENT STUDIES,

BANGALORE UNIVERSITY, BANGALORE

COURSE MATRIX

THIRD SEMESTER

PAPER	SUBJECTS	
CORE SUBJECTS		
3.1	STRATEGIC MANAGEMENT & CORPORATE GOVERNANCE	
3.2	PROJECTS AND OPERATIONS MANAGEMENT	
ELECTIVE SUBJECTS		
3.3	**FINANCE** 3.3.1 INDIAN FINANCIAL SYSTEM 3.3.2 CORPORATE TAX PLANNING AND MANAGEMENT 3.3.3 CORPORATE VALUATION AND RESTRUCTURING	
3.4	**MARKETING** 3.4.1 RETAILING MANAGEMENT AND SERVICES 3.4.2 CONSUMER BEHAVIOR\ 3.4.3 RURAL AND AGRICULTURAL MARKETING	
3.5	**HUMAN RESOURCES** 3.5.1 LEARNING AND DEVELOPMENT 3.5.2 INDUSTRIAL AND EMPLOYEE RELATIONS 3.5.3 PERFORMANCE MANAGEMENT SYSTEM	
3.6	**HEALTH CARE MANAGEMENT** 3.6.1 PERSPECTIVES ON HEALTH CARE SECTOR 3.6.2 MANAGEMENT OF PUBLIC HEALTH SYSTEMS 3.6.3 HEALTH ECONOMICS	
3.7	**BANKING FINANCE AND INSURANCE (BFIS)** 3.7.1 STRATEGIC CREDIT MANAGEMENT IN BANKS 3.7.2 INSURANCE PLANNING & MANAGEMENT 3.7.3 INDIAN FINANCIAL SYSTEM	
3.8	**STARTUPS AND SMEs MANAGEMENT** 3.8.1 PERSPECTIVES ON STARTUPS AND SMEs 3.8.2 BASIC MANAGEMENT ASPECTS OF SMALL BUSINESS 3.8.3 ESTABLISHMENT OF SMEs	
OPEN ELECTIVE		
3.9	MANAGEMENT PERSPECTIVES	(TO BE OFFERED TO OTHER PG STUDENTS BY CBSMS UNDER CBCS SCHEME)
3.10	PROJECT WORK FOR 4 WEEKS (BETWEEN II & III SEMESTER)	

3.1 STRATEGIC MANAGEMENT AND CORPORATE GOVERNANCE

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

In today's economy, strategy plays an important role in gaining and sustaining a competitive advantage, which has become harder than ever .The syllabus captures the complexity of the current business environment and delivers the latest skills and strategic process adopted by companies, which will help students develop strategic prowess.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enlighten the students with the concepts and practical applications of Strategic Management and Corporate Governance.
- To instill a comprehensive and step-wise understanding of the principles of strategy formulation and competitive analysis

OUTCOMES

- This course will equip the students with required skills of managerial decisions and actions.
- This will enable students to transfer conceptual learning to strategic application in their professional lives.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: STRATEGY AND PROCESS **4 HOURS**

Historical perspective of Strategic management, Conceptual framework for strategic management, the Concept of Strategy and Strategy Formation Process – Stakeholders in business –Vision, Mission and Purpose – Business definition, Objectives and Goals. The SM model

2

MODULE 2: COMPETITIVE ADVANTAGE **12 HOURS**

External Environment – PESTEL Analysis, SWOT Analysis, Porter's Five Forces Model ,The Competitive Profile Matrix (CPM) ,Globalization and Industry Structure – Resources, Capabilities and competencies – Value Chain Analysis – Core competencies, generic building blocks of Competitive Advantage- Distinctive Competencies - Avoiding failures and sustaining competitive advantage

3

MODULE 3: THE STRATEGIC ALTERNATIVES **12 HOURS**

Corporate Level Strategies – Stability, Expansion, Retrenchment and Combination strategies - Business level strategy: Cost, Differentiation, and Focus Strategies- Strategy in the Global Environment - Corporate Strategy - Vertical Integration - Diversification and Strategic Alliances- Building and Restructuring the corporation- Strategic analysis and choice – Environmental Threat and Opportunity Profile (ETOP) – Organizational Capability Profile - Strategic Advantage Profile - Corporate Portfolio Analysis – GAP Analysis - Mc Kinsey's 7s Framework - GE 9 Cell Model – BCG Matrix - Balance Score Card, Internal Factor Evaluation (IFV) Matrix

4

MODULE 4: STRATEGY IMPLEMENTATION & EVALUATION **8 HOURS**

The implementation process, Resource allocation, designing organizational structure - Designing Strategic Control Systems - Matching structure and control to strategy - Implementing Strategic change-Politics-Power and Conflict-Techniques of strategic evaluation & control.

5

MODULE 5: CURRENT STRATEGIC ISSUES **10 HOURS**

Managing Technology and Innovation- Blue Ocean Strategy, managing in an economic crisis, new directions in strategic thinking, Strategic issues for Non Profit organizations, Small Scale Industries, New Business Models and strategies for Internet Economy.

6

MODULE 6: CORPORATE GOVERNANCE **10 HOURS**

Defining Corporate Governance, Exploring Corporate Governance and the Relationships between Internal and External Stakeholders, The organization's Responsibility and Accountability to Its shareholders, The Organization's Accountability to Its Board of

Directors, Role and Responsibilities of the Board, Integrity and Ethical Behavior: Disclosure and Transparency. Development and critical appraisal of corporate governance in India.

5. PEDAGOGY

Conceptual explanation in detail in the class room sessions and relevant cases will give students a better perspective. Live projects should be the part of curriculum compulsorily.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Fred.R.David, Strategic Management and cases, PHI Learning,
2. Charles W.L.Hill& Gareth R.Jones, Strategic Management Theory, An Integrated approach, ceengage learning
3. Robert. G. Grant, Strategic Management
4. Thomas L. Wheelen, J.David Hunger and KrishRangarajan, Strategic Management and Business policy, Pearson Education.
5. AzharKazmi, Strategic Management & Business Policy, Tata McGraw Hill

REFERENCES

1. Gregory Dess and G.T. Lumpkin: Strategic Management Creating Competitive Advantage, TMH,
2. UpendraHachru , Strategic Management concepts & cases , Excel Books
3. AdriauHAberberg and Alison Rieple, Strategic Management Theory & Application, Oxford University Press.
4. Anthony E Henry: Strategic Management ,oxford publication
5. Harvard Business Review, Business Policy – part I & II, Harvard Business School.
6. NitishSen Gupta and JS Chandan :Strategic Management ,Vikas Publication
7. Mason A Carpenter, WM Gerard Sanders and PrashanthSalwan:Strategic Management ,Pearson
8. Gupta, Gollakota and Srinivasan, Business Policy and Strategic Management – Concepts and Application, Prentice Hall of India, 2nd edition, 2007

Online Resources

1. http://ocw.mit.edu/courses/sloan-school-of-management/15-902-strategic-management-i-fall-2006/lecture-notes/

2. http://catalog.flatworldknowledge.com/bookhub/reader/3085?e=ketchen_1.0-ch08_s05#ketchen_1.0-ch01_s01
3. http://2012books.lardbucket.org/books/strategic-management-evaluation-and-execution/index.html
4. http://www.strategicmanagementinsight.com/

3.2 PROJECTS AND OPERATIONS MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Operations Management deals with understanding and integrating business processes within and between organizations. Students will look at the designs, management and improvement of processes, systems and networks for use within and between organizations.

The Operations Management course will introduce the student to basic business ideas and their implementations. The business manager manages both the operation they are managing and the Project Manager with his/her project. They must take responsibility for all products or services that are delivered. They must ensure that it is in line with quality standards. The way in which Production and Operations are managed is directly linked to the success of a business or organization.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To impart the concepts, tools and techniques of project management
- To gain clear understanding of Operations Management
- To gain a perspective on quality improvement and cost reduction

OUTCOMES

- At the end of the courses, the students must have better insight in to project and operations management.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 108 Hours

Definition of Project, Programme and Portfolio Management, Difference between Project and Operations Management, Ten subsystems and brief introduction to all sub

systems: Integration Management, Scope Management, Time Management, Cost Management, Procurement Management, Risk Management, Stakeholders Management and Communication Management.

2

MODULE 2 10 Hours

Introduction to project life cycle, Introduction to PERT/CPM & Problems and Cases, Resource Leveling, Scheduling with limited Resources

Work Breakdown Structure (WBS), WBS through MS Project, Arranging activities as per precedence, Network Planning, Resource Planning, Review and Monitoring, Project team Management i.e. forming, storming, norming, performing and adjourning. QFD in Project Management, Introduction to scheduling tool like “Project Libre”.

3

MODULE 3 10 Hours

Budgeting and Costing, Concept of Earned Value, Concept of Cost Performance Index, Forecasting Cost at the end of Project completion

Risk Management, Concept of Risk Management and identification of Risk, Quantification of Risk and Problems in Project Management through Risk analysis

4

MODULE 4 10 Hours

Nature and Scope of Production and operations Management, its relationship with other Systems in Organizations, Functions of Production and material management, Types of production Systems. Forecasting as a planning tool, Forecasting types and methods, Exponential smoothening, Measurement of errors, Monitoring and Controlling forecasting models, Box-Jenkins Method. Facility Planning: Facilities location decisions, factors affecting facility location decisions and their relative importance for different types of facilities.

Facility layout planning: Layout and its objectives for manufacturing operations, principles, types of plant layouts – product layout, process layout, fixed position layout, cellular manufacturing layouts, hybrid layouts, Factors influencing layout changes. Introduction to Lean operations and elimination of 7 wastes (Mudas)

5

MODULE 5 10 Hours

Quality management: Introduction; Quality characteristics of goods and services; Tools and techniques for quality improvement: check sheets, histogram, scatter diagram, cause and effect diagram, Pareto chart, process diagram, statistical process control charts; Quality assurance; Total quality management (TQM) model; Service quality, concept of Six Sigma and its application. Juran's quality trilogy, Deming's 14 principles, PDCA cycle, Quality circles, Quality improvement and cost reduction – 7QC tools and 7 new QC tools, Introduction to the current ISO 9000 and QS 9000.

6

MODULE 6 08 Hours

Meaning of Productivity and different types of productivity like productivity in R&D, HR, Materials, Finance, Planning and Control in Mass Production, Job type

Materials Management: Role of Materials Management – materials and profitability, Purchase functions, Procurement procedures including bid systems, Vendor selection and development, Vendor rating, ethics in purchasing. Roles and responsibilities of Purchase Professionals. Concepts of lead time, purchase requisition, purchase order, amendments, forms used and records maintained.

Inventory Management: Concepts of inventory, types, Classification, selective inventory management, ABC, VED and FSN analysis. Inventory costs, Inventory models – EOQ, safety stocks, Re order point, Quantity discounts.

5. PEDAGOGY

Emphasis have to be given on class room reaching, practices like problem solving should be the part of explanation and compulsory mini project assignments to be given to enhance the students understanding of the subject.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Mahadevan B, "Production and Operations Management", Pearson Education India, 2010
2. J.P Saxena, "Production and Operations Management", Tata Mcgraw-Hill Education Pvt Ltd

3. Ajay K.Garg, “Production and Operations Management”, Tata McGraw-Hill Education Pvt Ltd
4. Norman Gaither and Greg Frazier, “Operations Management”, South – Western College Pub.1999
5. Clifford Gray and Larson, “Project Management”, MC Graw-Hill/Irwin,2008
6. Project Management Institute, “Project Management Body of Knowledge”, Project Management Institute Inc, 2013

REFERENCES

1. Martand T. Telsang, “Production Management”, S Chand & Company Pvt Ltd
2. MartandTelsang, “Industrial Engineering Production Management”,
3. S Chand & Company Pvt Ltd
4. Richard B. Chase, Ravi Shankar, F.Robert Jacobs, Nicholas J Aquilano, “Operations & Supply Management”, Tata McGraw-Hill Education Pvt Ltd

JOURNALS

1. International Journal of Operations and Production Management
2. Journal of Operations Management
3. PMI Journals

WEB RESOURCE

1. www.emeraldgrouppublishing.com
2. www.journalselsevier.com
3. www.poms.org

ELECTIVE SUBJECTS	
3.3	FINANCE 3.3.1 INDIAN FINANCIAL SYSTEM 3.3.2 CORPORATE TAX PLANNING AND MANAGEMENT 3.3.3 CORPORATE VALUATION AND RESTRUCTURING

3.3.1 INDIAN FINANCIAL SYSTEM

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

A finance professional needs knowledge of financial management practices within the organization, and financial systems which influence the organization from outside. The financial system comprises of financial institutions, financial markets, financial instruments, financial products and services. A thorough understanding of all these components will equip a finance manager to make better and informed decisions. Hence, the course on "Indian Financial System" which orients the learner all the external forces influencing financial and strategic decisions of a business enterprise is introduced.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide an insight into the functioning of Indian financial system.
- To make students understand the various components of the financial system, the inter-relationship among different components and the impact on business enterprise

OUTCOMES

At the end of the course, student will learn -

- The framework of Indian Financial System.
- The various financial institutions that have impact and influence on business organizations and their functioning.
- The financial markets and their mechanism, with special emphasis on Stock

Exchanges.

- Various financial services available for a business enterprise

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: OVERVIEW OF FINANCIAL SYSTEM **6 HOURS**

Indian Financial System – Features, Constituents of Financial System – Financial Institutions, Financial Services, Financial Markets and Financial Instruments. Overview of Global Financial System

2

MODULE 2: FINANCIAL INSTITUTIONS **12 HOURS**

Meaning of Financial Institutions, Special Characteristics, Broad Categories – Money Market Institutions and Capital Market Institutions. Industrial Finance Corporation of India, Industrial Development Bank of India, State Financial Corporations, Industrial Credit and Investment Corporation of India, EXIM Bank of India, , National Small Industrial Development Corporation, National Industrial Development Corporation, Life Insurance Corporation of India, Unit Trust of India

3

MODULE 3: NON-BANKING FINANCIAL INSTITUTIONS **8 HOURS**

Meaning, Registration, Principal Business of NBFCs, Structure, Supervision, RBI Measures for NBFCs, Other Measures.

4

MODULE 4: FINANCIAL SERVICES **12 HOURS**

Concept, Objectives / Functions, Characteristics, Financial Services – Concept, Classification, Regulatory Framework. Merchant Banking, Mutual Funds, Leasing, Credit Rating.

5

MODULE 5: FINANCIAL MARKETS **12 HOURS**

Meaning and definition, Role and Functions of financial markets, constituents of Financial Markets, Money Market and instruments, Capital Markets and Instruments.

6	**MODULE 6: STOCK EXCHANGE**	**6 HOURS**
	Meaning and definition, Role and Functions, Regulatory Framework of Stock Exchange, Profile of Indian Stock Exchanges, Listing, Trading	

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Guruswamy, S, "Indian Financial System", McGraw Hill Companies
2. L.M. Bhole,"Financial Institutions & Markets, Tata McGraw Hill, New Delhi.
3. Khan, M.Y, "Indian Financial System", TheMcGraw Hill Companies.
4. Sharma, Meera, "Management of Financial Institutions", Eastern Economy Edition.
5. Bhole and Mahakud, "Financial Institutions and Markets – Structure, Growth and Innovations", TheMcGraw Hill Companies.
6. Guruswamy, S, "Financial Services and System", McGraw Hill Companies
7. Edminister. R.O, Financial Institutions, Markets & Management, McGraw Hill, New York, 1986.
8. Karkal G.C,Unorganised money markets in India, Lalwani, Bombay.
9. Khan. M.Y, Indian Financial System, Vikas
10. H.R Machiraju, Indian Financial System, Vikas Pub. House.
11. E.Gorden& K. Nataraj, Financial Markets and Services, Himalaya Publishing house

REFERENCES

1. ICWA, Financial Services, ICAI, Publication.
2. G.S. Patel, Capital Market, Functioning and Trends, ICFAI Publication.
3. J.N. Dhonkar, A Treatise an Merchant Banking, Skylark Pub. Delhi.
4. Vindo Kothari, Leasing, Hirepurchase and Consumer Credit, Wadhwa and Company.
5. SEBI Guidelines issued from time to time.
6. K. Sriram, Handbook of Leasing, Hire Purchasing and Factor, ICFAI Publications.
7. Gledstone, Venture Capital Investing, NY, Prentice Hall.
8. Smith P.F., Money and Financial Intermediation, The Theory and Structure of Financial Systems, Prentice Hall, New Jersey.

3.3.2 CORPORATE TAX PLANNING AND MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

External environment, especially political and legal environment, has a huge impact and influence on conducting business. One among the factors which has a big impact on both the business enterprise and economy is the element of taxation. Unless a finance manager can analyze and think from tax perspective, no decision is complete and accurate. It is highly essential to understand the various taxes that have an impact on business, procedures to be followed and adopted for meeting tax regulatory requirements, and the system that governs them. Hence, this paper "Corporate Tax Planning and Management" is introduced to orient a prospective finance manager regarding the tax matters that influences business and train him on making decisions considering such influence.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To impart students with knowledge on tax, types of tax and their modalities.
- To give insight on the taxes influencing a corporate entity – both direct and indirect.
- To orient the students on the procedures and formalities to be adhered, with regard to tax matters.

OUTCOMES

- The meaning of taxes, types of tax and the differences between them.
- The taxonomy of taxation in India.
- Computation of income tax liability of a corporate entity and the strategies for legally reducing tax burden.
- The various indirect taxes levied by Union Government on corporate entities, the extent of liability and procedural formalities in respect of each of the taxes.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: ASSESSMENT OF CORPORATE ASSESSES **18 HOURS**

Types of Companies, Residential Status and Incidence of Tax for companies, computation of taxable income and tax liability according to Income Tax Provisions, Book Profits, Minimum Alternate Tax under section 115JB, Tax Credit under MAT, Dividend Distribution Tax u/s 115-O.

2

MODULE 2: TAX PLANNING AND MANAGEMENT **8 HOURS**

Tax Planning, Tax Avoidance and Tax Evasions – Meaning and differences. Objectives and Types of Tax Planning, Areas of Tax Planning – Location of Business, Nature of Business, Form of Ownership, Specific Management Decisions – Capital Structure Decisions, Own or Lease an Asset, Make or Buy Decisions, Repair or Replace Decisions, Transfer Pricing. Tax Planning for Amalgamations.

3

MODULE 3: EXCISE DUTY **10 HOURS**

Meaning, Types, Features of Excise Duty, Sources of Excise Law, Chargeability of Excise Duty – conditions. Goods – classification. Taxable Event. Computation of Duty Payable – specific duty, Compounded Levy Scheme, Duty based on Capacity of Production, Duty based on Value – Tariff Value, Retail Sale Price, Transaction Value. Valuation of Excisable Goods. General procedures – Registration, Payment, Filing of Returns

4

MODULE 4: CUSTOMS DUTY **10 HOURS**

Import Procedures and Export Procedures. Meaning and Types, Features and Sources, Applicability, Chargeability of Customs Duty, Exceptions for levy of customs duty, Taxable Event, Valuation of imported and exported goods for levy of customs duty. Computation of Customs Duty Payable. General Procedures.

5

MODULE 5: SERVICE TAX **5 HOURS**

Meaning of Service – Declared Services and Specific Exclusions. Taxable Services – Negative List and Exempted Services. Taxable Value of Services - Abatements. Taxable Event. Rate of Service Tax – Special Cases. General Procedures – Registration, Payment, Filing of Returns, Assessment.

6	**MODULE 6: CENTRAL SALES TAX**	**5 HOURS**
	Meaning and Objects of Central Sales Tax Act, Terminology, Chargeability of Central Sales Tax – Exceptions, Rate of CST, Sale price and Taxable Turnover	

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Singhania, Vinod, and Singhania, Kapil, "Direct Taxes – Law and Practice", Taxmann.
2. Ahuja, Girish and Gupta, Ravi, "Direct Taxes – Law and Practice", Bharat Publications.
3. Manoharan, T. N and Hari, G.R., "Direct Tax Laws", Snow White Publications.
4. Sodhani, Vineet, "Indirect Taxes", Taxmann Publications.
5. Hiregange, Jain and Nayak, "Student's Handbook on Indirect Taxes", Puliani and Puliani.

REFERENCES

1. Study material of the Institute of Chartered Accountants of India available at http://www.icai.org/post.html?post_id=10169 and http://www.icai.org/post.html?post_id=10172
2. www.finmin.ninc.in
3. www.incometaxindia.gov.in
4. www.cbec.gov.in

3.3.3 CORPORATE VALUATION AND RESTRUCTURING

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The ultimate goal of any business enterprise is 'wealth maximization' or 'value maximization'. A business enterprise must manage itself in order to achieve that goal. Such management is called 'Value Based Management'. For making students understand the essence of valued based management, they must be oriented about valuation, value drivers and the strategies that can help in reaching the goal – both organic and inorganic. This course "Corporate Valuation and Restructuring" aims at orienting finance professionals about the essential components of value based management.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide knowledge on valuation of business enterprises.
- To make students understand the various models of value based management.
- To give insight on various forms of corporate restructuring.

OUTCOMES

- The basic concepts required for corporate valuation.
- The various methods of valuation.
- Valuation in special cases.
- Models of value based management.
- Strategies for 'value maximization' – corporate restructuring, with special focus on mergers and acquisitions.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: BASICS OF BUSINESS VALUATION**	**8 Hours**
	Introduction, Purpose of valuation, distinction between price and value, Principles and Techniques of Valuation, Role of Valuation, key areas of valuation, Concepts of value:- Market Value, Fair value, Book Value, Intrinsic value, Investment value, Liquidation value, Replacement value. Role of valuation in Business acquisition and Corporate finance, Valuation process.	
2	**MODULE 2: VALUATION MODELS**	**10 Hours**
	Approaches/Methods of valuation: Asset-Based Approach, Earnings Based Approach(Earnings-Capitalisation Method ,P/E Ratio), DCF Approach: Market value Based Approach, Market value Added Approach . Enterprise DCF Valuation: Two stage and three stage growth models, Relative Valuation –Direct Comparison and Peer group approach, ,Contingent claim valuation	
3	**MODULE 3: ENTERPRISE VALUATION**	**8 Hours**
	Valuation of firm in pieces : Valuation of Debentures, Valuation of Equity shares, Valuation of Preference shares. Equity DCF Model (Dividend Discount Model and FCFE Model),Adjusted Present Value (APV) Model, Economic Profit Model.	
4	**MODULE 4: INTELLECTUAL CAPITAL VALUATION**	**6 Hours**
	Components and Valuation of Intellectual capital: Market to book ratio. Tobin's Q, Analytical Approaches: Economic value added, Balanced Score card, Human Resource Accounting.	
5	**MODULE 5: CORPORATE RESTRUCTURING**	**14 Hours**
	Introduction and types of corporate Restructuring. Expansion: Amalgamation, Absorption, Tender offer, Asset acquisition and Joint venture. Contraction: Spinoff, Split ups, Equity carve out Divestiture, Asset sale. Corporate controls: Going private, Equity buyback, Leveraged Buyouts, Anti takeover defense.	

6	**MODULE 6: VALUATION OF MERGERS & ACQUISITION**	**10 Hours**
	Concepts of Value in context of Mergers & Acquisitions. Approaches to valuation in case of M&A: DCF Approach, Selection of appropriate cost of capital for valuation, Process of selecting target companies, Forms of Consideration and terms of acquisitions, Implications of regulations for business combinations, Post merger integration process, Types of exit strategies and their implications, Shareholder Value Analysis, Exchange Ratio-Bases used for Computation	

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Ravi M Kishore, “Strategic Financial Management”, Taxman Publication
2. Bender, Ruth and Ward, Keith, “Corporate Financial Strategy”, Butterworth Heinemann.
3. Damodaran, Aswath, “Damodaran on Valuation”, John Wiley.
4. Damodaran, Aswath, “The Dark Side of Valuation”, John Wiley.
5. Chandra, Prasanna, “Corporate Valuation and Value Creation”, McGraw Hill.
6. Jakhotiya, G.P., “Strategic Financial Management”, Vikas Publishing House Private Limited.
7. Allen, David, “Financial Decisions – A Guide to the Evaluation and Monitoring of Business Strategy”, The Chartered Institute of Management Accountants, Kogan Page.
8. Hampton, John, “Financial Decision Making – Concepts, Problems and Cases”, Prentice Hall of India.

REFERENCES

1. Penman, H Stephen, “Financial Statement Analysis and Security Valuation”, Tata McGraw-Hill Publishing Company Limited.
2. Grinblatt, Mark and Titaman, Sheridan, “Financial Markets and Corporate Strategy”, Tata McGraw Hill.
3. Chandra, Prasanna, “Financial Management”, Tata McGraw Hill Publishing Limited.
4. Hawawini, Gabriel and Viallet, Claude; “Finance for Non-finance Managers”, South-Western CENGAGE Learning.
5. Weaver, Samuel and Weston, Fred; “Strategic Corporate Finance” South-Western CENGAGE Learning.
6. Allen, David, “An Introduction to Strategic Financial Management – The Key to Long Term Profitability”, The Chartered Institute of Management Accountants, Kogan Page.
7. Vedpuriswar, A.V, “Strategic Financial Management – Achieving Sustainable Competitive Advantage”, Vision Books.
8. Marshall, John and Bansal, Vipul, “Financial Engineering – A Complete Guide to Financial Innovation”.
9. Copeland, Tom, Koller, Tim and Murrin, Jack, “Valuation – Measuring and Managing the Value of Companies”, McKinsey Quarterly, Wiley Finance.

ELECTIVE SUBJECTS	
3.4	MARKETING
	3.4.1 RETAILING MANAGEMENT AND SERVICES
	3.4.2 CONSUMER BEHAVIOR
	3.4.3 RURAL AND AGRICULTURAL MARKETING

3.4.1 RETAILING MANAGEMENT AND SERVICES

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per	4

2. PERSPECTIVE OF THE COURSE

Marketing of services has emerged as a distinct area over the last couple of decades. Service industry is a large employer and contributes substantially to the economy. Marketing of services needs additional skills and understanding. There is a need to understand marketing of services including retailing which is an emerging service industry.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To understand the services domain from a marketing perspective.
- To understand retailing as a business and have a comprehensive view of the marketing and store management functions in a retailing organization.

OUTCOMES

- At the end of the course, student must be able to understand the essential components of a service business and manage retailing.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **8 HOURS**

Foundations of services marketing - The services concept- Service Industry –Nature of Services, Distinctive Characteristics of Services, Classification of Services – Importance of Services Marketing - The Growth in Services – Global & Indian Scenarios, Extended Services Marketing Mix: 7 Ps of Services Marketing.

2

MODULE 2: **10 HOURS**

The GAP model, Customer expectations of services, Customer perceptions of Service and Measurement of quality in services, Servqual model and measurement methods, Employees role in service delivery, Creating a culture of service, the services marketing triangle, Customers role in service delivery, Services -Market Segmentation – Positioning and Differentiation of Services, Strategies for managing closing the five gaps.

3

MODULE 3: **10 HOURS**

Managing the Service Process – new service development, Service Blueprints, Customer defined service standards, Physical Evidence and Cape Services. Service encounter, Service failure and recovery, Service pricing, Customer relationship management and Loyalty in services, Role of social media in customer services.

4

MODULE 4: **10 HOURS**

Introduction to retailing, types of retailers and Retail formats including e-tailers, theories of retail development, Consumer shopping behaviour and decision making process, the concept of franchising, Retail mix, measuring performance in retail, Introduction to multi-channel retailing, Retail Strategy

5

MODULE 5: **8 HOURS**

Key elements of store operations and managing touch points, role of a store manager, Retail location selection, Segmenting and targeting in retail, shopper marketing - components, store design and layouts, Visual Merchandising

6	**MODULE 6:**	**10 HOURS**
	Integrated marketing Communications in retailing, Merchandising concept and functions, Merchandise Management, Concept of CPFR, Category Management - Definition and process, Introduction to private labels. Customer services in retailing.	

5. PEDAGOGY

Suggested Mini Projects:

a. Create a service blueprint for a retail store/hospital/e-tailer
b. Compare two service providers in the same product category on 7P's of Services marketing
c. Create a letter to the customer who has made a complaint about the service
d. Interview a service employee and a customer in the same establishment to understand expectations and managing them
e. Visit a Kirana store and a large supermarket – compare them on various elements of the retail mix
f. Make a structured observation sheet and observe 10 customers to a large supermarket and list your findings.
g. Go through 4 e-tailers websites and make a SWOT analysis with a focus on 'online services'
h. Visit a large retail store and list the functions of the 'customer service dept.' in that store based on interview and observations.
i. Make a comparison between two retailers and their 'positioning statements' using a photo essay format

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Valarie A Zeithml, Mary Jo Bitner and Ajay Pandit , Services Marketing – Integrating customer focus across the firm, McGraw hill –Irwin Publication, 6th edition, 2012
2. SwapnaPradhan , "Retailing Management text and cases", Tata McGraw hill Education, 4th edition, 2012
3. Michael Levy, Barton Weitz, and Ajay Pandit , Retailing Management, McGraw Hill Education, 8th edition, 2012

REFERENCES

1. PacoUnderhill , Why we buy – The Science of Shopping , Simon & Schuster; Updated and revised edition, 2008.
2. G.P.Sudhakar , Integrated Retail Communication, Prentice Hall of India Pvt Ltd, 2012
3. Sriram B Iyer , Retail Store Operations , Tata McGraw Hill Education Pvt Ltd, Ist Edition , 2011
4. Rosemary Varley and Routledge , Retail Product management: Buying and Merchandising ,Routledge Publication, 2 edition 2005

JOURNALS

1. Journal of retailing and consumer services - elsevier
2. Journal of retailing
3. Journal of services marketing

WEB RESOURCES

1. www.retailmarketing.com
2. www.forbes.com

3.4.2 CONSUMER BEHAVIOUR

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per	4

2. PERSPECTIVE OF THE COURSE

Consumers collectively influence economic and social conditions within an entire society. In market systems based on individual choice, consumers strongly influence what will be produced, for whom it will be produced, and what resources will be used to produce it. Consumer Behavior is the study of individuals, groups or organizations and the processes they use to select, secure, use and dispose of products, services, experiences or ideas to satisfy needs. Essentially, consumer behavior deals with how frequently a person or organization may purchase an item from a company. It closely relates to elements of customer services--such as problem resolution and overall satisfaction--and to marketing strategies such as pricing, promotion and product placement. This course covers the theoretical frameworks and applications based on the understanding of consumer behavior for marketing success and aims at understanding various factors shaping consumer choice.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To gain clear understanding of the factors that shape consumer behavior
- To understand various theoretical models of consumer behavior.
- To gain a perspective on consumer behaviour research and some important tools and techniques used.

OUTCOMES

- At the end of this course, students will be able to appreciate the importance of understanding consumer behaviour for marketing success, understand the various factors shaping consumer behaviour and choice, be able to conduct exploratory research in consumer behavior and be able to use understanding of consumer behaviour in making marketing plans

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **8 HOURS**

Introduction: The Scope and importance of consumer behaviour, Concept, diversity of consumer behavior, Characteristics ofIndian Consumers. Individual determinants of Consumer Behaviour, Motivation, Personality and Self Concept, Consumer Perception, Consumer Learning, Consumer Attitude Formation and Change.

2

MODULE 2: **10 HOURS**

Influences on the Consumer: Consumer needs, motives - positive and negative motivation - rational versus emotional motives. Consumer relevant reference groups - opinion leaders - family decision making and consumption related roles - family life cycle - social class and consumer behaviour - influence of culture on consumer behaviour- cross cultural context. Diffusion of innovations: the diffusion and adoption process - consumer innovativeness and personality traits.

3

MODULE 3: **8 HOURS**

Consumer decision making: Models of consumer decision making - Engle-Kollatt Blackwell model, Howard-Sheth Model, Bettman's Model, HCB Model. Concept of involvement, extensive/limited problem solving – routinized responsive behavior.

4

MODULE 4: **8 HOURS**

Post purchase behavior: Consumer satisfaction concept & Models - Expectancy Disconfirmation, Desires Congruency Model, Equity Theory, Attribution Theory, Cognitive dissonance, Consumer delight, consumer complaint behavior.

5

MODULE 5: **12 HOURS**

Consumerism: Evolution of consumer society. Definition of consumerism, buyers & sellers rights, effects of consumerism. Organizational Buying: Concept & comparison with Consumer buying, Economic Influence; Political Influence; Legal Influence; Supplier's Influence; Technology Influence; Customer Influence; Government Influence; Labour Influence, Analyzing Buyers' strengths & Negotiation Capabilities.

6	**MODULE 6:**	**10 HOURS**
	Organizational Influences on Buying Behavior: Buying Roles; Market Response: The Buy Grid Model; The Organizational Buying Decision Process; Buying Tasks; Interpersonal Influencing in Organizational Buying.	

5. PEDAGOGY

a) Class teaching will be supplemented with case study dimension, field trips and live projects in industry are recommended.

b) Activities: Conduct a Focus group in the classroom and ask students to record their findings, Conduct a pilot survey to understand perceptions, Make a structured observation sheet and do an observational study in a retail space

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. DebrajDatta and MahuaDatta, "Consumer behaviour and Advertising Management", Vrinda Publication Pvt Ltd, Ist Edition, 2011
2. S.Sumathi and P. Saravanavel, "Marketing Research and Consumer Behaviour", Vikas Publishing House Pvt Ltd. Ist Edition, 2003
3. Leon Schiffman and Lazar Kanuk Consumer behaviour, Pretice Hall, 10th Edition, 2009
4. Paco Underhill, " Why we buy: The science of shopping", Simon and Schuster , Updated and revised edition, 2008

REFERENCES

1. Rama Bijapurkar, "We are like that only", Penguin India, 2013
2. Roger D Blackwell, Paul W Miniard, James F Angel, Consumer Behavior, South Western College Publication, 10 Edition, 2005
3. Damodar Mall , Supermarketwala: Secrets to Winning Consumer India,Random House, 2014
4. DhirajSinha , Consumer India: Inside the mind and wallet , John Wiley & Sons, 2011
5. S.L.Rao , Indian Market Demographics : The Consumer Classes", Global Business Press, 1st Edition,1996
6. R.Woodruff and S.F.Gardial, Know Your Customer, New Approaches to

Understanding Customer Value Satisfaction , Cambridge, MA Blackwell, 1996

7. Robert R Reeder, Esward G Brierty, Betty H Reeder, "Industrial Marketing – Analysis, Planning and Control" , Prentice Hall College Division, 2 Sub Edition, 1991

JOURNALS:

1. Journal of Consumer Behaviour
2. Journal of Consumer Research

WEB RESOURCES:

1. www.consumerpsychologist.com
2. www.marketingweek.com
3. www.mrcb.ie.edu
4. www.websitemagazine.com

3.4.3 RURAL AND AGRICULTURAL MARKETING

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per	4

2. PERSPECTIVE OF THE COURSE

In the Indian context, understanding rural and agricultural marketing is essential for every marketing student. 850 million people living in 6.5lakh villages provide a significant market that provides different opportunities and challenges as compared to urban India. Rural and Agricultural marketing have emerged as distinct areas and provide a general understanding of the rural economy in India and its unique opportunities and challenges as a market.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To understand the opportunities and challenges in rural marketing
- To understand the differences between Rural and Agricultural marketing.
- To evaluate different marketing strategies used in rural distribution and promotion

OUTCOMES

- At the end of the course, the student must develop an appreciation for rural and agricultural marketing.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **8 HOURS**

Introduction to Rural Marketing: Definition and Scope of Rural Marketing, Components of Rural Markets, Classification of Rural Markets, Rural vs. Urban Markets. Population, Occupation Pattern, Income Generation, Location of Rural Population, Expenditure Pattern, Literacy Level, Land Distribution, Land Use Pattern, Irrigation, Rural Development Programs, Infrastructure Facilities, Rural Credit Institutions, Rural Retail Outlets.

2

MODULE 2: **10 HOURS**

Segmenting Rural Markets, Rural Marketing Mix Strategies: Positioning in rural markets, Rural Product Strategies and Brand Management – Rural Pricing Strategies – Rural Distribution Strategies – Innovative Distribution Channels like ITC E-choupal, Godrej Adhar, HUL Shakti, Mahindra Samriddhi sand Godrej Sakhi. Rural Promotional Strategies, Challenges in Rural Communication, Rural Media- Mass Media, Non-Conventional Media, Personalized Media, Rural Media Typology, Rural Media Innovation, Influence of Consumer Behaviour on Communication. Cases on FMCG /Beverages /OTC marketing in rural markets.

3

MODULE 3: **8 HOURS**

Marketing strategies for rural markets, Market Research in rural India including findings published reports like Thompson's rural market index and similar ones , Consumer Finance, Public-Private Partnership, E-Rural Marketing, Role of Government and NGOs in Rural Marketing. Qualitative research techniques for rural research, NSSO rural consumption studies

4

MODULE 4: **12 HOURS**

Agricultural Marketing: Nature and Scope, Objectives of Agriculture Marketing, classification of agricultural products and markets, how agricultural marketing is different from rural marketing, Challenges in Agricultural Marketing, Channels of Distribution for agricultural products, Managing rural distribution networks. Government led incentives for agricultural marketing like KrishimarataVahini, online trading in Karnataka, and Agmarknet, Impact of Rural Credit and Finance on Rural Consumerism – Scope and role of Banking and NBFCs in Rural markets.

5

MODULE 5: **8 HOURS**

Export potential for farm products - Role of APEDA, Global GAP, International Marketing and Export process -Supporting Services, Cooperative Marketing –Concept, History, Functions – Reasons for slow progress of cooperative sector and successful cases such as Amul. Supply Chain Management in Agricultural products including Post harvest processes and cold chains, commodity markets and futures, understanding the

	economics of fresh, chilled and frozen produce.
6	**MODULE 6: 10 HOURS** The Future of Rural Marketing, Concept and working of contract farming in India. Suggestions and group discussions from students on the future of Rural Marketing in India. Case studies of Safal, Gherkin exports, and Poultry farming may be useful.

5. PEDAGOGY

Class teaching augmented with relevant case studies. Field trips and live projects are compulsory in the light of understanding the practicality of the subject.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. PradeepKashyap , Rural Marketing, Pearson 2nd edition, 2012
2. BalramDogra&KarminderGhuman, Rural Marketing: Concepts and Cases ,Tata McGraw Hill Education Pvt Ltd, 2007

REFERENCES

1. Krishnamacharyulu and LalithaRamakrishnan , Rural Marketing: Texts and Cases, Pearson Education, 2nd Edition, 2011
2. NilabjaGhosh , India's Agricultural Marketing: Market Reforms and Emergence of New Channels, Springer India, 1st Edition, 2013
3. Dr. SubhashBhave , Agribusiness Management in India –Text & Cases

OTHER RESOURCES

1. www.ruralmarketingsolutions.com
2. www.rmai.in
3. www.ruralyellow.in
4. www.campaignindia.in
5. www.rwp.in
6. International Journal of Rural Marketing
7. Prajnan journal of Social and Management Sciences

ELECTIVE SUBJECTS	
3.5	HUMAN RESOURCES 3.5.1 LEARNING AND DEVELOPMENT 3.5.2 INDUSTRIAL AND EMPLOYEE RELATIONS 3.5.3 PERFORMANCE MANAGEMENT SYSTEM

3.5.1 LEARNING AND DEVELOPMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

In the context of global competition, organizations are committing more resources, in the forms of both time and money towards learning that enables employees to continuously update and develop their competencies. The present course is designed to study the concepts and processes of learning/training and development.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enable the students to understand the concepts, principles and process of learning and development.
- To develop an understanding on various non-training solutions to improve employee performance

OUTCOMES

- By the end of this course, a student would learn to develop an understanding of how to assess training needs and design training programmes in an Organisational setting. To familiarize the student with the levels, tools and techniques involved in evaluation of training effectiveness

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **8 HOURS**

Introduction - Need and importance of Training and development in organizations - A Systematic approach to Training & Development - Assessment, Training and Development and Evaluation Phases, Training administration, difference between training and learning.

2

MODULE 2: **10 HOURS**

Need Assessment and Analysis - Organizational Support for need assessment - Operational / Organizational analysis - Requirement analysis - Individual analysis - Motivational aspects of HRD - Development cycle - Reinforcement for behaviour modification - Challenges to become learning organization - Trainee readiness - Trainee motivation to learn.

3

MODULE 3: **10 HOURS**

An overview of Instructional Approaches - Traditional and modern Instructional Approaches - Internal Vs External Training - Training Methods - On the Job - Apprenticeship working – mentoring; Off the Job - Case studies - lectures - vestibule – sensitivity - in-basket - role plays - audiovisual & other contemporary methods - Adult learning principles or methods

4

MODULE 4: **10 HOURS**

Training Evaluation and Measurement - Introduction to evaluation process - Criteria development - choosing criteria measures - Evaluation of Criteria - Experimental Designs - quasi experimental designs - Other methods of evaluation - External Training Validity - Models of Evaluation - ROI on Training

5

MODULE 5: **10 HOURS**

Human resource development - HRD at micro and macro levels - Sub-systems of HRD - role of HRD function - Concept of career – Career Stages - Steps in career Planning - Methods of career planning and development - Career development Actions and programs - Career problems and solutions - Guidelines for Career management –

Concept, need and importance of management development - Management development process - Leader centred techniques of management development.

6

MODULE 6: 8 HOURS

Practical - Design and conduct training program and visit vocational training institutes.

- Create and implement a training needs analysis
- Develop and implement a training plan
- Assess and/or evaluate a training plan
- Propose alternatives to training

5. PEDAGOGY

- Lectures
- Demonstration with training materials/videos
- Practical Excises – Individual and Group
- Case Studies

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Goldstein Irwin L, “Training In Organizations - Needs Assessment, Development & Evaluation’’, Wordsworth Publication
2. Lynton & Parekh, “Training for Development”, Sage Publications
3. Robert L. Craig, “ASTD Training and Development”, McGraw Hill Publications
4. Dugan laird, “Approaches to Training and Development”, Perseus Publishing, 2003
5. Rao TV, “Readings in HRD”, Oxford & IBH
6. NM Agrawal, Transfer of Learning - ISTD Article
7. Noe, A Raymond &Kodwani, Deo Amitabh, “Employee Training and Development”, 5e, McGraw Hill Publications, 2012

3.5.2 INDUSTRIAL AND EMPLOYEE RELATIONS

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The legal aspects of HR and our legal system have a pervasive impact on business activities. Decisions of PM and/or IR executives frequently raise issues which should be carefully evaluated as to their legal consequences before they are implemented. The failure to appreciate these legal implications can lead to seriously damaging, if not disastrous, results for an organization. The approach of this course would be to address National Laws and APEX court decisions that relate to law of the country in general and Labour Laws in particular.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To develop an understanding of the interaction pattern among labour, management and the State
- To build awareness of certain important and critical issues in Industrial Relations

OUTCOMES

- By the end of this course the student would learn basic knowledge of the Indian Industrial Relations System and its distinctive features in comparison to other countries

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INDUSTRIAL RELATIONS 8 HOURS

Definition – Nature - Evolution of IR in India - Context and environment of IR .- Three actors and their roles in IR -Approaches to IR &HR Relations - Gandhian approach - Marxian approach and Dunlop's Systems approach. Emerging Trends in IR, Future of IR in India

2

MODULE 2 : IR POLICIES **12 HOURS**

The state and IR policies - Evolution of IR policies - National Commission on Labour& IR policy (1969) - Grievance procedure – discipline - Labour courts - Collective bargaining: concept and development - Industrial unrest in India

Industrial Disputes Act 1947 - Objects Of The Act - Important Definitions: Authorities Under The Act - Causes Of Industrial Disputes - Types Of Industrial Disputes - Prevention Of Industrial Disputes - Reference Of Disputes Settlement - Strikes - Lock-Outs - Lay Off-Retrenchment - Unfair Labour Practices - Standing Orders - Service Rules –Misconduct - Principles Of Natural Justice - Domestic Enquiry - Remedial Counseling

3

MODULE 3: TRADE UNIONS **10 HOURS**

Reasons and types of trade unions - Trade union movement in India - Problems and challenges of trade unions - Functions of trade unions - Strengthening trade unions, Indian Trade Unions Act, 1926 – Registration, need for recognition and rights, Central trade unions in India - Participative management - Forms and levels of participation - Process of negotiation - Prerequisites of collective bargaining -Employee empowerment - Tripartite and bipartite bodies - Joint Management council - Conciliation machinery : Mediation, arbitrations -adjudication.

4

MODULE 4: LABOUR LEGISLATIONS **10 HOURS**

Labour legislation in India - Social security and welfare legislations - Concept of social security - ILO and social security -Social security measures in India - Workmen's Compensation Act,1923 - Employees State Insurance Act, 1948 -Employees Provident Fund and (Miscellaneous Provisions) Act, 1952 - Maternity benefit Act,1961,Payment of Gratuity Act 1972, Payment of Bonus Act 1965.

5

MODULE 5: WELFARE LEGISLATIONS **10 HOURS**

The Factories Act 1948 - Plantation Labour Act 1951 - Contract Labour (Regulations and Abolitions Act-1970, Shops and Establishment Act, Latest rules regarding industrial relations in IT and ITES industries. Functions of Labour Department in Karnataka, Officers under the department and their duties and responsibilities.

6	**MODULE 6: EMERGING ISSUES06 HOURS** Labour legislation pertaining to employees working on night shifts; specific provisions for female employees, ethical issues arising due to night shift and HR intervention; impact of night shift working on family and social life

5. PEDAGOGY

- Lectures
- Practical Excises – Individual and Group (Assignment to visit industries / interaction with executives)
- Case Studies / Case laws in Industrial Relations

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. C B Marmoria, “Dynamics of Industrial Relations in India”, Vikas Publishing, New Delhi.
2. P C Tripathi, “Personnel Management and Industrial Relations”, S Chand, New Delhi.
3. P SubbaRao, “Human Resources Management & I R”, S Chand, New Delhi.
4. ArunMonappa&RanjeetNambudiri, “Industrial Relations and Labour Laws”, Tata McGraw Hill 2nd edition.
5. C.S VenkataRatnam, “Industrial relations”, Oxford University Press
6. B.D.Singh ,”Industrial Relations”, Excel books
7. B.D.Singh ,”Labour Laws for Managers”, Excel books

3.5.3 PERFORMANCE MANAGEMENT SYSTEM

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Performance management is basically a system of different processes that combine to create an effective workforce within the company that can effectively reach the business goals. There are many different aspects of performance management, but in most cases it can be broken down into a few simple steps. Performance management tools that can help the student to formulate plans, monitor progress closely, and even track and manage rewards.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- The objective of this course is to equip students with comprehensive knowledge and practical skills to improve their ability for performance appraisal in their organizations.

OUTCOMES

- It is particularly intended for students as future managers and supervisors who will conduct the performance appraisal of their subordinates.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **10 HOURS**

Conceptual aspects of Performance System, Dimensions and excellence in performance - Pillars of human performance - Theoretical base for PMS - Objectives and functions of PMS - Performance Management Prism - Competency based PMS - Electronic PMS- Potential appraisal and HRM , Performance Management and Employee Development – Emerging trends in performance appraisal

2	**MODULE 2 : 12 HOURS** Team performance Management - Building and leading high performance teams - Virtual teams - Remote working, prerequisites of remote team performance -Role of team leaders - Drivers of performance - Designing appraisal programs - Conducting appraisals - individuals and teams - Feedback mechanisms – Individual and team rewards.
3	**MODULE 3: 8 HOURS** Objectives, process, pros and cons of Performance appraisal - Design of appraisal forms using rating scales - Different methods of appraisals – Past, present and future oriented methods.
4	**MODULE 4: 8 HOURS** Data collection on Performance information - Presentation, interpretation and corrective action - Performance management guidelines and checklists for managers - Common problems in assessment - Ways to avoid pain during appraisals.
5	**MODULE 5: 8 HOURS** Managing high performance - Pay for performance - Performance improvement - Identification of gaps - Creative performance strategies - Performance management skills
6	**MODULE 6: 10 HOURS** Legal issues associated with performance appraisals - Mentoring and coaching - Counselling and Monitoring Managing development - Guidelines on appraising expatriate's Performance, counselling for better performance - Six sigma and bench marking.

5. PEDAGOGY

- Lectures
- Practical Excises – Individual and Group
- Case Studies

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. B D Singh, “Performance Management System – A Holistic Approach”, Excel books
2. S Kohli and T Deb, “Performance Management”, Oxford Higher Education
3. PremChadha, “Performance Management- it’s about performing not about Appraising”, Mcmillan Business books
4. SoumendraNarainBagchi, “Performance Management”, Cengage Learning
5. Herman Aguinis, “Performance Management”, Pearson.
6. Kaizen strategies for improving team Performance, Prentice Hall
7. TV Rao Performance Appraisal , Vikas /Oxford IBH
8. TV Rao, Raju , GopalMahapatraNandini, Performance Appraisal & 360 Degree Feedback, 2nd Edition, Excel Books/Oxford IBH

ELECTIVE SUBJECTS	
3.6	HEALTH CARE MANAGEMENT 3.6.1 PERSPECTIVES ON HEALTH CARE SECTOR 3.6.2 MANAGEMENT OF PUBLIC HEALTH SYSTEMS 3.6.3 HEALTH ECONOMICS

3.6.1 PERSPECTIVES ON HEALTH CARE SECTOR

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The healthcare sector is one of the important social sectors operating in the economy which has a bearing on the performance of other sectors within the economy. This course will provide bird's eye view of health sector, including the policies pertaining to healthcare set-up in India. The course will help the participants to be familiar with terminology as applicable to healthcare set up including having overview of non-clinical disciplines. The course will also provide understanding of the roles of the government and different constituents in healthcare industry. It provides the general understanding of the gamut of the operations and impact of the same being undertaken by various stakeholders.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To introduce the student to the overview and perspectives of healthcare sector.
- To develop sense of interest about healthcare sector among students.

OUTCOMES

- By the end of the course, the student is expected to develop sensitivity about healthcare issues.

4 COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION **8 HOURS**

Meaning, Scope & Dimensions of health and well-being,- Determinants of health,- Role of healthcare in Human Development , economic Development and inclusive growth.

2

MODULE 2: HEALTHCARE TERMINOLOGY **8 HOURS**

Introduction to Epidemiology, Human Biology; Familiarisation with terms like Bio-chemistry, Physiology, Anatomy, Microbiology, Pathology & Pharmacology.

3

MODULE 3: INDIAN HEALTH CARE **10 HOURS**

Constitutional rights and obligations for citizens,-Healthcare Delivery in India-Primary, Secondary and Tertiary Levels,-Public and Private Health Systems-Indigenous Systems of Medicine-Health Policy-Healthcare Reforms in the recent years.

4

MODULE 4: HEALTHCARE SECTOR **12 HOURS**

Introduction to Medical Diagnostics, Devices and Imaging Industry, Pharmaceuticals, Medical Tourism and Health Insurance-Drivers of healthcare industry-Government Policies and Regulations-Profiles of the major companies -Outsourcing; Challenges and Opportunities-Recent Trends-Research and Development Activities.

5

MODULE 5: STATUS OF THE HEALTHCARE SECTOR **12 HOURS**

Introduction to Demographics- Statistics on healthcare infrastructure in India- Overview of international health systems as compared to Indian Health System-Plurality of healthcare situation-Coverage and the impact of the health services-Future of the Indian Health System-Challenges and emerging domains in the healthcare delivery-Social Audit

6

MODULE 6: PRACTICAL INTERACTION **6 HOURS**

Case Study Discussion and interaction with healthcare professionals from constituents of the healthcare sector.

5 PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, web-based assignments, experiences, case study designing specific to the topic, exploratory exercises, instruments, videos , Awareness Generation Visits, Interactions with subject experts..

6 TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Goel, S.L.,"Health Care Organization and Structure", Deep and Deep Publications, 2004
2. Majumdar, P.K," Fundamentals of Demography", Rawat Publications , 2010
3. Moisio, Marie A,"A Guide to Health Insurance Billing", Delmar Cengage Learning, Ist Edition, 2000
4. Kumar, Rajesh," Global Trends in Health and Medical Tourism", SBS Publishers and Distributors Pvt Ltd., 2009

REFERENCES

1) http://www.medicaltourisminindia.net/index.html

2) http://www.healthbase.com/

3) Excellence in Diagnostic Care-Creating a value chain to deliver an excellent customer experience- KPMG and CII Report, 2011

4) Medical Technology industry in India-Riding the growth wave-Deloitte and CII Report-July 2010

5) Indian Medical Electronics Industry 2020-Deloitte and FICCI Report, December 2011

6) Healthcare Pulse -Medical Devices : India Insight 2013-Grant Thornton , 2013

7) Health Insurance Evolution in India; An Opportunity to Expanded Access , Cognizant 20-20 Insights, February 2014

8) A Brief Report on Healthcare, Telemedicine, and Medical Tourism in India, October 2013, Corporate Catalyst India, www.cci.in

3.6.2 MANAGEMENT OF PUBLIC HEALTH SYSTEMS

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

"Prevention is better than cure". This adage goes well with the public health systems. This course will help in learning, develop, implement and evaluate effective public health initiatives within the country. The knowledge attained by this course will enable professionals to conceptualize and analyze programs in the context of the communities they serve, taking into account cultural, social, economic, ethical and legal factors.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To introduce the student to public health domain.
- To make the student understand the principles and dimensions of public health.

OUTCOMES

- The student shall be in a position to appreciate the role and importance of public health in healthcare

4. COURSE CONTENT AND STRUCTURE

1 **MODULE 1: INTRODUCTION TO PUBLIC HEALTH 8 HOURS**

Meaning and scope - Changing concepts in public health – Concept of disease - Principles of disease transmission & disease control- Health for All vs Health for only those who can pay.

2 **MODULE 2: PUBLIC HEALTH SYSTEM 10 HOURS**

Healthcare of community-Public Health Planning and Management- Role of environment (air, water and land) in Health-Disaster Management-Prediction, Preparation and Rehabilitation-Communitization of Health

3	**MODULE 3: PRINCIPLES AND METHODS OF PUBLIC HEALTH 10 HOURS** Epidemiology of communication and non-communicable diseases-Vital Statistics of Public Health – Principles of epidemiological studies and epidemiological methods – Types of epidemiological studies- Surveillance, Monitoring.
4	**MODULE 4: NATIONAL HEALTH PROGRAMMES 12 HOURS** Health Programmes on Maternal and Child Health, Family Welfare, Occupational Health, Environmental Health, Genetics, Geriatric Health, Nutrition and Health and Mental Health-Evaluation of the programmes and schemes-National Health Mission-Community Health Programs-Community Participation-Role of NGOs-Advocacy Campaigns
5	**MODULE 5: HEALTH EDUCATION AND COMMUNICATION 10 HOURS** Information, Communication and Education (ICE) in Health; Principles, Methods, and Materials-Role of Mass Media-Mass Communication.
6	**MODULE 6: MEDICAL ETHICS 6 HOURS** Codes of Conduct: MCI Regulations (Professional conduct etiquette and ethics) – Ethics of trust vs ethics of rights– Understanding of patient rights-Distributive justice in health care – Ethics in organ transplantation, clinical trial, care of terminally ill, Euthanasia (Assisted Death)

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, web-based assignments, experiences, case study designing specific to the topic, videos, films and visits to Primary Health Centers and Government Hospitals

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. K Park., "Text Book of Preventive and Social Medicine", BanarasidasBhanot, 21 edition ,2011
2. Webber, Roger ., "Communicable Disease Epidemiology and Control: A Global Perspective" , Oxford University Press ; 2nd Edition , 2005
3. Rao, A.A. Kameswara .,"Community Medicine: Practical Manual" , 2005
4. Schneider, Mary-Jane., "Introduction to Public Health" ., Jones & Bartlett Publishers; 3 edition , 2012
5. Sathe&Sathe., "Epidemiology & Management for Healthcare for all", Popular Prakashanam,1997
6. Francis C M.,"Medical Ethics", Jaypee Brothers Medical Publishers (Pvt Ltd), New Delhi, 1993.
7. S. L Goel., "Healthcare Systems and Managements; Primary Healthcare Management", Deep and Deep Publications, New Delhi , Vol 4, 2001.

3.6.3 HEALTH ECONOMICS

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Health Economics course has been designed to develop basic understanding and skills necessary to analyze issues and problems in utilization of health services from an economic perspective. Health sector consumes a large proportion of resources. As a consequence, there are major economic issues involved, not only on whether this amount is right, but how best to spend it and on whom. Therefore, this course becomes imperative for policy makers, planners, and managers in the field of healthcare. The course covers the basic theory of microeconomics in health care such as demand, supply, pricing; production, cost, competitive market equilibrium, monopoly and monopolistic market etc.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To introduce the student to the micro and macro-economic principles as applicable to healthcare.
- To make the student to understand healthcare markets.

OUTCOMES

- By the end of the course, the student shall be in a position to understand the application of healthcare economics.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: NATURE AND SCOPE OF HEALTH ECONOMICS 6 HOURS

Definition , Concept and application in Health Systems-Health Economics vs Healthcare Economics-Basic Economic Concepts - Circular Flow of Economic Activity - Using Economics to Study Health Issues - Nature and relevance of Economics to Health and Medical care.

2	**MODULE 2: HEALTH CARE AND MACRO ECONOMICS 10 HOURS** Unique nature of health as an economic activity-Demand and supply of healthcare-Health as a consumer and investment good- Macro economic theory and policy - Valuation & Measurement of Health-Monetary evaluation of length of life- Valuation of the quality of life-Economic Evaluation in healthcare– Understanding of welfare economics.
3	**MODULE 3: HEALTHCARE AND MICROECONOMICS 10 HOURS** Current Assets, Inventory valuation, Cost formulas (AS-2) Fixed Assets Cost of Acquisition (AS-10), Depreciation methods (AS-6), Liabilities and its classification.
4	**MODULE 4: HEALTHCARE ECONOMICS AND PLANNING 10 HOURS** Basic Economic Aspects in Healthcare-Externalities (Spillover Effects)-Equity and Health-Techniques of Economic Efficiency, Operational Efficiency and Allocative Efficiency - Economic aspects of Public Private Partnership (PPP).
5	**MODULE 5: HEALTHCARE MARKET 12 HOURS** Meaning and definition, Role and Functions of financial markets, constituents of Financial Markets, Money Market and instruments, Capital Markets and Instruments.
6	**MODULE 6: PRACTICAL ASSIGNMENT 8 HOURS** Assignment on demand and supply analysis of new hospitals.

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, case study designing specific to the topic

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Getzen, Thomas E.,"Health Economics and Financing" , Wiley , 3rd Edition, 2006
2. Dutta, ShuvenduBikash.,"Health Economics for Hospital Management" ,Jaypee Brothers Medical Publication Ltd, 2014.

3. N K Anand&ShikhaGoel, “Health Economics”, A.I.T.B.S Publishers India, New Delhi,2nd Edition, 2010
4. H S Rout & P.K Panda, “Health Economics in India”, New Century Publications, New Delhi, 2007
5. V Raman Kutty, “A Premier of Health Systems Economics”, Allied Publishers, New Delhi, 1999
6. James Henderson,”Health Economics and Policy”, Cengage Learning, 5 Edition, 2011
7. Rexford E. Santerre and Stephen P. Neun, “Health Economics: Theories, Insights and Industry Studies” The Dryden Press, Harcourt Brace & Co., Orlando, 6th Edition, 2012

REFERENCES

1. www.macroscan.org: Government Health Expenditure in India; a benchmark study.
2. UNDP: Human Development Report, OUP, New York (Recent three years).
3. Government of India, Five Year Plans.
4. Report of National Commission on Macro-Economics and Health, 2005, Ministry of Health and Family Welfare, Government of India

ELECTIVE SUBJECTS	
3.7	BANKING FINANCE AND INSURANCE SERVICES (BFIS) 3.7.1 STRATEGIC CREDIT MANAGEMENT IN BANKS 3.7.2 INSURANCE PLANNING & MANAGEMENT 3.7.3 INDIAN FINANCIAL SYSTEM

3.7.1 STRATEGIC CREDIT MANAGEMENT IN BANKS

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Major challenge faced by every bank is its deteriorating quality of assets, especially the 'advances'. A liberal lending policy of a bank can lead to high volume of non-performing assets while a rigid lending policy could get no business. Further, the competition among banks could force banks to adopt short-term measures for boosting measures, having impact on long-run record of the business. Hence, it is essential for banks to have the idea of managing credit strategically. This course provides a framework of Credit Management of Banks from strategic perspective.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide a framework of banking in general, and functioning of banks in Indian context, in particular.
- To provide knowledge of the credit management strategies of banks.
- To make understand the process and procedures adopted by banks for processing loan applications.
- To provide knowledge of management of non-performing assets of various banks.

OUTCOMES

By the end of the course, a student would

- Know the regulation of banks in Indian environment and their functioning.
- Know the process, systems and procedures of sanctioning credit by various banks.
- Obtain the skill of evaluating financial statements and other documents as appraised by the banks.
- Know about the strategies used by banks for managing non-performing assets

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: EVOLUTION OF BANKING INSTITUTIONS 10 HOURS

Introduction to banking business, Commercial Banking, Functions, Services, General Structure and methods of Commercial Banking in India, Mechanism of Credit Creation, Liabilities, Assets of Banking, Systems of Banking, Banking innovations, RBI, Functions and Role of RBI, Monetary policy of RBI

2

MODULE 2: OVERVIEW OF BANK'S CREDIT POLICY 8 HOURS

Introduction to Credit policy, Importance, Objectives and Formulation of Loan policy, Credit Exposure and RBI norms, Different types of Loan and Advances, Fund based and Non-Fund based facilities.

3

MODULE 3:APPRAISAL OF CREDIT PROPOSALS: SANCTIONING OF CREDIT LIMITS 10 HOURS

Introduction, Meaning and Scope of Credit Appraisal, The credit process, Pre-Appraisal stage, Appraisal stage, Post-sanction Compliance: Monitoring and Supervision of Advances, Documentation, Purpose, Process for Fresh Advances, Documentation at time of Renewal/Enhancement/Death of a borrower.

4

MODULE 4: CREDIT ANALYSIS: DIFFERENT TYPES OF BANK BORROWERS 10 HOURS

Introduction, Credit Analysis of Sole Proprietary concern, Partnership firms, Limited companies, Local Bodies and Statutory Bodies/Corporations.

5	**MODULE 5: EVALUATING COMMERCIAL LOAN REQUEST: FINANCIAL STATEMENT ANALYSIS 10 HOURS** Introduction, Financial statements, Ratio Analysis as a tool for Financial Statement analysis, Accounting ratios, Types of ratios used for appraisal of Credit Proposal
6	**MODULE 6: MANAGEMENT OF NON-PERFORMING ASSETS 8 HOURS** Introduction, Meaning and Definition, Importance, and Classification of Non - Performing assets, Guidelines for classification, Provisioning norms, Recovery of NPA's, Strategies for reducing NPA's

5. PEDAGOGY

a) Lectures and presentations.

b) Live examples and cases

c) Seminars from industry experts.

d) Assignments about interaction with banks.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. G. S. Popli and S. K. Puri, Strategic Credit management in Banks, PHI, 2013
2. K.C Shekhar and LekshmyShekhar, Banking Theory and practice, Vikas Publication, 21st edition, 2013
3. Padmalatha Suresh and Justin Paul, Management of Banking and Financial Services, Pearson, 3rd Edition, 2014
4. P.K. Gupta, Insurance and Risk Management, Himalaya publishing house, 2015
5. JatinderLoomba: Risk Management and Insurance Planning PHI, 2014
6. L.M. Bhole and JitendraMahakud, Financial Institutions and Markets, 5th Edition, 2012
7. JyotsnaSethi and Nishwan Bhatia, Elements of Banking and Insurance, PHI, 2nd Edition, 2012
8. Bharati.V. Pathak, The Indian Financial system, Pearson Education, 2nd Edition, 2008
9. Koch W Timorty and S Scott, "Bank Management", Thomson, New Delhi.
10. IIBF, "Principles of Banking", Mc Milan, New Delhi.
11. IIBF, "Risk Management", Mc Milan, New Delhi.

12. Bagchi S.K., “Credit Risk Management”, Jaico Publishing House, Mumbai.
13. Rose, Peter, “Commercial Bank Management”, 5th Edition, Texas A&M University, College Station..
14. Karkal G.C: Unorganised money markets in India, Lalwani, Bombay.
15. Khan. M.Y. Indian Financial System, Vikas
16. H.R Machiraju: Indian Financial System, Vikas Pub. House.
17. E.Gorden& K. Nataraj, Financial Markets and Services, Himalaya Publishing house

3.7.2 INSURANCE PLANNING & MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Many Financial Products and Services have been innovated and introduced in financial markets over centuries. One of the Prominent Financial Products is Insurance. Being the need of every individual and organization, knowledge of its spread, systems and operations is essential for every person planning a career in Finance. This Course is introduced to provide a broad based knowledge about various insurance products and the operational procedures associated with the major products.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide knowledge on the various forms of Life, Health and Property Insurance.
- To provide orientation on selection of insurance products.
- To outline the mechanism of pricing insurance products.
- To orient about the operational procedures of various forms of insurance.

OUTCOMES

By the end of the course, a student would

- Know about the various forms of insurance and their suitability.
- Know about the criteria for selection of various insurance products.
- Know the pricing mechanism of insurance products.
- Know the systems and procedures associated with various forms of insurance.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION TO INSURANCE **8 HOURS**

Introduction, Meaning, Origin and Development of Insurance, Characteristics, Purpose and Need, Benefits, Functions and Importance of Insurance, Principles and Nature of Insurance Contract, Types of Insurance Contracts, Fundamentals of Insurability, Classifications of Insurance, Structure of Insurance Industry in India.

2	**MODULE 2: LIFE INSURANCE, NEED AND POLICY ANALYSIS**	**10 HOURS**
	Introduction, Motives of Purchasing Life Insurance Policy, Life's need analysis, Determining the amount of Life Insurance, Human value approach, Need's approach, Capital retention approach, Life Insurance Policy, Types of Life Insurance Policy, Benefits of Life Insurance, Policy selection, Determining the cost of Life Insurance, Factors to consider while buying Life insurance.	
3	**MODULE 3: MEDICAL INSURANCE**	**10 HOURS**
	Health Insurance Policy, Health Insurance Policies in India - An Overview, Types of Health Insurance, Types of Coverage, Personal Accidents/Disability Income Insurance, Factors to consider while buying Medical Insurance	
4	**MODULE 4: PERSONAL PROPERTY AND LIABILITY INSURANCE**	**8 HOUR**
	Home Owner's Insurance, Coverage Types, Claims procedure, Motor Vehicle Insurance - Types, Overseas and Travel Insurance-Types, Travel Insurance Policy exclusion.	
5	**MODULE 5: INSURANCE PRICING**	**10 HOURS**
	Pricing Objectives, Rate making, Life Insurance Pricing elements, Objectives of Rate making, Basis of rating in Indian context, calculation of Premium, Rate making in property and Liability Insurance, Methods of Loading	
6	**MODULE 6: POLICY SERVICING AND CLAIMS SETTLEMENT**	**10 HOURS**
	Insurance Documents, Nomination, Alterations, Revival, Policy loans, Surrender value and Paid up value, Issue of Duplicate Policies, Cost Policies, Claim settlement Objectives, Types and Steps in Settlement of Claim, Claim settlement process for Life Insurance, Health Insurance, Re-Insurance, Need, Types and Alternatives.	

5. PEDAGOGY

a) Lectures and presentations.

b) Live examples and cases about policy pricing and settlement procedures.

c) Seminars from industry experts.

d) Assignments about interaction with insurance agents and companies

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. JatinderLoomba: Risk Management and Insurance Planning PHI, 2014
2. Misra M.N and Misra S.R, Insurance Principles and Practice, S.Chand and Co. NewDelhi, 2007
3. P.K. Gupta, Insurance and Risk Management, Himalaya publishing house, 2015
4. Jave S. Trieschimam, Sandra G. Guatarson, Robert E Houyt, Risk Management and Insurance, Thomson Sowlla Western Singapore, 2003
5. Black, Kenneth and Horord D Shipper, “Life and Health Insurance”, Pearson Education, New Delhi.
6. Ganguly, Anad, “Insurance Management”, New Age International, New Delhi

3.7.3 INDIAN FINANCIAL SYSTEM

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

A finance professional needs knowledge of financial management practices within the organization, and financial systems which influence the organization from outside. The financial system comprises of financial institutions, financial markets, financial instruments, financial products and services. A thorough understanding of all these components will equip a finance manager to make better and informed decisions. Hence, the course on "Indian Financial System" which orients the learner all the external forces influencing financial and strategic decisions of a business enterprise is introduced.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide an insight into the functioning of Indian financial system.
- To make students understand the various components of the financial system, the inter-relationship among different components and the impact on business enterprise

OUTCOMES

- The framework of Indian Financial System.
- The various financial institutions that have impact and influence on business organizations and their functioning.
- The financial markets and their mechanism, with special emphasis on Stock Exchanges.
- Various financial services available for a business enterprise

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: OVERVIEW OF FINANCIAL SYSTEM **6 HOURS**

Indian Financial System – Features, Constituents of Financial System – Financial Institutions, Financial Services, Financial Markets and Financial Instruments. Overview of Global Financial System

2	**MODULE 2: FINANCIAL INSTITUTIONS**	**12 HOURS**
	Meaning of Financial Institutions, Special Characteristics, Broad Categories – Money Market Institutions and Capital Market Institutions. Industrial Finance Corporation of India, Industrial Development Bank of India, State Financial Corporations, Industrial Credit and Investment Corporation of India, EXIM Bank of India, , National Small Industrial Development Corporation, National Industrial Development Corporation, Life Insurance Corporation of India, Unit Trust of India	
3	**MODULE 3: NON-BANKING FINANCIAL INSTITUTIONS**	**8 HOURS**
	Meaning, Registration, Principal Business of NBFCs, Structure, Supervision, RBI Measures for NBFCs, Other Measures.	
4	**MODULE 4: FINANCIAL SERVICES**	**12 HOURS**
	Concept, Objectives / Functions, Characteristics, Financial Services – Concept, Classification, Regulatory Framework. Merchant Banking, Mutual Funds, Leasing, Credit Rating.	
5	**MODULE 5: FINANCIAL MARKETS**	**12 HOURS**
	Meaning and definition, Role and Functions of financial markets, constituents of Financial Markets, Money Market and instruments, Capital Markets and Instruments.	
6	**MODULE 6: STOCK EXCHANGE**	**6 HOURS**
	Meaning and definition, Role and Functions, Regulatory Framework of Stock Exchange, Profile of Indian Stock Exchanges, Listing, Trading	

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Guruswamy, S., “Indian Financial System”, TheMcGraw Hill Companies.
2. L.M. Bhole: Financial Institutions & Markets, Tata McGraw Hill, New Delhi.
3. Khan, M.Y; “Indian Financial System”, TheMcGraw Hill Companies.
4. Sharma, Meera; “Management of Financial Institutions”, Eastern Economy Edition.
5. Bhole and Mahakud, “Financial Institutions and Markets – Structure, Growth and Innovations”, TheMcGraw Hill Companies.
6. Guruswamy, S, “Financial Services and System”, McGraw Hill Companies
7. Edminister. R.O: Financial Institutions, Markets & Management, McGraw Hill, New York, 1986.
8. Karkal G.C: Unorganised money markets in India, Lalwani, Bombay.
9. Khan. M.Y. Indian Financial System, Vikas
10. H.R Machiraju: Indian Financial System, Vikas Pub. House.
11. E.Gorden& K. Nataraj, Financial Markets and Services, Himalaya Publishing house

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1. ICWA, Financial Services, ICAI, Publication.
2. G.S. Patel, Capital Market, Functioning and Trends, ICFAI Publication.
3. J.N. Dhonkar, A Treatise an Merchant Banking, Skylark Pub. Delhi.
4. Vindo Kothari, Leasing, Hirepurchase and Consumer Credit, Wadhwa and Company.
5. SEBI Guidelines issued from time to time.
6. K. Sriram, Handbook of Leasing, Hire Purchasing and Factor, ICFAI Publications.
7. Gledstone, Venture Capital Investing, NY, Prentice Hall.
8. Smith P.F., Money and Financial Intermediation, The Theory and Structure of Financial Systems, Prentice Hall, New Jersey.

ELECTIVE SUBJECTS	
3.8	STARTUPS AND SMEs MANAGEMENT 3.8.1 PERSPECTIVES ON STARTUPS AND SMEs 3.8.2 BASIC MANAGEMENT ASPECTS OF SMALL BUSINESS 3.8.3 ESTABLISHMENT OF SMEs

3.8.1 PERSPECTIVES ON STARTUPS AND SMES

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Micro, Small and Medium Enterprises (MSME) contribute nearly 8 percent of the country's GDP, 45 percent of the manufacturing output and 40 percent of the exports . An estimated 47 million enterprises with an investment of Rs.13 trillion in fixed assets accounted for an employment of 106 million people in 2012-13 .They provide the largest share of employment after agriculture. They are the nurseries for entrepreneurship and innovation. They are widely dispersed across the country, in both urban and rural areas, and produce a diverse range of products and services to meet the needs of the local markets, the global market and the national and international value chains. For these reasons, MSME is rightly recognized as an engine of economic growth and as an important and vibrant socio-economic actor in the national ecosystem. But, in an increasingly globalizing market, competitiveness is the key for the survival and growth of an MSME. This demands sound strategic and operational management of the enterprise. This course is aimed at imparting knowledge and skills to address this demand. This course exposes students to the objectives, challenges, and requirements for effectively managing the small to mid-sized business. The course assumes the venture in question is in existence, and therefore spends little or no time with startup related issues, which are covered in another elective in this stream.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To develop perspective and an appropriate understanding of Startups and SMEs in the Indian context.

OUTCOMES

- By the end of the course, students will build an awareness and application level on the startups and SMEs.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION **8 HOURS**

Definition and meaning SMEs & startups, role, importance and present status in Indian economy, Factors influencing their emergence, Government Policies for startups and SMEs in India, Monetary and Fiscal Policies, Problems and Challenges.

2

MODULE 2: PROCESS OF NEW VENTURE **10 HOURS**

Registration & Licensing, bank & other statutory formalities. Organizing the basic infrastructure such as premises, water, power, transport etc., procurement of machinery & equipment, mobilization of human and material resources, trial run.

3

MODULE 3: LAUNCHING OF STARTUPS **10 HOURS**

Meaning, Registration, Principal Business of NBFCs, Structure, Supervision, RBI Measures for NBFCs, Other Measures.

4

MODULE 4: SUPPORTING INSTITUTIONS **12 HOURS**

Concept of Market equilibrium and Revenue curves, Characteristics of different market structures, Price determination and firms equilibrium under perfect competition, monopolistic competition, oligopoly and monopoly, Price discrimination, International price discrimination and dumping, Pricing methods

5	**MODULE 5: FINANCING**	**8 HOURS**
	Theories of factor pricing: wages and rent, Theories of interest and investment decisions, Profit and profit functions.	
6	**MODULE 6: PRACTICALS**	**8 HOURS**
	Discussions on Live Case studies of two Enterprises, Talk by/ Interaction with two entrepreneurs from the start ups and established SME.	

5. PEDAGOGY

A mix of lectures, case study and a hands-on project

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Norman Scarborough , "Effective Small Business Management: An Entrepreneurial Approach". Prentice Hall Publication, 2010
2. Longenecker, Moore et al , "Small Business Management", Thomson Publishing Company ,14th edition, 2008
3. Dr. Vasant Desai, "Small scale industries and entrepreneurship", Himalaya Publishing House,9th Edition, 2014
4. Dr. JyotiGogte , Startup and New Venture Management, Vishwakarma Publication, Ist
5. Edition, 2014
6. Dr. AtulKapdi , Startup and New Venture Management, Thakur Publications
7. M.P. Haridas , "Small Business Environment and Management", Adhyayan Publishers and Distributors, 2010
8. K.V. SubbaRao , "Entrepreneurial Development and New Enterprise Management", Adhyayan Publishers and Distributors, 2009
9. Indian Institute of Banking and Finance , "Small and Medium Enterprises in India" Taxmann Publishers, 2013
10. Ashim Kumar Das , "Financial Management: A study of Small Business in North Eastern Region of India", Akanksha Publishing, 2006
11. Preeti Singh , "Dynamics of Indian Financial System: Markets, Institutions and Services, Global Professional Publishing Ltd, 2012

REFERENCES

1. Prof. AnjanRaichaudhuri, Managing New Ventures – Concepts and Cases on Entrepreneurship, PHI Learning Pvt Ltd,2010
2. Report of the Working Group on MSME for the 12th Five-Year Plan, Ministry of MSME, Government of India.
3. Report of the PM's Task Force on MSME, 2010
4. Annual Report – 2013-14, Ministry of MSME, Government of India

E-RESOURCES

1. http://msme.gov.in/Web/Portal/New-Default.aspx
2. http://bprmedia.hu/HBR%20on%20Strategy%20%20k%FCl%F6nsz%E1m.pdf#page=57

JOURNALS:

1. Journal of Small Business, Wiley-Blackwell, UK
2. Journal of Small Business & Entrepreneurship, Routledge, UK

3.8.2 BASIC MANAGEMENT ASPECTS OF SMALL BUSINESS

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Management includes management of business organizations, whether large, medium, small or micro. Small businesses are not necessarily managed in a way similar to that of large and multinational organizations. In other words, management of functional area of large organizations is different from that of small businesses because of size, resources, challenges and nature of the business. Hence entrepreneur of small business has to have better understanding of management of business organizations in general and management of small business in particular. This will ensure success in not only establishment but also in management and growth of small business.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To make the students understand the managerial dimensions of small business.
- To help the students get equipped with necessary managerial skills for managing their enterprises in case of potentiality.

OUTCOMES

- By the end of the course, the confidence of students in managing the small businesses will increase.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: INTRODUCTION**	**8 HOURS**
	Characteristics of the small business – Differences with Large Business, Management of Small business Vis-a-Vis large business, Managing Business Environment for SMEs.	

2	**MODULE 2: MANAGING MARKETING**	**10 HOURS**
	Internal and External environment scanning, Business Model Development, Idea Management, Marketing Plan, formal and informal Market Research, distribution channels, Role of ICT	
3	**MODULE 3: MANAGING FINANCES**	**10 HOURS**
	Challenges of Managing Finance, Taxation and Costing. Sources of Finance, Traditional costing vs Activity based costing, Handling petty cash, Business and checks, computerised accounting – advantages, Merchant accounts, accounting software.	
4	**MODULE 4: MANAGING HUMAN RESOURCE**	**10 HOURS**
	Identifying the human resources who can work for small business, strategies for Human Resource policies for small business, Strategies for building human resources team for small business.	
5	**MODULE 5: MANAGING PRODUCTION AND OPERATIONS**	**10 HOURS**
	Production in small business vis-a-vis production in large business, size of the plant, process, planning and control of production in small business, cost of production, utilization of production capacities, technical knowhow.	
6	**MODULE 6: PRACTICALS**	**8 HOURS**
	Interaction with any 3 small business entrepreneurs on experiences of managing Marketing, Finance, Human Resources & Production.	

5. PEDAGOGY

- Combination of lectures
- Case studies
- Videos
- Interactions
- Industrial visits and Projects

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Dr. Vasant Desai , “Dynamics of entrepreneurial development and management” , Himalayan Publishing House ,5th edition, 2014
2. Richard M. Hodgetts , Donald F Kuratko and Margaret Burlingame,”Small Business Management” , Wiley Publishing, Ist Edition, 2007
3. J.C. Saboo, MeghaBiyani,”Management of small scale industries”, Himalayan Publishing House,
4. Pearce Clement Kelley, “How to organize and operate a small business “, Prentice Hall Publication, 7th Edition, 1985

REFERENCES

1. Dee Blick , “The ultimate small business marketing book”, Filament Publishing, 2011
2. Dee Blick , “The 15 essential marketing master classes for your small business”, Capstone , 1st Edition, 2013
3. Carolyn Tate , “Marketing your small business for dummies “, Australian and New Zealand, Wiley Edition, 2010
4. Fred S. Steingold , “Hiring your first employee: A step-by-step guide “, NOLO Ist Edition, 2008
5. Stuart Atkins MBA, “Small Business Marketing: A Guide for Survival Growth and Success”, Book Surge Publication, 2009
6. James Stephenson , “ Ultimate Small Business Marketing Guide”, Entrepreneur Press, 2nd Edition, 200
7. Colin Barrow , “Financial Management for the small business”, Kogan Page Ltd, 6th Edition, 2006

3.8.3 ESTABLISHMENT OF SMEs

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Many will have dreams of becoming an entrepreneur. It is required to recognize such instinct among student community by imparting such an education which will help them to become an entrepreneur. This course is intended to introduce and sensitize the potential on the basic processes involved in starting a new business ventures.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- The primary objective of this course is to encourage entrepreneurial thinking in the student community and give them a chance to evaluate their personal prospects for continuing or starting a business venture.
- Another objective is to make students to understand the essentials of establishing SMEs.

OUTCOMES

- By the end of the course, the students must get clarity of vision and roadmap for establishing a new business venture

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: INTRODUCTION**	**8 HOURS**
	Evolution of SMESs in India-Relevance to Indian Economy-Growth and development of SMEs before and after 1991-Government policies on SMEs-Present status of sector wise SMEs.	

2

MODULE 2: ENTREPRENEURSHIP AS A CAREER 8 HOURS

Choice of Entrepreneurship as a Career, Factors favouring entrepreneurship as a career - Reasons for the failure of entrepreneurship venture – Avoidance of failure - Concept & importance of Competence - Awareness & Assessment of Competence - Development of Competencies.

3

MODULE 3: ENTREPRENEURIAL PROCESS 10 HOURS

Developing Successful Business Ideas - Recognizing and Evaluating the Opportunity - Feasibility Analysis - Industry and Competitor Analysis - Developing an Effective Business Model - Moving from an Idea to an Entrepreneurial Firm - Managing and Growing the Enterprise and Exercises – Types of entry strategies and selection.

4

MODULE 4: RESOURCE PLANNING AND DETAILED PROJECT REPORT 12 HOURS

Locational Considerations - Procurement of Land and Buildings- Procurement of Machinery-Equipment, Preparation of the Detailed Project report - Filing of Entrepreneur Memorandum - Processing for Financial Assistance - Obtaining Statutory Licenses and Clearances, Trail Production, Commercial Production.

5

MODULE 5: TOOLKIT FOR ENTREPRENEURS 10 HOURS

Experiences of Entrepreneurs looking beyond placements & salaries - Entrepreneurs roadmap - Successful Entrepreneur's Personality - Managing excellence in Career - Business Start-up Checklist - Self Assessment Checklist for Entrepreneur, Critical thinking skills -Case Studies & Work Sheets etc.,

6

MODULE 6: PRACTICALS 8 HOURS

Reading of News Papers or a good business magazine and look for example, Reading of small or medium entrepreneur in Indian small or medium magazine, YFS Magazine Young, Fabulous and Self Employed, SME and Entrepreneurship Magazine

Reading of Forbes, Fast Company Inc., HBR

5. PEDAGOGY

A mix of lectures, case study and interactions with budding entrepreneurs

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Desai Vasant , The Dynamics of Entrepreneurial Development and Management, Himalaya Publishing House Delhi, 5th Edition, 2014
2. Poornima M Charntimath, "Entrepreneurship development and small business enterprise", Pearson Publishers, Ist Edition, 2005
3. David, Otes "A Guide to Entrepreneurship", Jaico Books Publishing House Delhi,2004
4. A Sahay& V Sharma , "Entrepreneurship & New Venture Creation", Excel Books, 1st Edition, 2008
5. Chandra, Prasanna, 'Projects: Preparation, Appraisal, Budgeting and Implementation', Tata MC Graw Hill, New Delhi, 1993

REFERENCES

1. William J. Stolze , " Startup: an entrepreneur's guide to launching and managing a new venture, Rock Beach Press, 1989.
2. Justin Longenecker, Leo B. Donlevy, Terri Champion, Carlos W. Moore, J. William Petty, Leslie E. Palich "Small Business Management: Launching and Growing New Ventures, 5th Edition, 2013
3. Morse and Mitchell , "Cases in Entrepreneurship" Sage South Asia Edition, 2006
4. K Ramachandran, "Entrepreneurship – Indian cases on Change Agents" TMGH

3.9 MANAGEMENT PERSPECTIVES

1. GENERAL INFORMATION

No. of Credits per	3
No. of Hours per week	3

2. PERSPECTIVE OF THE COURSE

This course is designed to impart knowledge of the concepts, principles and functions of Management to non-management students. It further aims at enhancing the Management knowledge of non management students

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enable the students to gain insight into the fundamentals of Management as a discipline

OUTCOMES

- This course develops appreciation of management as a subject and discipline

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION TO MANAGEMENT **10 Hours**

Nature of Management, Purpose, Importance & Functions.

Brief Introduction of various management functions: Planning, Organizing, Staffing, Directing, Co-Ordinating, Reporting, Budgeting

2

MODULE 2: MANAGEMENT OF ORGANISATIONS **8 Hours**

Types of Organizations, Organization Structure

Introduction to Functional areas of Organization: Human Resource, Finance, Marketing and Production

3

MODULE 3: LEADERSHIP **8 Hours**

Leadership v/s Management; Styles of Leaderships; Control v/s Delegation; Conditions and Principles of Delegation.

	Motivation: Basic Theories of Motivation, Sources of Motivation
4	**MODULE 4: TOOLS OF MANAGEMENT** **8 Hours** Brain Storming, SWOT Analysis, Pareto Chart, Fishbone Diagram, Process Chart, Quality Circles
5	**MODULE 5: MANAGERIAL SKILLS** **8 Hours** Business Communication: Process, Methods and Barriers of Communication Meetings: Planning, Process, Evaluation Team work; Characteristic Features of Successful Teams; Stages of the Development of a Team; Group Discussion, Presentation Skills

5. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. HenizWeihrich, Mark and,Koontz ,Management, McGraw Hill
2. Meenakshi Raman and PrakashSingh,Business Communication ,Oxford
3. Morey Stettner, Skills for New Managers, Kindle Edition.
4. McGrath. E.H, S.J, "Basic Managerial Skills for All, PHI Learning

PS: This course is offered to other PG students by CBSMS. Whereas, MBA students have to study any one of the open electives offered by other PG Departments based on their choice.

MASTER OF BUSINESS ADMINISTRATION [DAY]
UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)

(2014 - 2015 ONWARDS)

COURSE CONTENT OF FOURTH SEMESTER

CANARA BANK SCHOOL OF MANAGEMENT STUDIES,

BANGALORE UNIVERSITY, BANGALORE

COURSE MATRIX

FOURTH SEMESTER

PAPER	SUBJECTS
CORE SUBJECTS	
4.1	INTERNATIONAL BUSINESS DYNAMICS
ELECTIVE SUBJECTS	
4.2	**FINANCE** 4.2.1 INVESTMENT ANALYSIS AND MANAGEMENT 4.2.2 INTERNATIONAL FINANCIAL MANAGEMENT 4.2.3 RISK MANAGEMENT AND DERIVATIVES
4.3	**MARKETING** 4.3.1 STRATEGIC BRAND MANAGEMENT 4.3.2 INTERNATIONAL MARKETING STRATEGY 4.3.3 DIGITAL MARKETING
4.4	**HUMAN RESOURCES** 4.4.1 STRATEGIC HRM 4.4.2 INTERNATIONAL HRM 4.4.3 TALENT AND KNOWLEDGE MANAGEMENT
4.5	**HEALTH CARE MANAGEMENT** 4.5.1 BASIC MANAGEMENT ASPECTS OF HEALTH CARE 4.5.2 STRATEGIC MANGEMENT IN HEALTH CARE SETTINGS 4.5.3 MANAGEMENT OF HOSPITAL SERVICES
4.6	**BANKING FINANCE AND INSURANCE (BFIS)** 4.6.1 BANKING TECHNOLOGY AND MANAGEMENT 4.6.2 INTERNATIONAL FINANCIAL MANAGEMENT 4.6.3 RISK MANAGEMENT FOR BANKS AND INSURANCE COMPANIES
4.7	**STARTUPS AND SMEs MANAGEMENT** 4.7.1 TECHNOLOGY AND INNOVATION 4.7.2 INTERNATIONALIZATION OF SMEs 4.7.3 MANAGEMENT OF STARTUPS
4.8	DISSERTATION FOR 6 WEEKS IN AN ORGANIZATION

4.1 INTERNATIONAL BUSINESS DYNAMICS

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

International Business concerns those firms that do not restrict their processes to a single state or populace. International business dissects the reasons for the existence of firms engaged in International business, how they flourish in the intricate and unpredictable international environment, and what their undertakings mean for the countries in which they do business. Culture, language, political systems, geography, and socio-economic factors all influence a company's business practices. Therefore, expanses of study compriseof the challenges of managing international companies, whether enormousor diminutive; the rudiments of strategic management; cross-cultural management; globalization; and the regulation and politics of international business.

Students who aspire to intensify their understanding of global markets need to study international business, since it delivers insights into the global economic and business climates. International business studies encompass topics across a spectrum of business fields, from finance and marketing to management and accounting.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To make students to learn how business organizations operate in an international environment.
- To understand the impact of international influences on business.
- To help students to plan a career in international business.

OUTCOMES

- By the end of the course, the students must have increased confidence to take up a career in international business.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION 10 HOURS

Evolution, Drivers and Challenges of IB as compared to Domestic Business, National and organizational competitive advantage over the world, Active players in multinational business.

The International environment of IB - Political, Legal, Technological, Cultural, Demographic and Economic environment.Cross-cultural management, levels of culture, models to aid international managers.

2

MODULE 2: GLOBALIZATION 8 HOURS

Routes of globalization, Modes of International Business-Organizing international business – international designs, factors influencing choice of a design, issues in organization design. Conflict management, reconciliation, adjudication and arbitration issues, supporting Institutions, Negotiations.

3

MODULE 3: WTO AND TRADING BLOCKS8 HOURS

WTO and LPG policies, Its Implications on India— Regional Trade Blocks, Integration between countries, levels of integration and impact of integration. International strategic alliances, nature, benefits, pitfalls, scope, how to make alliances work.

4

MODULE 4: GLOBAL TRADE AND INVESTMENT10 HOURS

Theories of global trade and investment, Mercantilism, theory of absolute advantage, theory of comparative advantage, factor endowment theory, product life cycle theory, Porter's national competitive advantage.

FDI- in World Economy, horizontal and vertical FDI, benefits of FDI to home and Host Country. FDI- Indian Scenario.EXIM TRADE- Export and Import financing, Export marketing,EXIM policy, Balance of payments. Roles of Institutions connected with EXIM trade.

5

MODULE 5: GLOBAL ETHICS AND E-COMMERCE 10 HOURS

Social responsibility and ethical issues in international business – national differences in ethics and social responsibility, codes of conduct for MNC's.

Global E-Business- Conceptual Analysis, Advantages and Disadvantages of E-Business, E-Commerce in India.

6 **MODULE 6: GLOBAL BUSINESS OPERATIONS 10 HOURS**

Global- Operations management and competitive advantage, strategic issues in operations management,(Manufacturing Management, Logistics Management and Procuring), Technology transfers – issues arising out of technology transfers.

Marketing Management, benefits of international markets, major activities in international marketing

Human Resource Management: Approaches, Expatriation and Repatriation Process, Training, Compensation, Industrial Relations.

5. PEDAGOGY

Conceptual explanation in detail in the class room sessions and relevant cases will give students a better perspective. Live projects should be the part of curriculum compulsorily

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Francis Cherunilam; International Business, Prentice Hall Of India, 5th Edition, 2011
2. Charles Hill, International Business, McGraw-Hill-Irwin, 9th Edition, 2012.
3. John Daniels, Lee Radebaugh and Daniel Sullivan, "International Business", Prentice Hall,13th Edition, 2010

REFERENCES

1. ShyamShukla, International Business, Excel Books
2. ShyamShukla, International Business, Excel Books
3. Andrew Harrison Et Al; International Business; Oxford, 2006
4. Richard M Hodgetts And Fred Luthans, "International Management", McGraw-Hill, 5th Edition, 2003
5. Anant K Sundaram&J Stewart Black, The International Business Environment,

Prentice Hall Of India, 1998

6. Francis Cherunilam, International Business Environment, Himalaya Publishing House

ELECTIVE SUBJECTS	
4.2	FINANCE 4.2.1 INVESTMENT ANALYSIS AND MANAGEMENT 4.2.2 INTERNATIONAL FINANCIAL MANAGEMENT 4.2.3 RISK MANAGEMENT AND DERIVATIVES

4.2.1 INVESTMENT ANALYSIS AND MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Investing surplus funds for generating some returns is common among individuals and organizations. When a business enterprise has idle funds for a certain period of time, it is prudent on the part of the enterprise to invest it wisely and generate decent returns, the onus of which lies on finance manager. Hence, it is essential for finance professional to have knowledge on the process of making and managing investments. This course entitled "Investment Analysis and Management" is introduced to orient a finance professional regarding the process of making and managing investments.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide knowledge and skill in identifying various investment alternatives and choosing the suitable alternatives.
- To orient on the procedures and formalities involved in investing.

OUTCOMES

By the end of this course, a student would learn

- How to define investment goals and constraints.
- Identifying investment alternatives
- Choosing the best / suitable alternatives.
- How to construct a portfolio
- Portfolio management

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: BASICS OF INVESTMENTS **6 HOURS**

Concepts of investments, Investment Vs Speculation, Gambling and Arbitrage: Forms of investment-investment in physical and financial assets; investment alternatives, investment objectives, constraints; investment process: direct and indirect investment. Macro economic factors influencing investment, Investment environment in India.

2

MODULE 2: RISK AND RETURN **6 HOURS**

Concept of Risk; Sources of Risk, Types of Risk-Systematic and unsystematic Risk; Risk Aversion. Measurement of Risk- Standard Deviation, Coefficient of variation; Beta as a measure of Risk. Concept of Return. Measurement of Return; Relative Return, Expected value and measuring Return over multiple periods.

3

MODULE 3: SECURITY ANALYSIS **12 HOURS**

Fundamental Analysis: E-I-C approach. Variables used in E-I-C analysis. Technical Analysis: Basic tenets and Premises of Technical Analysis; Dow theory and Elliott wave theory; Price and volume charts, Price pattern analysis, Market indicators, Weakness and shortcomings of Technical Analysis. Technical Analysis Vs Fundamental Analysis. Efficient Market Hypothesis; Concept and Forms of Market Efficiency

4

MODULE 4: PORTFOLIO ANALYSIS AND MANAGEMENT **12 HOURS**

Diversification and Portfolio Risk; Measurement of Portfolio Risk and Return: Elements of Portfolio Management, Portfolio Analysis and Portfolio Selection, Portfolio Models –

Markowitz Model, Diversification, Efficient Frontier and Selection of Optimal Portfolio. Markowitz Portfolio Risk and Return. Sharpe Single Index Model- Concept of alpha and Beta- Corner Portfolio, Sharpe's Portfolio Risk and Return, Portfolio optimization and selection.

5	**MODULE 5: CAPITAL MARKET THEORY**	**10 HOURS**
	Capital Asset Pricing Model, Capital Market Line and Security Market Line - Applications of Security Market Line, Empirical Evidence of Capital Asset Pricing Model, Beta of CAPM, Arbitrage Pricing Theory, Building of Arbitrage Portfolio, Return Generating process, Factor Model	
6	**MODULE 6: Performance Evaluation and Revision of Portfolios**	**10 HOURS**
	Selection criteria: Performance Evaluation- Sharpe's Performance Index ,Treynor's Performance Index and Jensen's Measure to identify the predictive ability, Evaluation of Mutual Fund.-NAV method , Portfolio Revision Methods- Investment Timing, Formula Plans Constant Dollar Value Plan, Constant Ratio Plan, Variable Ratio Plan	

5. PEDAGOGY

a) Lectures.
b) Demonstrations using Excel
c) Practical Exercises – Individual and Group
d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. PunithavathyPandian, (2007); "Security Analysis and Portfolio Management", Vikas Publishing House Private Limited, Fifth Reprint Edition.
2. Reily and Brown (2007); "Investment Analysis and Portfolio Management", Thomson South Western, 8th Edition, First Indian Reprint.
3. Fischer, E Donald and Jordan, J Ronald (2005); "Security Analysis and Portfolio Management", Prentice Hall of India Private Ltd., 6th Edition.

4. Bodie, Kane, Marcus and Mohanty (2009); “Investments”, Tata-McGraw Hill Publishing Company Limited, 8th Edition.
5. Ranganatham and Madhumathi (2005); “Investment Analysis and Portfolio Management”, Pearson Education, First Edition.
6. Chandra, Prasanna (2008), “Investment Analysis and Portfolio Management”, Tata McGraw Hill Publishing Limited, 3rd Edition.

REFERENCES

1. Haugen Robert (2003); “Modern Investment Theory”, Pearson Education, 5th Edition.
2. Bhalla, V.K. (2006); “Investment Management”, S. Chand; 12th Edition.
3. Hirschey and Nofsinger (2008); “Investments – Analysis and Behaviour”, Tata McGraw Hill Publishing Company Limited, Special Indian Edition.
4. Avadhani V.A (2006), “Securities Analysis and Portfolio Management”, Himalaya Publishing House, Eighth Revised Edition.
5. Sharpe, Alexander and Bailey (1996); “Investments”, Prentice Hall of India Private Limited, 5th Edition.
6. Kevin (2008); “Security Analysis and Portfolio Management”, Prentice Hall of India Private Limited, First Reprint Edition.
7. Maheshwari, Yogesh (2008); “Investment Management”, PHI Learning Private Limited, First Edition.
8. Indian Institute of Banking and Finance (2004); “Technical and Fundamental Analysis of Companies”, Taxmann Publications, First Edition.
9. “Stock Market Book” (2005); Dalal Street Journal.
10. “Survey of Indian Industry (2008); The Hindu.
11. “The Layman’s Guide to Mutual Funds” (2004), Outlook Publishing (India) Private Limited, First Edition

4.2.2 INTERNATIONAL FINANCIAL MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

A business enterprise having international transactions is exposed to various risks. While understanding the global environment, the economic impact of the transactions, the procedures and formalities to be adhered to are on one side, the impact of transactions on cash flow of the entity on account of fluctuations in foreign exchange rate is another aspect that must be addressed. This course titled “International Financial Management” aims to orient all the aspects a professional need to know in carrying out international transactions.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To orient the students on global business environment and international markets.
- To make students understand the various risks an enterprise is exposed to on account of international transactions.
- To provide knowledge and skills for hedging foreign currency risks.

OUTCOMES

By the end of this course, a student would learn

- The global financial environment, currency system, relationship between economies and impact of international transactions on the economy.
- Functioning of international financial markets.
- Fixing of exchange rate.
- Foreign currency risks and hedging strategies.
- Interest rate risks and hedging strategies

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: GLOBAL FINANCIAL MANAGEMENT 10 HOURS

Evolution of International Monetary System, Bimetallism, Classical Gold Standard, Interwar Period, Bretton Woods System, Flexible Exchange Rate Regime, The current Exchange Rate Agreements, European Monetary System, Fixed vs. Flexible Exchange Rate Regime

2

MODULE 2: BALANCE OF PAYMENTS 5 HOURS

Introduction, Accounting Principles in Balance of Payments, Valuation and Timing, Components of the Balance of Payments, 'Surplus' and 'Deficit' in Balance of Payments, Importance and limitations of BOP Statistics, Relationship of BOP with other economic variables.

3

MODULE 3: INTERNATIONAL FINANCIAL MARKETS5 HOURS

Motives for using International Financial Markets. Foreign Exchange Market – History and Transactions, interpreting Foreign Exchange Quotations, International Money Markets, International Credit Markets and International Bond Markets. Comparison of International Financial Markets.

4

MODULE 4: EXCHANGE RATE DETERMINATION 8 HOURS

Purchasing Power Parity Theory, Interest Rate Parity Theory, International Fischer's Effect, Pure Expectations Theory

5

MODULE 5: FOREIGN EXCHANGE RISK AND RISK HEDGING STRATEGIES18 HOURS

Transaction Risk, Translation Risk, Economic Risk. Risk Hedging Strategies: Internal – Netting, Leads and Lags. External – Forwards, Futures, Options, Money-market Hedging, Currency Swaps

6

MODULE 6: INTEREST RATE RISK AND RISK HEDGING STRATEGIES10 HOURS

Interest Rate Swaps, Forward Rate Agreements, Interest Rate Futures, Interest Rate Options, Caps, Floors and Collars, Swaption.

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Alan Shapiro: Multinational Financial Management , Prentice Hall, New Delhi.
2. Apte, Prakash, “International Finance – A Business Perspective”, Tata McGraw Hill.
3. David B. Zenoff& Jack Zwick: International Financial Management.
4. Rita M. Rodriguez L. Bigame Carter: International Financial Management.
5. V. A. Avadhani: International Finance- Theory and Practice, Himalaya Publishing House.

REFERENCES

1. Madura, Jeff, “International Corporate Finance”, Thomson South-Western.
2. Sharan, Vyuptakesh, “International Financial Management”, Prentice Hall of India.
3. Jain, Peyrard, and Yadav’ “International Financial Management”, MacMillan
4. J. Fred Weston, Bart: Guide to International Financial Management.
5. Robery O. Edmister: Financial Institutions - markets and Management.
6. A.V. Rajwade: Foreign Exchange International Finance and Risk Management, Prentice Hall.

4.2.3 RISK MANAGEMENT AND DERIVATIVES

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Uncertainty coupled with financial implication is 'risk'. Every business enterprise is exposed to various risks from the operations within and environmental forces outside. Unless the risks are understood, measured, analyzed and taken care of, the good prospects of the entity cannot be ensured. A finance professional must have knowledge of measuring and hedging various risks. This course entitled "Risk Management and Derivatives" aims at providing knowledge of risks and various hedging strategies.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To orient students on the meaning and types of risks.
- To provide knowledge on risk measurement and evaluation in making capital budgeting decisions.
- To provide knowledge on risks associated with investments outside the business and strategies for hedging the same with derivatives.

OUTCOMES

By the end of this course, a student would learn

- Meaning and types of risk.
- Risk analysis in capital budgeting.
- Risks associated with investments and hedging with derivatives.
- Meaning and types of derivatives.
- Futures – terminology, mechanism, hedging and pricing.
- Options – terminology, mechanism, pay-offs, hedging and prcing.
- Commodity markets and commodity derivatives.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: RISK ANALYSIS IN CAPITAL BUDGETING13HOURS

Meaning of Risk. Types of Risks of a Business Enterprise. Risk Analysis in Capital Budgeting – Measuring and Managing Capital Budgeting Risks – Sensitivity Analysis, Scenario Analysis, Simulation, Standard Deviation and Co-efficient of Variation, Risk-Adjusted Discount Rate Method, Certainty Equivalent Co-efficient Method, Decision Tree Analysis and Probability Distribution Method

2

MODULE 2: INVESTMENT RISKS AND DERIVATIVES 10 HOURS

Meaning of Derivatives. Types of Derivatives. – Forward Agreements, Future Contracts – Terms associated with Futures – Stock Futures and Index Futures, Differences between Forwards and Futures, Margin and Settlement Mechanism of Futures

3

MODULE 3: FUTURE CONTRACTS – HEDGING AND TRADING 10 HOURS

Hedging with Futures – Stock Hedging: When there is a future contract available on the stock and when there is no future contract available on the stock. Portfolio Hedging: Adjusting Portfolio Risk, Pricing of Futures

4

MODULE 4: OPTIONS – BASICS AND STRATEGIES 10 HOURS

Option Contracts – Meaning, Types – Call, Put, American, European. Pay-off and Pay-off Diagrams. Hedging Strategies – Protective Put Strategy and Covered Call Strategy. Trading Strategies with Options – Straddle, Strip, Strap, Strangle, Spreads

5

MODULE 5: OPTION PRICING 8 HOURS

Put-Call Parity Theory, Portfolio Replication Method, Risk Neutralization Method, Binomial Method and Black-Scholes Method. Option Greeks

6	**MODULE 6: COMMODITY RISKS AND COMMODITY DERIVATIVES**	**5 HOURS**
	Commodity Markets, Commodity Exchanges. Commodity Derivatives.	

5. PEDAGOGY

a) Lectures.

b) Demonstrations using Excel

c) Practical Exercises – Individual and Group

d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Damodaran, Aswath, “Corporate Finance”, John Wiley & Sons Inc.
2. DamodaranAswath, “Appliced Corporate Finance”, John Wiley & Sons Inc.
3. Chandra, Prasanna, “Financial Management – Theory and Practice”, Tata McGraw-Hill Publishing Company Limited.
4. Pandey, I M, “Financial Management”, Vikas Publications.
5. Khan, M.Y., and Jain, P.K., “Financial Management – Text, Problems and Cases”, Tata McGraw-Hill Publishing Company Limited.
6. Chance/Brooks, An Introduction to Derivatives & Risk Management, Thomson.
7. Hull J, Options, Futures and Other Derivatives, 6 ed., Prentice Hall.
8. Dubosky and Miller, “Derivatives – Valuation and Risk Management”, Oxford University Press.
9. Kumar, SSS, “Financial Derivatives”, Prentice Hall of India.
10. Parasuraman, N.R; “Fundamentals of Financial Derivatives”, Wiley India.
11. Vohra, and Bagri, “Futures and Options”, Tata McGraw Hill.
12. Chatnani, Niti, “Commodity Markets – Operations, Instruments and Applications”, Tata McGraw Hill

REFERENCES

1. Gupta S.L., “Financial Derivatives – Theory, Concepts and Problems”, PHI.
2. Stulz, Rene, “Risk Management and Derivatives”, Thomson.

3. Cohen, Guy, “Options Made Easy”, FT Prentice Hall
4. Sridhar, A.N., “Futures and Options – Equities – Trading Strategies and Skills”, Shroff Publishers and Distributors.
5. McCafferty Thomas, “Options Demystified – A Self-teaching Guide”, Tata McGraw Hill.
6. Duarte, Joe, “Futures and Options for Dummies”, Wiley India.

ELECTIVE SUBJECTS	
4.3	MARKETING
	4.3.1 STRATEGIC BRAND MANAGEMENT
	4.3.2 INTERNATIONAL MARKETING STRATEGY
	4.3.3 DIGITAL MARKETING

4.3.1 STRATEGIC BRAND MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Brands that a firm has invested in and developed over time are their valuable assets. Processes, designs and strategies of organizations may be easily copied, but a strong brand is something which cannot be easily reproduced. Strong brands can influence purchase decisions by communicating the value of and providing differentiation for products and services. Effective brand management is critical to maintaining the long-term profitability of products and services. This course is designed to develop students’ understanding of the importance of brand equity as well as how to build, measure and manage brand equity.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To give students a deeper understanding of the process of brand building in a

variety of business contexts, the integrated requirements for effective brand reinforcement , revitalization as well as the models, measures and impact of brand equity.

OUTCOMES

- By the end of this course, students should be able to: Understand key principles of branding, positioning and brand building strategies.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: **8 HOURS**

Product Management: Product Planning and New Product Management- Product Portfolio Analysis - Market Attractiveness & Components Of Market Attractiveness – Product Market Strategies - Product Life Cycle Stages And Corresponding Strategies – Competitor Analysis

2

MODULE 2: **10 HOURS**

Introduction To Brand Management: Brands Vs Products- Brand Management - Brand Components & Attributes- Significance Of Branding To Consumers & Firms - Selecting Brand Names- Brand Identity – Kepferer Brand Identity Prizm Model - Branding Challenges & Opportunities

3

MODULE 3: **12 HOURS**

Brand Equity: Concept – Types Of Brands - Strategic Brand Management Process – Brand Attribute Management & Architecture – Brand Portfolio Strategy – Brand Extension And Stretching - Making A Brand Strong-Sources Of Brand Equity-The 4 Steps Of Strong Brand Building- Aakers Brand Equity Model – Customer Based Brand Equity – Brand Leveraging, Brand Loyalty

4

MODULE 4: **8 HOURS**

Brand Positioning: Types Of Positioning- Over, Under & Repositioning- Differentiation – Identifying Gaps Using Perceptual Maps - Co-Branding –Licensing – Celebrity Endorsement - Positioning Guidelines

5

MODULE 5: **8 HOURS**

Brand Audit and Valuation: Brand Audit - Internal Branding- Introduction To Brand Valuation – Components & Types Of Valuation

6	**MODULE 6:**	**10 HOURS**
	Building Online Brands: Integrated Marketing Communication - The New Media Environment – Building and managing online Brands - Marketing Communication Options – Using Social Media to Build Brands – E-Commerce & Brands	

5. PEDAGOGY

Conceptual explanation with regards to brand creation, brand management and brand sustenance is required in the class room sessions and relevant cases will give students a better perspective. Live projects should be the part of curriculum.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Kevin Lane Keller M. G. Parameswaran and Isaac Jacob, Strategic Brand Management, Pearson Education India, 3rd Edition, 2010
2. RamanujMajumdar ," Product management in India", PHI Learning Pvt India, 2007
3. KirtiDutta, Brand Management, Principles and Practices ,Oxford University Press, Ist Edition, 2012

REFERENCES

1. Kevin Lane Keller , Strategic Brand Management: Building, Measuring, and Managing Brand Equity, Prentice Hall, 4th Edition, 2012
2. MG Parameswaran , Building Brand Value – Five Steps to Building Powerful Brands, Tata McGraw hill, 2006
3. SubrotoSengupta , Brand Positioning: Strategies for Competitive Advantage, Tata McGraw Hill Education, 2005
4. J.N. Kapferer , The New Strategic Brand Management (Creating And Sustaining Brand Equity Long Term) , Kogan Page Publishers India, 2008.
5. S.A. Chunawalla , Compendium of Brand Management, Himalaya Publishing House , 2011
6. David A Aaker , Managing Brand Equity, Free Press, 1991

4.3.2 INTERNATIONAL MARKETING STRATEGY

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

This course emphasizes on gaining competitive advantage in the global marketplace by providing in-depth understanding of the competitive implications affecting global marketing strategies. It covers the factors that govern the decision to enter export markets and analyzes planning, organizing, and managing an international marketing strategy. Organizations are becoming increasingly aware of the importance of understanding what their customers want and therefore the necessity to develop products and services that meet their needs and aspirations. Organizations which place the customers at the forefront of all decision-making and take a marketing-led approach are able to create competitive advantage and build brand loyalty.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To acquaint students with International Marketing knowledge and strategies.
- To help the students to solve problems of International Marketing and sales practice.
- To assist the students to specialize in marketing within an international context.
- To guide the students on International Documentation
- To help the students to channelize the fruits of Emerging Markets with an opportunity perspective

OUTCOMES

- Students will be able to evaluate the various forces when products and services enter the global marketplace.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1:GLOBAL MARKETING – AN OVERVIEW12 HOURS

International/Multinational/Multiregional/Global Marketing – Definition & Scope,

Objectives of International Marketing – Challenges and opportunities in International Marketing – Quality considerations in International Marketing – Underlying forces of International Marketing – Major Participants in International Marketing – Importance Of International Marketing – Review of Trade theories - Culture & Social Factors – Culture & Its Impact On International Marketing - Political & Legal Forces - Negotiating With International Customers, Partners & Regulators, Global marketing environment – Economic Environment, Socio-cultural Environment –Legal and Statutory Framework.

2

MODULE 2:INFORMATION SYSTEM AND RESEARCH10 HOURS

Definition and Meaning of Global Marketing Information System, Process of Marketing Research, Analyzing Global Opportunities: Screening International Marketing Opportunities – Criteria for Selecting Target Countries – Grouping International Markets – Analyzing International Buyers/Business Markets & Government Markets – International Marketing Research Process.

3

MODULE 3:MARKET SELECTION AND ENTRY STRATEGIES8 HOURS

Global Market Entry & Exit Strategies: Exporting – Licensing – Local Manufacturing- Joint Ventures- Merger & Acquisition - Strategic Alliances – Preparing For Exit Strategy Analysis – Exit Strategies – Analyzing Opportunities Using Trade Map

4

MODULE 4: GLOBAL MARKETING MIX8 HOURS

International Product & Promotion Strategy: Adjusting Quality to Global requirements, International & Global Branding Decisions – Brand Name Selection Procedure – Global/Pan Regional Brands – Exploiting Product Life Cycles In International Marketing – New Product Development in Global Markets – Global Advertising – Creative Challenges – Media Planning and Analysis

5	**MODULE 5:PRICING AND DISTRIBUTION STRATEGY 8 HOURS** Selection Of International Channels – Managing Distribution Systems- Global Trends in Distribution Systems- Pricing – Price Escalation – Dumping – Countertrade as a Pricing Tool – Intra-company Pricing
6	**MODULE 6:DOCUMENTATION AND EMERGING MARKETS10 HOURS** Documentation and procedural complexities- Registration with various agencies– Compulsory Quality Control - Processing Export Orders. Newly Industrialized Countries– Developing Countries & Emerging Markets – European Community – CIS – CEFTA – NAFTA-ASEAN – Africa – Middle East – BRICS- Regional Trade Blocks & Impact on Marketing.

5. PEDAGOGY

Class teaching will be supplemented with case study dimension, field trips and live projects in industry are mandatory

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Rakesh Mohan Joshi , International Marketing , Oxford University Press, Ist Edition, 2009
2. Phillip Cateora, John Graham, Mary Gilly, International Marketing , McGraw-Hill/Irwin, 16th Edition, 2012

REFERENCES

1. SvendHollensen , Global Marketing – A Decision Oriented Approach, ,Prentice Hall ,6th Edition, 2013
2. Frank Bradley. International Marketing Strategy, Pearson Education, 5th Edition, 2004
3. Johansson, J. K. Global Marketing: Foreign Entry, Local Marketing, and Global Management, McGraw-Hill, 5th Edition, 2008

4.3.3 DIGITAL MARKETING

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Marketing has changed from traditional advertising media to online platforms. The course shall introduce the student to social media platforms. Market research forms the back bone of digital marketing. Reputation of entities can be altered within minutes which is of high risk. Use of social media effectively produces engaged customers and their posts are brand advertisements which spread through word of mouth. Digital marketing can be successful only if an organized plan has been drawn. Social relation building helps in increasing Customer Loyalty. Hence, it is not just online presence but also its maximum utilization that is important. There is a huge inflow of new digital marketing technology and tools. Choosing the right tool is essential for customer delight and deriving results. Most of the business have digital presence but lack the a strategy to tackle the digital competition

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To understand the basics of digital marketing.
- To develop a comprehensive digital marketing strategy
- To be able to use new media such as search engine and social networking.

OUTCOMES

- By the end of the course, the student will be able to evaluate the risks involved in digital marketing. It shall make them be able to attract and retain customers online.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION 10 HOURS

Introduction to marketing in the digital environment, Types of web presence, common e-commerce business models, pure play, hybrid and multi-channel options. Media options online, Fulfilment options and strategies, Introduction to payment gateways

and PayPal

2

MODULE 2: DIGITAL MARKETING RESEARCH 10 HOURS

Audience profiling and segmentation, Internet usage patterns ,Post Internet consumer behaviour and understanding buyer behaviour online, pillars of direct marketing, Online research and behaviour tracking methods, Introduction to behavioural targeting. Online surveys, blog mining, data mining, Building customer profiles using navigation and sales data, Competitor analysis online, Integrating online and offline strategies

3

MODULE 3: SEARCH ENGINE MARKETING10 HOURS

Email campaign creation and management, Google Adwords, search and display on search engines, pricing models online, Introduction to page rankings, googleAdwords analytics, Search Engine Optimization, Process and methodology, Long tail in SEO, Link building, Key word analysis, process and optimization. Search Engine Marketing - Paid versus natural Search, SEM landscape, Landing pages and their importance in conversion analysis, Google vs. Bing vs. Yahoo. Search Methodology.

4

MODULE 4: SOCIAL MEDIA AND e-PR10 HOURS

Using Facebook, Linked-in, twitter, You tube including creating a channel on You Tube, Content guidelines for online communications, Social Media measuring, monitoring & reporting, Tracking & Monitoring platforms. Content seeding, How to use blogs, forums and discussion boards, Blogs, forums and communities, Viral campaigns and the social graph. Building relationships with different stakeholders online

5

MODULE 5: ONLINE REPUTATION MANAGEMENT 8 HOURS

Introduction to online reputation management, Importance of managing online reputation for a business, strategies and tools of online reputation management, handling negative comments.

6

MODULE 6: RECENT TRENDS 8 HOURS

Localization of content and advertising. Marketing using mobile networks, evolution of Indian banking industry – journey from brick and mortar to mobile banking, Consumer engagement – meaning and methods

5. PEDAGOGY

Class teaching will be supplemented with case study dimension, and live projects in industry are mandatory

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Deepak Bansal , A Complete Guide To Search Engine Optimization , B.R Publishing Corporation, Ist Edition, 2009
2. Grienstein and Feinman- E-commerce –Security, Risk Management and Control (TMH,The Consumer Decision Journey, McKinsey Quarterly, No3, 2009
3. Strauss.J and Frost . R , "E- Marketing", Pearson Education, 5th Edition, 2009
4. Ramsey , Seven Guidelines for Achieving ROI from Social Media, eMarketer , 2010

REFERENCES

1. Godfrey Parkin , Digital Marketing: Strategies for Online Success ,New Holland Publishers Ltd, 2009
2. Damian Ryan , Understanding Digital Marketing : Marketing Strategies for Engaging the Digital Generation, Kogan Page, 3rd Edition, 2014
3. Jonah Berger , Contagious Why Things Catch On , Simon & Schuster, 2013

ELECTIVE SUBJECTS	
4.4	HUMAN RESOURCES 4.4.1 STRATEGIC HRM 4.4.2 INTERNATIONAL HRM 4.4.3 TALENT AND KNOWLEDGE MANAGEMENT

4.4.1 STRATEGIC HRM

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per	4

2. PERSPECTIVE OF THE COURSE

With increasing competition, the technological, socio cultural and economic changes have triggered the need for constantly developing the human resources. HRD is no longer limited to the confines of a departmental activity, now it finds a place even in the vision and mission statements of the companies. The need to survive in the ever changing business world demands a well developed pool of human resources with strategies.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To develop the perspective of strategic human resource management.
- Distinguish the strategic approach to human resources from the traditional functional approach.
- Appreciate SHRM in the context of changing forms of organisation

OUTCOMES

- By the end of this course- a student would learn the relationship of HR strategy with overall corporate strategy and Understand the strategic role of specific HR systems

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1:**	**8 HOURS**
	HR environment HRM in knowledge economy Concept of SHRM Investment Perspective of SHRM Evolution of SHRM Strategic HR vs. Traditional HR –Barriers to strategic HR Role of HR in strategic planning	
2	**MODULE 2:**	**10 HOURS**
	Strategic fit frameworks - Linking business strategy with HR strategy - HR bundles approach, best practice approach - Business strategy and human resource planning - HRM and firm performance linkages - Measures of HRM performance - Sustained competitive advantages through inimitable HR practices	
3	**MODULE 3:**	**10 HOURS**
	HR Systems - Staffing systems - Reward and compensation systems - Employee and career development systems - performance management systems - Various Strategic Management frameworks	
4	**MODULE 4:**	**10 HOURS**
	Strategic options and HR decisions – Downsizing and restructuring - Domestic and International labour market - Mergers and acquisitions - Outsourcing and off shoring.	
5	**MODULE 5:**	**10 HOURS**
	Strategic Responses of Organisations to Changing Environment – Portfolio process and structure related strategic responses. M & A s and Strategic HR	
6	**MODULE 6:**	**8 HOURS**
	Conduct an Interview with CEO or Authorised authority and data collection on Strategic responses of Organisations to changing environment (Ref. Srinivas R. Kandula PHI 2012)	

Interview schedule for conducting case study

- Interviewee's awareness / knowledge of strategic responses being planned / implemented / progressed in the organisation.(common)
- Compatibility between voluntary participative forums and collective bargaining forum (HR Managers)
- Reasons for strong / weak / no relationship (positive or negative) between strategic responses and SHRD system. (HR Manager / Individual / Trade Unions)
- Unions perception on the commitment of employer, frontline officers and workers in SHRD system (Trade union leaders)

5. PEDAGOGY

A variety of teaching methods will be employed which will include case analysis - self-assessment exercises - group projects - team-based projects – lectures - guest speakers - video

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Mello- Jeffrey A.,"Strategic Human Resource Management", Thomson Learning Inc,
2. Agarwala, Tanuja, "Strategic Human Resource Management", Oxford University Press, New Delhi,
3. Dreher- George and Thomas Dougherty, "Human Resource Strategy", Tata McGraw Hill,
4. Greer, Charles, "Strategic Human Resource Management", Pearson Education,
5. Srinivas. R Kandula, "Strategic Human Resource Management", PHI

4.4.2 INTERNATIONAL HRM

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

A challenging aspect of HRM in most firms with multinational operations is the multicultural nature of their work force, which is further compounded by its geographical dispersion. In addition, HRM like so many other managerial functions, takes place not in vaccum but within the overall internal organisational environment and the external national and international context in which the company operates an attempt is made to know the insight of IHRM.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To be able to assess the extent to which multinational companies can have company wide HRM strategies,policies and practices

OUTCOMES

- By the end of this course, a student would learn a perview of the major challenges that MNC's face and to be familiar, through a real life case study, with some of the HRM issues faced by staff in a foreign subsidiary of a major multinational company

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: 8 HOURS

International HRM - Domestic HRM v/s IHRM - Managing International activities - Human Resource Planning - International recruitment and selection - Training and development of expatriates – M & A –Integration of acquired employees in newer cultures, Global Mobilty and HR-International postings

2

MODULE 2 : 10 HOURS

Repatriation – Expatriation and repatriation - Selection methodology of expatriation - Process of repatriation, job related adjustments, organisational development - International compensation: components, objectives and methods of compensation - Taxation decisions - Changing trends in International employment.

3

MODULE 3: 10 HOURS

Managing HR in Virtual Organisation: Meaning and types of virtual organisations - Difference between traditional and virtual organisations - Features of virtual organisation - Managing HR in virtual organisations - Challenges of International performance management - Career Management& International HRM

4

MODULE 4: 10 HOURS

Knowledge management and International management development - Knowledge and Knowledge transfer - Knowledge and situated cognition - Implications for knowledge transfer - Knowledge management in MNCs - Knowledge management and IHRM -Changing scope of International management development - International manager roles: development implications, international management development initiatives, Future developments

5

MODULE 5: 10 HOURS

IHRM Strategies and Developments - Managing diversity - Linking corporate and HRM strategy - Total quality in HRM - Scope of TQM - Comparison of Traditional and TQHRM approaches - Barriers to TQHRM - HR project planning - Importance of computerised information system - Conflict management - Human rights movement and IHRM, Experiences of Japan and China

6

MODULE 6: 8 HOURS

Case Studies - Ethics and challenges in IHRM - Role of international education in IHRM - UNO and IHRM - Business leaders as global citizens - Futuristic view of IHRM - socio cultural factors and ethical issues in BPO Industry - Adventurous training - Problems of

women expatriates - Globalisation and senior citizens – BPO and IHRM

5. PEDAGOGY

- Lectures
- Practical Excises – Individual and Group
- Case Studies

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Tony Edwards, Chris rees: International Human Resource Management, Pearson, latest edition.
2. Dowling : International Human Resource Management,
3. IndraniMutsuddi: Managing Human Resources in the Global Context, New ade international publishers, latest edition
4. P.Subbarao : International Human Resource Management,HPH,latest edition

4.4.3 TALENT AND KNOWLEDGE MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The explosion of interest in talent and knowledge management among academics, public policy makers, consultants, and business people began as recently as the mid-1990s.The level of interest in Talent & Knowledge management since then visible in a number of ways. It is growing rapidly more and more companies have built talent and knowledge repositories. Even new job titles have appeared from knowledge edge developer, to knowledge facilitator, to corporate knowledge officer

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To impart the knowledge on talent and knowledge management. its importance in contemporary business

OUTCOMES

- By the end of this course, a student would learn the new concepts in talent and knowledge management and its relevance in the corporate

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1:**	**8 HOURS**
	Talent - Engine of new economy - Difference between talent and knowledge workers - Leveraging talent - Talent value chain - Elements of talent friendly organizations	
2	**MODULE 2 :**	**12 HOURS**
	Elements, benefits and challenges of Talent Management System - Building blocks of talent management: competencies, performance management, evaluating employee potential - Modern practices in talent attraction, selection, retention and engagement.	

	Talent Management & Social Media - Emerging Trends in Talent Management
3	**MODULE 3: 10 HOURS** Talent Planning – Succession management process - Cross functional capabilities and fusion of talents - Talent development budget - Value driven cost structure - Contingency plan for talent - Building talent - Leadership coaching
4	**MODULE 4: 6 HOURS** Return on talent (ROT) - ROT measurements - Optimizing investment in talent - Integrating compensation with talent management - Developing talent management information system - Psychometrics for TM
5	**MODULE 5: 12 HOURS** Knowledge economy - Understanding Knowledge management - Types of knowledge - Knowledge centric organizations - Knowledge management framework - Knowledge creation and capture - Designing of Knowledge management strategy - Issues and challenges in knowledge Management - Implementing knowledge management strategy - Knowledge management metrics and audit.
6	**MODULE 6: 8 HOURS** Conduct Interviews with five senior executives of two organisations on their talent and knowledge management practices. Conduct minimum one focus group discussion (FGD) on Knowledge Management Portal

5. PEDAGOGY

- Lectures
- Seminars and presentation
- Practical Exercises like industry and field visit – Individual and Group
- Case Study discussion in each module

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Berger, Lance A and Dorothy Berger (Eds.) The Talent Management Handbook, Tata McGraw Hill, New Delhi
2. Chowdhary, Subir, The Talent Era, Financial Times/Prentice Hall International
3. Chowdhary, Subir, Organization 2IC, Pearson Education, New Delhi
4. Masood,Anilkumarsingh and SomeshDhamija , Talent management in India-challenges and opportunities,Atlanticpublisher,New Delhi.
5. Elais M Awad, Hassan M Ghaziri, Knowledge management,: Pearson
6. Sanjay Mahaopatra, Knowledge Management, Mcmillan
7. Waman s Jawadekar, Knowledge Management text and cases, Mcgraw Hill

ELECTIVE SUBJECTS	
4.5	**HEALTH CARE MANAGEMENT** **4.5.1 BASIC MANAGEMENT ASPECTS OF HEALTH CARE** **4.5.2 STRATEGIC MANGEMENT IN HEALTH CARE SETTINGS** **4.5.3 MANAGEMENT OF HOSPITAL SERVICES**

4.5.1 BASIC MANAGEMENT ASPECTS OF HEALTH CARE

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Understanding and study of management of organizations in general would give a better perspective in the contemporary scenario. But the application and customization of the basics of management in various sectors of the industry is the need of the hour. Healthcare is one of the major emerging sectors of the Indian Economy. The application and customization of various functional areas of management would go a long way in the placement of management graduates in the healthcare sector. The present course makes a humble attempt to bridge the gap of fulfilling the felt needs of healthcare sector.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To introduce the managerial dimensions of healthcare sector to students.
- To make students to get a glimpse of application of management in healthcare sector.

OUTCOMES

- By the end of the course, the students have to have better understanding of differences between management in general and management in healthcare sector

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: HEALTH CARE SECTOR **8 HOURS**

Various segments in healthcare delivery- Diagnostics, polyclinics, nursing homes, specialist hospitals etc-Social Health Model-Framework of Healthcare Organization as compared to other service sector-Business Process Re-engineering-Differences between management in healthcare and other service sectors.

2

MODULE 2: ORGANIZATION BEHAVIOR **8 HOURS**

Behavior of individuals, groups and teams-Conflict Management and Service Culture with special reference to healthcare sector.

3

MODULE 3: HUMAN RESOURCE MANAGEMENT **8 HOURS**

HRM challenges with reference to Recruitment, Selection, Retention, Training and Development, Compensation, Performance Management System, Competency Management in Healthcare

4

MODULE 4: SERVICE MARKETING **10 HOURS**

Marketing challenges to Service Marketing, Health Service Quality, Promotion Mix, Branding and Positioning, Marketing Communication, Media and Public Relations in healthcare-Application of marketing strategies in healthcare.

5

MODULE 5: FINANCIAL MANAGEMENT **10 HOURS**

Pricing of hospital services and new equipment usage, Pricing Policy, Rate Revision, Hospital Rate Setting, Replacement Analysis, Accounting Practices in Hospitals, Emerging Trends in Finance in Healthcare-Break Even Analysis in Healthcare organizations-Costing Template

6 **MODULE 6: INVENTORY MANAGEMENT 12 HOURS**

Stores Organization, Concept and Scope of Inventory Management as applicable to healthcare; Materials Planning, Procurement, Vendor Management, Purchase, Inspection. Hospital Equipment; Planning, Selection, Purchase, Repair and Maintenance-Condemnation and Disposal-Pilferage-ABC and VED Analysis

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, role plays, experiences, exploratory exercises, instruments, videos and films, Assignments in HR, Marketing, Finance and Inventory Management of Hospitals

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Kotler, Philip and Clarke, Robert," Marketing in Healthcare Organizations", Prentice Hall College Division, Ist Edition, 1986
2. Beck, Donald F , "Basic Hospital Financial Management" , Aspen Systems Corp, 1980
3. Joshi, D.C, "Hospital Administration" , Jaypee Publishers, Ist Edition, 2009
4. Shi, Leiyu , "Managing Human Resources in Health Care Organizations", Jones & Bartlett Learning, 1st edition , 2006.
5. Goel R.C, "HRM in Hospitals" , Prentice Hall of India Pvt Ltd, 3rd Edition, 2003
6. P.G Ramanujam, "Marketing of Healthcare Services", Excel Books,2009
7. Hyman Stanley" Supplies Management in Healthcare", Croom Helm, 1979
8. Sakharkar B M, "Principles of Hospital Administration & Planning", Jaypee Brothers Publishers , New Delhi,2nd Edition, 2009
9. Gupta, Shakthi and Kant, Sunil, " Hospital Stores Management , an integrated approach", Jaypee Brothers Publishers , New Delhi, 2004

4.5.2 STRATEGIC MANGEMENT IN HEALTH CARE SETTINGS

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

For any organization to be successful, it needs to have an holistic approach towards business with accurate alignment of its objectives with business strategies. As healthcare industry is a unique service industry, different approach has to be followed to ensure the business performance and growth. The course will cover the basics of strategic management including quality and innovation as applied to healthcare sector

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To enable the students to understand the philosophy and rational of business strategies
- To enable the students to understand the various quality philosophies, significance and their application in healthcare settings.

OUTCOMES

- By the end of the course, the student will get a feel of the strategic dimensions

of the management of healthcare organizations

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: INTRODUCTION**	**8 HOURS**
	Strategic intent concepts; Healthcare Organization's Vision, Mission , Goals and Objectives-Business Models-Policy and Values; Balance Score Card, Critical Success Factors; Key performance Indicators in healthcare setting; Competition in healthcare business	
2	**MODULE 2: STRATEGY FORMULATION AND IMPLEMENTATION**	**12 HOURS**
	Competitive advantage in terms of facilities and services- Cost Leadership and differentiation in healthcare delivery-Core Competence in healthcare organizations-Growth and expansion of organizations-Mergers and Acquisitions, Outsourcing-Role and emergence of technology-Resource Allocations-Supportive Culture-Strategic Leadership-Corporate Culture-Functional and operational implementation.	
3	**MODULE 3: QUALITY IN HEALTHCARE**	**10 HOURS**
	Concept and significance-Quality Management Philosophies-Patient Focus and Involvement-TQM Models-Quality tools and techniques applied to healthcare-Continuous Quality Improvement-Quality Circles	
4	**MODULE 4: QUALITY ACCREDITATION**	**10 HOURS**
	Meaning and benefits-Quality Standards-Quality of patient care, focus and safety-Accreditation Process-National and International Bodies for accreditation in healthcare – ISO, QCI, NABH & JCI-Statutory Compliance	
5	**MODULE 5: AUDIT IN HEALTHCARE**	**8 HOURS**
	Concurrent, terminal and cyclic evaluation-Healthcare, Medical, Nursing, Clinical Pharmacy and Antibiotic Audits-Patient Satisfaction surveys-Integration of healthcare	

	systems
6	**MODULE 6: INNOVATIONS IN HEALTHCARE 8 HOURS** Innovation Process, Innovations in Healthcare delivery-Public and Private, Technology, New Product Development

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, web-based assignments, experiences, case study designing specific to the topic, instruments, videos ,films and interactions with entrepreneurs in healthcare sector

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. GirdharGyani& Alexander Thomas ,"Handbook of Healthcare Quality & Patient Safety", Jaypee Medical Publishers, Ist Edition, 2014.
2. Kunders, G.D , "Designing for Total Quality in Health Care", Prism Books Pvt Ltd, Ist Edition, 2002
3. Kropf, Roger , Greenberg, James A, "Strategic Analysis for Hospital Management", Aspen Publishers Inc, Ist Edition ,1984
4. Alan M.Zuckerman, Healthcare Strategic Planning, Prentice Hall of India, 2nd Edition, 2005
5. Paul Trott, " Innovation Management and New Product Development", Prentice Hall, 5th Edition ,2011
6. Donald Lighter and Douglas," Quality Management in Healthcare: Principles and Methods", Janes and Berlett Publishers, 2004
7. Pena, Jesus," Hospital Quality Assurance, Risk Management, and Program Evaluation", Aspen Publication, 1984

4.5.3 MANAGEMENT OF HOSPITAL SERVICES

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Hospitals are unique service based organizations, different from other service organizations. Hospitals serve as the touch-points of healthcare delivery, concentrating mostly on the curative health services. The patients approach hospitals for general and specialized services on short, medium and long term basis. Hospital Managers have to make sure that healthcare services are rendered by the healthcare personnel effectively and efficiently. This requires, on the part of the hospital managers, to fully understand the various functions being carried out by different departments and design and develop hospital systems so that all functions are carried out in a coordinated manner. The course has been designed to give the detailed overview to hospital functioning in compliance with statutory and regulatory requirement in a holistic manner

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To introduce the basic services of hospitals to the students.
- To familiarize the students with management dimensions of hospital services.

OUTCOMES

- At the end of the course, the students would get an insight into structure of hospital services and delivery

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: STRUCTURE OF SERVICES **8 HOURS**

Uniqueness of Hospital Services-Differences with Non-Hospital Forms of Healthcare Services-Classification of Hospital Services based on Ownership, Extent of specialization and Nature – Hospitals in India today, hospital as a system.

2

MODULE 2: DESIGN AND PLANNING **8 HOURS**

Classification of Healthcare Facilities- Phases of hospital project- Preliminary survey, Feasibility Survey, Financial & Equipment planning, site selection criteria, legal requirements & Design consideration, Flow chart of operation, Physical facilities and space requirements, statutory requirements, Documentation, Equipment & supplies, Hospital organization hierarchy – Roles & function of hospital administration.

3

MODULE 3: OUT-PATIENT SERVICES **10 HOURS**

Out Patient Department- Planning and Management of Accident and emergency services, Physical medicine and Physiotherapy, Day care- Urgency and utilization management- Prioritization of Patient Needs

4

MODULE 4: IN-PATIENT SERVICES **10 HOURS**

	Operation of wards and facilities-Planning and Management of Medical and Surgical Services, Nursing services and administration, Critical Care Services like ICU Etc - Specialty Services In-patient department (General & Specialized unit), Burn Unit, OT, Super Specialty services.
5	**MODULE 5: OTHER SERVICES 12 HOURS** Planning and Management of STP/ETP, Laundry, Central Sterile and Supplies Department(CSSD), Bio Medical Waste Management(BWWM) , Building, Water supply, Sanitary System and Fire safety, Laundry & Linen, Housekeeping, Maintenance department, Toilets, Other Supportive Services like Radiology, Laboratory etc- Blood Bank , Ambulance services, Pharmacy, Cafeteria and Mortuary.
6	**MODULE 6: HOSPITAL INFORMATION SYSTEM 8 HOURS** Information, Communication and Technology in Healthcare-Barriers and facilitators in adoption of ICT-Telemedicine, Hospital statistics, evaluation of hospital services, Use of management information system.

5. PEDAGOGY

The course is expected to use a combination of approaches such as lecture, case discussion, web-based assignments, experiences, case study designing specific to the topic, instruments, videos and films. Frequent visits to and assignments in different kinds of hospitals are recommended.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Goel, S.L and Kumar," Hospital Core Services: Hospital Administration in 21st Century", Deep and Deep Publications Pvt Ltd, Ist Edition, 2004.

ELECTIVE SUBJECTS

1. Kunders, G.D," Hospitals: Facilities Planning and Management , TBS, 2007.
2. B.M.Sakharkar ," Principles of hospital administration and planning" , Jaypee Brothers Medical Publishers, 2nd Edition, 2009
3. Tabish S A," Hospitals and Nursing homes planning, organizing and management", Jaypee Publishers, Ist Edition, 2003
4. Srinivasan A V," Managing a Modern hospital", Sage Publications, Ist Edition, New Delhi, 2002
1. Sharma, Madhuri, "Essentials for Hospital Supportive Services and Physical Infrastructure", Jaypee Brothers Medical Publishers, Ist Edition, New Delhi, 2003

4.6	**BANKING FINANCE AND INSURANCE (BFIS)** **4.6.1 BANKING TECHNOLOGY AND MANAGEMENT** **4.6.2 INTERNATIONAL FINANCIAL MANAGEMENT** **4.6.3 RISK MANAGEMENT FOR BANKS AND INSURANCE COMPANIES**

4.6.1 BANKING TECHNOLOGY AND MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The System and Experience of Banking has changed drastically over time and the buzz words today are 'net banking', 'mobile banking' etc. While knowledge of the systems and operations of a bank is very important, the technology that drives the system is equally essential to know. A student seeks a career in banking need to be exposed to the 'Technology' that defines the work and responsibility in the changing scenario of bank functioning. Hence, this paper 'Banking Technology and Management'.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To orient the students about the core banking and branch operations.
- To provide knowledge on delivery channels and back office operations.
- To give an exposure regarding interbank payment system and smart banking technologies.
- To discuss contemporary issues in banking techniques

OUTCOMES

By the end of the course, a student would

- Learn the technology used in banking operations.
- Know the back-end operations enabling provision of services.

- Get exposed to the contemporary techniques influencing banking systems

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: CORE BANKING AND BRANCH OPERATIONS**	**10 HOURS**
	Introduction and Evolution of Bank Management – Technological impact in Banking Operations – Total Branch Computerization – concept and opportunities – Centralized Banking – Concept, Opportunities, Challenges and Implementation	
2	**MODULE 2: DELIVERY CHANNELS**	**8 HOURS**
	Overview of Delivery Channels – Automated Teller Machine – Phone Banking – Call Centers – Internet Banking – Mobile Banking – Payment Gateways – Card Technologies – MICR Electronic Clearing	
3	**MODULE 3:BACK OFFICE OPERATIONS**	**8 HOURS**
	Back office Management – Inter branch reconciliation – Treasury Management – Forex Operations – Risk Management – Data Centre Management – Network Management – Knowledge Management (MIS / DSS / ESS) – Customer Relationships Management (CRM)	
4	**MODULE 4: INTERBANK PAYMENT SYSTEM**	**10 HOURS**
	Interface with payment system Network – Structured Financial Messaging System – Electronic Fund Transfer – RTGS – Negotiated Dealing Systems and Securities Settlement Systems – Electronic Money – E-Cheques	
5	**MODULE 5: SMART BANKING TECHNOLOGIES**	**10 HOURS**
	Introduction – Characteristics of Smart Banking Environment – Components and Technologies of Smart Banking Environments – Issues in Smart Banking	
6	**MODULE 6: CONTEMPORARY ISSUES IN BANKING TECHNIQUES**	**10 HOURS**

Analysis of Rangarajan Committee Reports – E Banking – Budgeting – Banking Softwares – Case Study: Analysis of Recent Core Banking Software.

5. PEDAGOGY

a) Lectures and presentations.

b) Live examples and cases

c) Seminars from industry experts.

d) Assignments about interaction with banks.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Muraleedharan, D, "Modern Banking Theory and Practice"
2. Banking on Technology – Perspectives on the Indian Banking Industry, Indian Banks Association, January 2014.
3. Bhasin, Narinder Kumar, "Technology in Banking – the New S Curve", The Indian Banker, Vol VII, No. 5, May 2012.
4. Mobile Banking – Report of the Technical Committee, The Reserve Bank of India, January 2014.
5. Working Group on Information Security, Electronic Banking, Technology Risk Management and Cyber Frauds – Report and Recommendations, The Reserve Bank of India, January 2011
6. Dube, D.P &Gulati, V.P, "Information System Audit and Assurance", Tata McGraw Hill
7. Publications of Indian Institute of Banking and Finance, McMillan

4.6.2 INTERNATIONAL FINANCIAL MANAGEMENT

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

A business enterprise having international transactions is exposed to various risks. While understanding the global environment, the economic impact of the transactions, the procedures and formalities to be adhered to are on one side, the impact of transactions on cash flow of the entity on account of fluctuations in foreign exchange rate is another aspect that must be addressed. This course titled “International Financial Management” aims to orient all the aspects a professional need to know in carrying out international transactions.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To orient the students on global business environment and international markets.
- To make students understand the various risks an enterprise is exposed to on account of international transactions.
- To provide knowledge and skills for hedging foreign currency risks.

OUTCOMES

By the end of this course, a student would learn

- The global financial environment, currency system, relationship between economies and impact of international transactions on the economy.
- Functioning of international financial markets.
- Fixing of exchange rate.
- Foreign currency risks and hedging strategies.

- Interest rate risks and hedging strategies

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: GLOBAL FINANCIAL MANAGEMENT 10 HOURS** Evolution of International Monetary System, Bimetallism, Classical Gold Standard, Interwar Period, Bretton Woods System, Flexible Exchange Rate Regime, The current Exchange Rate Agreements, European Monetary System, Fixed vs. Flexible Exchange Rate Regime
2	**MODULE 2: BALANCE OF PAYMENTS 5 HOURS** Introduction, Accounting Principles in Balance of Payments, Valuation and Timing, Components of the Balance of Payments, 'Surplus' and 'Deficit' in Balance of Payments, Importance and limitations of BOP Statistics, Relationship of BOP with other economic variables.
3	**MODULE 3: INTERNATIONAL FINANCIAL MARKETS 5 HOURS** Motives for using International Financial Markets. Foreign Exchange Market – History and Transactions, interpreting Foreign Exchange Quotations, International Money Markets, International Credit Markets and International Bond Markets. Comparison of International Financial Markets.
4	**MODULE 4: EXCHANGE RATE DETERMINATION 8 HOURS** Purchasing Power Parity Theory, Interest Rate Parity Theory, International Fischer's Effect, Pure Expectations Theory
5	**MODULE 5: FOREIGN EXCHANGE RISK AND RISK HEDGING STRATEGIES18 HOURS**

Transaction Risk, Translation Risk, Economic Risk. Risk Hedging Strategies: Internal – Netting, Leads and Lags. External – Forwards, Futures, Options, Money-market Hedging, Currency Swaps

6 **MODULE 6: INTEREST RATE RISK AND RISK HEDGING STRATEGIES 10 HOURS**

Interest Rate Swaps, Forward Rate Agreements, Interest Rate Futures, Interest Rate Options, Caps, Floors and Collars, Swaption.

5. PEDAGOGY

a) Lectures.
b) Demonstrations using Excel
c) Practical Exercises – Individual and Group
d) Case Studies.

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Alan Shapiro: Multinational Financial Management , Prentice Hall, New Delhi.
2. Apte, Prakash, "International Finance – A Business Perspective", Tata McGraw Hill.
3. David B. Zenoff& Jack Zwick: International Financial Management.
4. Rita M. Rodriguez L. Bigame Carter: International Financial Management.
5. V. A. Avadhani: International Finance- Theory and Practice, Himalaya Publishing House.

REFERENCES

1. Madura, Jeff, "International Corporate Finance", Thomson South-Western.
2. Sharan, Vyuptakesh, "International Financial Management", Prentice Hall of India.
3. Jain, Peyrard, and Yadav' "International Financial Management", MacMillan
4. J. Fred Weston, Bart: Guide to International Financial Management.
5. Robery O. Edmister: Financial Institutions - markets and Management.
6. A.V. Rajwade: Foreign Exchange International Finance and Risk Management, Prentice Hall.

4.6.3 RISK MANAGEMENT FOR BANKS AND INSURANCE COMPANIES

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Like every business, banks and insurance companies are exposed to risks. However, the risks are very unique and most of the times beyond prediction, guess or even comprehension. While 'risk-taking' is an integral part of both banking and insurance business, managing risk to boost performance is a matter of challenge. This courses provides an outline of 'risk management' among banks and insurance companies, highlighting the best practices in Indian and global context

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To provide knowledge on various risks faced by banking companies.
- To provide knowledge on various risks faced by insurance companies.
- To make understand the various strategies adopted by banks and insurance companies in effectively managing risks

OUTCOMES

By the end of the course, a student would

- Know the risks faced by banking and insurance companies.
- Understand the challenges in managing banks.
- Know the risk management strategies for banks and insurance companies.
- Get exposed to the best practices in India and other parts of the world, in respect of 'risk management'.

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: OVERVIEW OF RISK MANAGEMENT IN BANKS 8 HOURS

Risk concept- Importance, The changing face of risk in banks, Types of Risks, Risk Management framework, Organizational structure, Risk Identification- Risk measurement/- Sensitivity, Risk monitoring and Control- Risk Reporting

2

MODULE 2: MANAGING CREDIT RISK 10 HOURS

Defining Credit risk, The Basel Committee's Principles of Credit risk Management,Measuring Credit risk, Credit rating framework, Introduction to some popular credit risk models: Credit risk transfers- Securitization, Loan sales, Covered bonds and Credit Derivatives, Managing credit risk.

3

MODULE 3: CAPITAL RISK - REGULATION AND ADEQUACY 10 HOURS

Concepts of Economic and Regulatory capital, Why regulate bank capital? Risk based Capital Standards- Regulatory capital: Basel Accord- I, II, III, Illustrative problems on calculating capital adequacy

4

MODULE 4: INTEREST RATE AND LIQUIDITY RISK 10 HOURS

Introduction, Asset- Liability Management, Managing and Measuring Interest rate risk, Methods to reduce Interest rate risk, Managing Interest rate with Interest rate

	derivatives, Liquidity risk- Sources, Approaches, Measuring Liquidity risk
5	**MODULE 5: MANAGING MARKET RISK – BANKS INVESTMENT PORTFOLIO 10 HOURS** Basic concepts, The Treasury functions, Risks and Returns of Investment securities, Measuring Interest rate risk with VAR, Approaches to VAR Computation, The Interplay between Market and Credit risk.
6	**MODULE 6: RISK MANAGEMENT IN INSURANCE COMPANIES 8 HOURS** Risk Management : Meaning and objectives, Basic categories risk, Methods of managing risk/ Risk mitigation, Enterprise risk management, Risk management process, Different scenarios and Risk management strategies, Personal risk management, Risk control and Risk financing, Insurance market dynamics, Loss Forecasting

5. PEDAGOGY

a) Lectures and presentations.

b) Live examples and cases

c) Seminars from industry experts.

d) Assignments about interaction with banks and insurance companies

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Padmalatha Suresh and Justin Paul, Management of Banking and Financial Services, Pearson, 3rd Edition, 2014
2. P.K. Gupta, Insurance and Risk Management, Himalaya publishing house, 2015
3. Harold D Stephen and W Jean Kwon, Risk Management and Insurance, Blackwell Publishing co., New York, 2007
4. Jave S. Trieschimam, Sandra G. Guatarson, Robert E Houyt, Risk Management and Insurance, Thomson Sowlla Western Singapore, 2003
5. K.C Shekhar and LekshmyShekhar, Banking Theory and Practice, Vikas Publication, 2013

6. JatinderLoomba: Risk Management and Insurance Planning PHI, 2014
7. L.M. Bhole and JitendraMahakud, Financial Institutions and Markets, 2012
8. Indian Institute of Banking and Finance, Risk Management, Mac Millan 2010
9. G. S. Popli and S. K. Puri, Strategic Credit Management in Banks, PHI, 2013
10. JyotsnaSethi and Nishwan Bhatia, Elements of Banking and Insurance, PHI, 2nd Edition, 2012
11. Bharati.V. Pathak, The Indian Financial system, Pearson Education, 2nd Edition, 2008
12. Indian Institute of Banking and Finance, Bank Financial Management, Mac Millan, 2014
13. IIBF, "Risk Management", Mc Milan, New Delhi.
14. Bagchi S.K., "Credit Risk Management", Jaico Publishing House, Mumbai

ELECTIVE SUBJECTS	
4.7	**STARTUPS AND SMEs MANAGEMENT** **4.7.1 TECHNOLOGY AND INNOVATION** **4.7.2 INTERNATIONALIZATION OF SMEs** **4.7.3 MANAGEMENT OF STARTUPS**

4.7.1 TECHNOLOGY AND INNOVATION

1. GENERAL INFORMATION

No. of Credits per	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Small and medium enterprises (SMEs) have been considered one of the 'driving forces' of modern economies due to their multifaceted contributions in terms of technological innovations, employment generation, export promotion, etc. Of these, the ability of SMEs to innovate assumes significance because innovation lends competitive edge to firms, industries and ultimately, economies. Therefore, technological innovation has the potential to spur growth of individual enterprises at the micro level and aggregate industries and economies at the macro level. Associated with this high growth rates, SMEs in India are also facing a number of problems like sub-optimal scale of operation, technological obsolescence, supply chain inefficiencies, increasing domestic and global competition, fund shortages, change in manufacturing strategies and turbulent and uncertain market scenario. To survive with such issues and compete with large and global enterprises, SMEs need to adopt innovative approaches in their working. Hence there is a need to study in this perspective of technology and innovation among SMEs.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- To understand the importance of technology and innovation for SMEs
- To learn and understand various other dimensions of technology and innovation.

OUTCOMES

- By the end of the course, the students who are entrepreneurially inclined would resort to better technology and more innovation

4. COURSE CONTENT AND STRUCTURE

1

MODULE 1: INTRODUCTION **10 HOURS**

Definition and characteristics of Technology – Market based and resource based views of Technology - Impact of technology on business – meaning, importance and recent developments in technological environment – Technology Trends in Indian Industry- Concept and significance of management of technology – Growing importance of Innovation in business

2	**MODULE 2: SOURCES OF TECHNOLOGY AND INNOVATION 8 HOURS** Sources of technology- process of new product development - Linkage between technology development and competition – IPR and Technology management. Sources of Innovation: Internal and external sources, Competitive advantage to SME.
3	**MODULE 3: TECHNOLOGICAL INNOVATION 10 HOURS** Relationship between Technology and Innovation - Forms of Technology Innovation – Characteristics of Product & Process innovation – Status of Technological innovation in Indian SMEs - Policy Imperatives
4	**MODULE 4: TECHNOLOGY STRATEGY 10 HOURS** Concept and Key principles of technology strategy – framework for technology strategy – relationship between technology and business strategies – Issues and constraints of SME's technology strategy.
5	**MODULE 5: TECHNOLOGY, INNOVATION AND SMEs 10 HOURS** Technology Business Incubation (TBI) - ICT (Information and Communications Technology) – Access to Modern affordable technology - Ecosystem for technology transfer - Govt. policy imperatives for technology upgradation.
6	**MODULE 6: PRACTICALS 8 HOURS** Five Case studies on award winning innovative SME's at National Level.

5. PEDAGOGY

A mix of lectures, case study and a hands-on project

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Betz F , "Strategic Technology Management" , McGraw Hill, 1993
2. V.K. Narayanan , "Managing Technology and Innovation for Competitive Advantage", Prentice Hall , Ist Edition, 2000

3. Tarek Khalil , “Management of Technology” , McGraw Hill, 2000
4. Melissa A Schilling , Strategic Management of Technological Innovation , McGraw Hill, 4th Edition, 2012
5. Brychan Thomas, Christopher Miller, Lyndon Murphy Innovation and Small Business – Volume 1,E-Book, www.bookboon.com

REFERENCES

1. BalaSubrahmanya, M H, M Mathirajan and K N Krishnaswamy(2008) “The Influence of Technological Innovations on the Growth of Manufacturing SMEs”, Report submitted to the Department of Science & Technology, Government of India, New Delhi.
2. Ray Oakey, AardGroen, Peter van der Sijde and Gary Cook “New Technology Based Firms in the New Millennium” ISSN: 1876-0228, See more at: http://www.emeraldgrouppublishing.com/products/books/series.htm?id=1876-0228#sthash.RC0ih24v.dpuf
3. Tim Mazzarol, Sophie Reboud ,” Strategic Innovation in Small Firms – An International Analysis of Innovation and Strategies Decision Making in Small to Medium Sized Enterprises”, Edward Elgar Publishing, 2011
4. Innovation readiness of Indian SMEs: and Challenges – FICCI MSME Summit 2012 Report: Theme: “ Innovation & Clusters”
5. Chaminade, C. Vang, J, Innovation Policy for Asian SMEs: an Innovation Systems Perspective, in H. Yeung Handbook of Research on Asian Business. Edward Elgar, 2006

4.7.2 INTERNATIONALIZATION OF SMEs

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

The emergence of multinational firms has been a distinct feature of globalization in the developing countries. Many of the emerging multinational firms are small and medium

enterprises (SME), seeking to capitalize on their unique skills and capabilities and achieve rapid growth and diversify the sources of their revenue streams. SMEs have used their social capital to penetrate into foreign markets and acquire market share. However they are unable to observe the strategies behind internationalization processes of SMEs. As more and more firms enter the international business environment, there is increased competition. Technological advancements, declining trade barriers etc. are driving the world economy to become more and more integrated and this rapid globalization is enabling SMEs to become international in a quicker yet effective manner. Advancements in information technology and improvements in communication infrastructure have resulted in opportunities for SMEs to participate in global markets in both developing and developed countries. Since 1991, SMEs in India have been faced with new competitive intensity. Improvements in resource utilization make it possible to sell a variety of products and services from anywhere in the world and around the clock. This course will help to gain a better understanding of internationalization of SMEs, strategies behind the internationalization process of SMEs and various govt/non-govt support programs towards SMEs internationalization.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- The objective of this course is to motivate entrepreneurially minded students to attempt internationalization in SMEs that they own and work for.

OUTCOMES

- At the end of the course, the students must understand the nuts and bolts of internationalization of SMEs.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: INTRODUCTION**	**8 HOURS**
	Internationalisation: Introduction; Definition or Meaning of Internationalisation- Factors influencing Internationalisation of SMEs - Steps in Internationalisation of SMEs- International opportunities for SMEs – Benefits of Internationalization of SMEs.	

2	**MODULE 2: APPROACHES TO INTERNATIONALISATION 10 HOURS** Stages, Economic, Networks Holistic approaches - Integrative and knowledge-based models. Gradualist, Born-Global, Born-Again Global approaches.
3	**MODULE 3: FORMS AND MODES OF INTERNATIONALIZATION10 HOURS** Forms: Exporting - Joint Venture - FDI. Modes: Management contracts -Turn-key Operations- Subcontracting – Licensing – Franchising – Overseas Branches – subsidiary - Mergers and acquisitions - Ecommerce, International Trade Exhibition - Trade Journals
4	**MODULE 4: SELECTION OF MARKETS 10 HOURS** Nature of Product - International market Information - Foreign Market Needs - Foreign Competition - Support of Government Agencies.
5	**MODULE 5: STRATEGIES FOR INTERNATIONALIZATION 10 HOURS** Geographical Concentration/Diversification, Product-Market Expansion Grid, Ethnocentric , Polycentric , Geocentric, Regiocentric Strategies - Offensive and Defensive Competitive Strategies.
6	**MODULE 6: PRACTICALS 8 HOURS** Three Case studies of Export Oriented Units (EOU) and one Visit.

5. PEDAGOGY

A mix of lectures, case study and a hands-on project

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Nelly Daszkiewicz, Krzysztof Wach , "Internationalization of SMEs – Context, Models and Implementation", Gdańsk University of Technology Publishers, Ist Edition, 2012
2. VasanthKiran, MousumiMajumdar, Krishna Kishore , "Internationalization of SMEs: Finding A Way Ahead Alliance School of Business", Alliance University Bangalore India: Available online at http://www.iasir.net
3. Bhalla V K, and S Shivaramu , "International Business : Environment and Management ", Anmol Publications Pvt Ltd. Seventh Revised Edition, 2003
4. Challenges for SMEs: Agenda for Change Ms. Dolly Bhasin is the CEO of a knowledge enterprise, Dr. S. P. Agarwal, Prof. & Head, CITT, IIFT, New Delhi, ICICI Bank SME knowledge series
5. Moen, O. and Servais, P. (2002): "Born global or gradual global? Examining the export behavior of small and medium-sized enterprises", Journal of International Marketing, 10 (3), 49-72.
6. Sharma, D.D. and Blomstermo, A. (2003): "The internationalization process of born globals: A network view", International Business Review, 12 (6), 739-753.
7. Bell, J., McNaughton, R. and Young, S. (2001): "Born-again' global firms. An extension to the 'born global' phenomenon", Journal of International Management, 7, 173-189.

REFERENCES

1. M V Ravikumar, N. Ramesh and M K Sridhar, " Internationalization of SMEs –Study of critical factors ", Research Study sponsored by Indo-Korean Institute for Science and Technology, 2011
2. Top Barriers and Drivers to SME Internationalization", Report by the OECD Working Party on SMEs and Entrepreneurship, OECD, 2009
3. Karen Wilson , "Encouraging the Internationalization of SMEs", OECD Papers, 2006, Vol 6, Issue 12, Pg 43
4. Gabrielsson, M. and Kirpalani, M.V.H. (2004): "Born globals: How to reach new business space rapidly", International Business Review, 13, 555-571.
5. Kundu, S. K. and Katz, J.A. (2003): "Born-internationals SMEs: BI-level impacts of

resources and intentions," Small Business Economics, 20, 25–47

4.7.3 MANAGEMENT OF STARTUPS

1. GENERAL INFORMATION

No. of Credits per week	4
No. of Hours per week	4

2. PERSPECTIVE OF THE COURSE

Most new ventures face near fatal situations during the initial few years, threatening their very existence. Many of these failures are for want of an understanding of the management challenges of a new venture which are avoidable. These challenges are not the same as those of a well-established firm. Managers and entrepreneurs, hence, need additional set of attitudes, skills and knowledge to overcome these issues. Traditional MBA courses start with the assumption of an existing business and its management where systems, processes and relationships are already in place. Managing a start up venture is altogether a new experience of simultaneously working on several fronts often with limited resources in hand. Entrepreneurs should try to compress the new venture phase and move to the growth phase like a meteor. This course will provide some insight into the challenges of successfully managing this phase of a venture and its growth phase.

3. COURSE OBJECTIVES AND OUTCOMES

OBJECTIVES

- The course aims to make the students understand the managerial dimensions of start-up ventures.

OUTCOMES

- By the end of the course, the students must get clarity of vision and roadmap for managing the growth of new ventures.

4. COURSE CONTENT AND STRUCTURE

1	**MODULE 1: BUILDING HUMAN CAPITAL**	**10 HOURS**

	Recruitment of key individuals – man power planning and sourcing, talent Management, learning and development, productivity of employees.
2	**MODULE 2: BUILDING INFRASTRUCTURE 10 HOURS** Expansion of land and building, planning and procurement of additional machinery and equipment, modernisation and technology up gradation, management of capital expenditure.
3	**MODULE 3: BUILDING MARKETING NETWORKS 10 HOURS** Expansion of market - Identifying new market segment, new distribution channels, promotional tools, Technology of Marketing, New age marketing tools, Digital marketing.
4	**MODULE 4: BUILDING ORGANIZATION 10 HOURS** Design and development of organization structure, Departmentalization, organization policies and processes, organizational culture - ethics and governance
5	**MODULE 5: BUILDING VISION 8 HOURS** Vision, Mission, goals, objectives, and strategies, group dynamics and team building.
6	**MODULE 6: PRACTICALS 8 HOURS** Two Industrial visits, Two Synergy case studies.

5. PEDAGOGY

A mix of lectures, case study and industrial visits

6. TEACHING/LEARNING RESOURCES

ESSENTIAL READINGS

1. Justin Longenecker, Leo B. Donlevy, Terri Champion, Carlos W. Moore, J. William

Petty, Leslie E. Palich , “Small Business Management: Launching and Growing New Ventures”,Cengage Publication,5th Edition, 2013
2. Prof. AnjanRaichaudhuri , “Managing New Ventures – Concepts and Cases on Entrepreneurship”, PHI Edition, 2011
3. Longenecker, Moore, Petty and Palich , “Managing Small Business”, Cengage Learning, 15th India Edition, 2010
4. B.S. Bhatia, G.S. Batra , “Entrepreneurship and small business management”, Deep and Deep Publications, 2002

REFERENCES

1. Chase, R.B, et. Al,” Operations Management for Competitive Advantage”, Tata McGraw Hill, New Delhi, 11 edition, 2008
2. Berger, Lance A and Dorothy Berger, “The Talent Management Handbook”, Tata McGraw Hill, New Delhi , 2nd Edition, 2011
3. Hartman, Laura P and AbhaChatterjee “ Perspectives in Business Ethics”, Tata McGraw Hill, 3rd Edition, 2006
4. Hanson &Kalyanam, “Internet Marketing & e-commerce”, Thomson Learning, Bombay.
5. Rosenbloom, Bert, “Marketing Channels: A Management View”, Thomson Learning, New Delhi , 8th Edition, 2007
6. Bohlander / Snell / Sherman , “Managing HR(for training and development)” Thomson Publication
7. Joseph Weiss , “O.B & Change “ , Vikas Publications , 2nd Edition
8. Ken Tanner , “The Entrepreneur’s guide to hiring a building the team” , Praeger Publishers, 2008
9. A.Gupta , “Indian Entrepreneurial Culture”, New Age International Publication, Ist Edition, 2009

Salient Features

- Choice based credit system (CBCS) with credits, cumulative grade average and open elective.
- There are differential credits to ensure relative importance of the subjects.
- Business & Industry and Innovation Management are the two new core subjects brought in the first year.
- Health Care Management; Startups and SMEs Management and Banking, Finance and Insurance Services (BFIS) are introduced as specialization streams in the second year.
- Open elective on Management Perspectives.
- Provision for enhanced interaction with user system including industry.
- There is provision for single or dual specialization.
- Focus on one specialization stream in III and IV Semesters.
- Weightage for Internal assessment increased.
- Marks for book review, assignment, case writing and mini projects apart from attendance and internal test.
- Full time project work for four weeks to ensure social and business orientation.
- Full time dissertation for six weeks in business organizations.
- Uniform templates are used for course contents and resources.

REGULATIONS PERTAINING TO *MASTER OF COMMERCE* (M.Com) COURSE UNDER CBC SYSTEM FROM 2014-15 ONWARDS

1. OBJECTIVE:

The broad objective of the Master of Commerce course is to impart to the Students, professional education and training in various aspects of business and its environment and provide them with opportunities to develop managerial and analytical skills in order to meet the challenges of business at the national and global level.

2. Eligibility for Admission:

A candidate who has passed the B.Com/B.B.M/ BBS and BBA Degree examination of this University or of any other University recognized as equivalent thereto and has secured not less than 50% of the marks in the aggregate in all the Commerce subjects of Business Education in all the years (Examinations of the B.Com/BBM course) shall be eligible for admission to the course. In the case of SC/ST students and blind students the minimum percentage of marks required shall be less by 5%

3. Duration of the Course:

The course of study for M.Com, degree shall extend over a period of two years divided into 4 (four) semesters. Each Semester will be of 16 weeks or more duration with a minimum of 90 actual working days.

4. Scheme of Instruction:

1. In each semester there will be seven papers (including practicals)
2. There will be 27contact hours per week. This includes practicals.
3. Candidates are required to maintain record for computer practicals, which will have to be certified by the Chairman / Co-ordinator of the course, failing which students will not be permitted to take the end semester examination in that subject.

5. Attendance:

Each course (theory/practical) shall be treated as an independent unit for the purpose of attendance. A student shall attend a minimum of 75% of the total instruction hours in a course (theory/practical) including tutorials and seminars in each semester. There shall be no provision for condonation of shortage of attendance and a student who fails to secure 75% attendance in a course shall be required to repeat that semester.

6. Medium of Instruction:

The medium of instruction shall be English. However a candidate will be permitted to write the examination either in English or in Kannada.

7. Registering for the Examination:

A candidate shall register for all the papers of a semester when he appears for the examination of that semester for the first time.

8. Scheme of Examination:

8.1 There shall be a University examination at the end of each semester.

8.2 The details of the scheme of examination are as given below:

Sl. No.	Course	Duration	No. of papers per semester	Maximum Marks of Per Semester	No. of Credits
1	M.Com	I & II	6+1	700	52 (26+26)

8.1 Each semester will normally have six (Hardcore) and one (soft core) paper and each shall be for 100 marks.

8.2 (i) The composition of theory and internal assessment marks for each paper will be 70 and 30 respectively. However, in Computer related papers it will be 70+30 (theory + practical).

ii. Duration of examination per theory paper of 70 marks shall be for 3 hours, for practicals it will be $1_{1/2}$ (one and half) hours.

iii. Practical records will be evaluated as part of the practical examination.

iv. In case of practical examinations, students will be assessed on the basis of knowledge of processes, skills operations involved, results/calculations and reporting.

v. Practical examination will be conducted with both internal and external examiners. If the external examiner absents, then the examination will be conducted by two internal examiners.

8.3 Every theory paper shall ordinarily consist of two/three sections, developed to testing of conceptual skills, understanding skills, comprehension - skills, articulation and application skills.

8.4 (i) In case of theory papers the various components of internal assessment will be as follows:

a) Assignment – 5 Marks
b) Attendance – 5 marks
c) Internal Test – 20 Marks

(The test shall be for $1_{1/2}$ hour duration carrying 40 marks. The marks scored by the candidate shall be later reduced to 20 marks).

(ii) The Departmental Council / College / Centre shall notify in the first week of each semester, scheme of internal assessment, containing the details of tests, assignments, and seminars.

(iii) Co-ordination Committee: In order to monitor IA tests there shall be Co-ordination Committee consisting of the following:

1. Chairman BOS: Chairman
2. One Senior Faculty Member
3. Two members from affiliated colleges as recommended by the BOS
4. For Information System and Computers Subject, A Viva-Voce and Practical Exam for 30 marks will be conducted by external examiners.

(iv) At least one week prior to the last working day, I.A. marks secured by the candidates shall be displayed on the notice board.

(v) The Departmental Council / College / Centre may decide to give test/seminar to candidates who absent themselves for the above, only if the Council is convinced that the absence of the candidate is on valid grounds. However, the Council will allow the candidate to avail of this provision within the duration of that semester.

(vi) The statement of internal assessment shall be sent to the Registrar (Evaluation) one week prior to the commencement of that particular semester examination.

8.5 **Question Paper Pattern:**

Section – A:

Answer any Seven Questions out of Ten. Each Question Carries Two Marks (7x2=14)

Section – B:

Answer any Four Questions out of Six. Each Question Carries Five Marks (4x5=20)

Section – C:

Answer any Three Questions out of Five. Each Question Carries Twelve Marks (3x12=36)

8.6 Dissertation:

Each student will choose business research project/live business problem in a business organization or industry, and prepare a dissertation report. He/she will formulate it as a research/consultancy problem, work under the guidance of a faculty member on it during the II & III semesters, prepare a report based on his/her work under the guidance of a faculty member and submit at the end of each semester. This will be evaluated for 70 marks. Project Dissertation guidance for a faculty member will involve a workload of 5 hours per week in a semester. Dissertation guidance of 8 students by a faculty member will be equivalent to the teaching of one paper per semester. Viva voce examination will be conducted for 30 marks by BOE.

9. Board of Examiners and Valuation of Answer Scripts:

9.1 There shall be a Board of Examiners for scrutinizing and approving the question papers and scheme of valuation.

9.2 About 50% of the examiners appointed for setting of question papers and valuation work in each semester shall be external.

9.3 Each written paper shall be valued by one internal examiner and one external examiner. Each practical examination shall be jointly conducted and evaluated by one internal examiner and one external examiner or two external examiners if there are no internal examiners. But not by two internal examiners.

9.4 If the difference in marks between two valuation is more than 15% of the maximum marks, the Registrar (Evaluation) or his nominee shall check the entries and the total marks assigned by the two valuers. If there is any mistake in totaling, it shall be rectified. While checking the total, if it is observed that any one or more of the answers is not valued by one of the valuers, the Chairman, BOE shall advise internal members of the Board of Examiners to value that answer. After receiving the marks, the Chairman, BOE shall make the necessary corrections. Despite all these corrections, if the difference between the two

valuations is still more than 15%, the Chairman, BOE shall arrange for third valuation by examiners from the approved panel of examiners.

9.5 In case of two valuations, the average of the two valuations and if there are three valuations, the average of the nearest two valuations shall be taken for declaring results. The candidates not satisfied with the results may apply for photocopies of the answer scripts and / or challenge valuation.

9.6 **Challenge Valuation:**

A student who desires to challenge the marks awarded to him/her may do so by submitting an application along with the prescribed fee to the Registrar (Evaluation) within 15 days after the announcement of the results. Such candidates shall be provided with a Xerox copy of the answer book after concealing the name of the valuers.

The answer scripts for which challenge valuation is sought for shall be sent to another external examiner. The average of the marks awarded in the challenge valuation and the marks of the earlier valuation which is closer to the challenge valuation shall be the final award.

10. <u>Classification of Successful candidates:</u>

Minimum for a pass in each paper shall be 40% in Semester paper and 50% in aggregate of all the papers in that semester.

The results of successful candidates at the end of each semester shall be declared on the basis of Percentage of Aggregate Marks and in terms of Grade Point Average (GPA) and alpha – sign grade. The results at the end of the fourth semester shall also be classified on the basis of Percentage of Aggregate Marks and on the basis of the Cumulative Grade Point Average (CGPA) obtained in all the four semesters and the corresponding overall alpha – sign grade. An eight point grading system, alpha – sign grade as described below shall be adopted.

First Class with Distinction	70% and above (A+, A++ or O)
First Class	60% and above but less than 70% (A)
High Second Class	55% and above but less than 60% (B+)
Second Class	50% and above but less than 55% (B)
Pass Class	40% and above but less than 50% (C)

<u>Eight Point Alpha – Sign Grading Scale:</u>

Grade Point Average	<4	4-<5	5-<5.5	5.5-<6	6-<7	7-<8	8-<9	9-10
Alpha-Sign Grade:	D	C	B	B+	A	A+	A++	O

The Grade Point Average (GPA) in a Semester and the Cumulative Grade Point Average (CGPA) at the end of fourth semester shall be computed as follows:

<u>Computation of Grade Point Average</u> **(GPA):**

The grade points (GP) in a course shall be assigned based on the basis of actual marks scored in that course as per the table below. They shall be generally percentages divided by 10. The Grade Point Weights (GPW) shall then be calculated as the product of the grade points earned in the course and the credits for the course. The total GPW for a semester is obtained by adding the GPW of all the courses of the semester.

ILLUSTRATION 1 (26 Credits)

Papers	P1	P2	P3	P4	P5	P6	P7	Total
Max. marks	100	100	100	100	100	100	100	700
% Marks Obtained	77	73	58	76	64	66	82	496
Grade Points Earned (G.P.)	7.7	7.3	5.8	7.6	6.4	6.6	8.2	-
Credits for the Course (C)	4	4	4	4	4	4	2	26
Total GPW = GP x C	30.8	29.2	23.2	30.4	25.6	26.4	16.4	182

Semester Aggregate Marks : **496 / 700 = 70.86%**

Classification of Result **:** First Class with Distinction

The GPA shall then be computed by dividing the total GPW of all the courses of study by the total credits for the semester, GPA = Total GPW / Total Credits = 182 / 26 **= 7.0**

Semester Alpha Sign Grade: **A+**

ILLUSTRATION 2 (24 Credits)

Papers	P1	P2	P3	P4	P5	P6	Total
Max. marks	100	100	100	100	100	100	600
% Marks Obtained	67	73	78	76	84	88	466
Grade Points Earned (G.P.)	6.7	7.3	7.8	7.6	8.4	8.8	-
Credits for the Paper	4	4	4	4	4	4	24
Total GPW = GP x C	26.8	29.2	31.2	30.4	33.6	35.2	186.4

Semester Aggregate Marks: **466 / 600 = 77.67%**

Classification of Result**:** First Class with Distinction

GPA = Total GPW / Total Credits = 186.4 / 24 **= 7.77**

Semester Alpha Sign Grade: **A++**

11. <u>Calculation of Cumulative Grade Point Average (CGPA):</u>

The Cumulative Grade Point Average (CGPA) at the end of the fourth semester shall be calculated as the weighted average of the semester GPW. The CGPA is obtained by dividing the total of GPW of all the four semesters by the total credits for the programme.

ILLUSTRATION I

Semester	I	II	III	IV	Total
Total Marks per Semester	700	700	600	600	2600
Total Marks Secured	496	560	466	510	2032
Semester Alpha Sign Grade	A+	A++	A+	A++	-
Semester GPA	7.0	8.0	7.77	8.5	-
Semester Credits	26	26	24	24	100
Semester GPW	182	208	186.5	204	822.9

Aggregate Percentage of Marks = 2032 / 2600 = **78.15 %**

Classification of Result**: *First Class with Distinction***

Cumulative Grade Point Average (CGPA)

= Total of Semester GPW / Total Credits for the programme = 780.5 /100 **= 7.805**

Programme Alpha Sign Grade: **A++**

These are the sample illustrations of computing semester grade point averages and cumulative grade point average and the alpha – sign grades assigned.

12. MINIMUM FOR A PASS:

12.1 A candidate shall be declared to have passed the PG program if he/she secures at least a CGPA of 4.0 (Course Alpha-Sign Grade C) in the aggregate of both internal assessment and semester end examination marks put together in each unit such as Theory Papers / Practical's / Project Work / Dissertation / Viva-Voce.

12.2 The candidates who pass all the semester examinations in the first attempts are eligible for ranks provided they secure at least CGPA of 6.0 (or Alpha-Sign Grade A).

14.3 The results of the candidates who have passed the fourth semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed Lower semester examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

12.4 A candidate who passes the semester examinations in parts is eligible for only Class / CGPA and Alpha-Sign Grade but not for ranking.

12.5 There shall be no minimum in respect of internal assessment.
However minimum pass in each paper shall be 40% in semester end exam (28 Marks out of 70 Marks) and 50% aggregate of all papers in that semester.

12.6 A Candidate who fails in any of the unit / dissertation / viva-voce shall reappear in that unit / dissertation / viva-voce and pass the examination subsequently.

13. CARRY OVER PROVISION: Candidates who fail in a lower semester examinations may go to the higher semesters and take the examinations.

14. REJECTION OF RESULTS:

i. A candidate who fails in one or more papers of a semester may be permitted to reject the result of the whole examination of that semester. **Rejection of result paper wise shall not be permitted**. A candidate who rejects the results shall appear for the examination of that semester in the subsequent examination.

ii. Rejection shall be exercised only once in each semester and the rejection once exercised shall not be revoked.

iii. Application for rejection along with payment of the prescribed fee shall be submitted to the Registrar (Evaluation) through the department/college together with the original statement of marks within 30 days from the date of publication of the result.

iv. A candidate who rejects the result is eligible for only class and not for ranking.

15. IMPROVEMENT OF RESULTS:

i) A candidate who has passed in all the papers of a semester may be permitted to improve the result by reappearing for the whole examination of that semester.

ii) The reappearance could be permitted twice during double the period without restricting it to the subsequent examination only. The regulation governing maximum period for completing various degree/ diploma programme notified by the University from time to time shall be applicable for improvement of results also.

iii) The student could be permitted to apply for the improvement examination 45 days in advance of the pertinent semester examination whenever held.

iv) If the candidate passes in all the subjects in reappearance, higher of the two aggregate marks secured by the candidate shall be awarded for that semester. In case the candidate fails in the reappearance, candidate shall retain the first appearance result.

v) A candidate who has appeared for improvement is eligible for class only and not for ranking. Internal assessment marks shall be shown separately in the marks card. A candidate who has rejected the result or who, having failed, takes the examination again or who has appeared for improvement shall retain the internal assessment marks already obtained.

A candidate who fails in any of the semester examinations may be permitted to take the examinations again at a subsequent appearance as per the syllabus and scheme of examination in vogue at the time the candidate took the examination for the first time. This facility shall be limited to the following two years.

16. POWER TO REMOVE DIFFICULTIES

i) If any difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may by order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty.

ii) Every order made under this rule shall be subject to ratification by the Appropriate University Authorities.

APPENDIX "A"

M.Com (MASTER OF COMMERCE) - COURSE MATRIX

I SEMESTER M.Com (MASTER OF COMMERCE)

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
1.1	Monetary System	4	3	30	70	100	**4**
1.2	International Business	4	3	30	70	100	**4**
1.3	Macro Economics for Business Decisions	4	3	30	70	100	**4**
1.4	Information Systems and Computers	4	3	30	70	100	**4**
1.5	Advanced Financial Management	4	3	30	70	100	**4**
1.6	Human Resource Management	4	3	30	70	100	**4**
1.7	**SOFT CORE** Communication Skills	3	3	30	70	100	**2**
I SEMESTER TOTAL OF CREDITS							**26**

II SEMESTER M.Com (MASTER OF COMMERCE)

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
2.1	Indian Banking	4	3	30	70	100	**4**
2.2	Risk Management	4	3	30	70	100	**4**
2.3	Advanced E – Commerce & Mobile Commerce	4	3	30	70	100	**4**
2.4	Business Research Methods	4	3	30	70	100	**4**
2.5	Operations Research & Quantitative Techniques	4	3	30	70	100	**4**
2.6	Business Marketing	4	3	30	70	100	**4**
2.7	**SOFT CORE** Micro Finance	3	3	30	70	100	**2**
II SEMESTER TOTAL OF CREDITS							**26**

1.1 MONETARY SYSTEM

Objectives:

1. To expose students to domestic and international monetary systems
2. To enable students to understand principles & systems of note issue
3. To familiarize with issues relating to conversion of currencies.

Module – 1:

Money: Meaning, definition, functions. Role of money, value of money, theories of Value of money; quantitative theory, Friedman's restatement of the quantitative theory – Keynes theory of money.

Module – 2:

Monetary system: The Gold standard – paper currency standard – principles of note issue; systems of note issue – essentials of a sound currency system – paper gold or SDR

Module – 3:

International monetary system – Evaluation of International monetary system, Bi – metallion; – classical gold standard – interwar period Bretton woods system – The flexible exchange rate – current exchange rate regime – fixed vs flexible exchange rates.

Module – 4:

International financial system: Introduction – role of financial markets - participants – elements – forex market – Euro currency market – Euro bond market – forward and future markets for foreign exchange.

Module – 5:

Balance of payment – Balance of Trade, Equilibrium in BOP – Devaluation and Depreciation; Current and Capital account convertibility – Recent development in foreign capital flows.

Books for Reference:

1. V.K. Bhatta, *International Financial Management* Anmol publication Pvt. Ltd. New Delhi.
2. Madhu Vij, *Multinational Financial Management*, Excel Books, New Delhi.
3. Cheol S. Eun & Bruce G. Resman, *International Financial Management*, Tata Mc Graw Hill, New Delhi.
4. K.K. Dewet, *Modern Economic Theory*, Shyam Lal chaintable Trust, Ramnagar, New Delhi.
5. Apte P.G: *International Financial Management*, TMH
6. Lavi Maurice: *International Finance*, Mc Graw Hill.

1.2 INTERNATIONAL BUSINESS

Objectives:

1. To familiarize the students with the concepts, functions and practices of international business.
2. To enable them get global perspective on issues related to business.

Module – 1

Nature of International Business (IB). Drivers of IB. IB and domestic business compared. Routes of globalisation, players in International Business. Evolution of IB.

Theories of IB. Mercantilisms, Theory of Absolute Advantage. Theory of Comparative Advantage. National Competitive Advantage.

Environment of IB. Political, legal, technological, cultural, economic factors.

Module – 2

International Strategic Management – nature, process – scanning global environment – formulation of strategies – implementation of strategies – evaluation and control.

Organisational designs for IB. Factors affecting designs. Global product design. Global area design. Global functional design. International division structure.

Module – 3

International Human Resource Management (IHRM). IHRM and domestice HRM compared. Scope of IHRM. HR planning. Selection of expartriates. Expat training. Expat remuneration. Expat failures and ways of avoiding. Repatriation. Employee relations.

International operations Management. Nature - operations management and competitive advantages. Strategic issues – sourcing v/s vertical integration, facilities location, strategic role of foreign plants, international logistics, managing service operations, managing technology transfers.

International Financial Management – Nature - compared with domestic financial management. Scope – current assets management, managing foreign exchange risks, international taxation, international financing decision, international financial markets, international financial investment decisions.

International financial accounting – national differences in accounting, attempts to harmonise differences.

Financing foreign trade – India's foreign trade, balance of trade and balance of payments, financing export trade and import trade. International Marketing – nature compared with domestic marketing. Benefits from international marketing. Major activities – market assessment, product decisions, promotion decisions, pricing decisions, distribution decisions.

Module – 4

Integration between countries. Levels of integration. Impact of Integration. Regional trading blocks – EU, NAFTA, Mercosur, APEC, ASEAN, SAARC, Commodity agreements.

GATT, WTO – functions, structure, agreements, implications for India. International Strategic Alliances – Nature - Benefits. Pitfalls, scope, managing alliances.

Books for Reference:

1. Darrell Mahoriy, etal, *International Business,* Longman.
2. Charles W.L. Hill, *International Business,* McGraw – Hill.
3. Czinkota, etal, *Global Business,* Dryden Press.
4. John D. Daniels, etal, *International Business,* Pearson Education.
5. Don Ball and Wendell McCulloch, *International Business,* McGraw – Hill.
6. A.V. Vedipurishwar, *The Global CEO,* Vision Books.
7. Aswathappa. K., *International Business,* Tata McGraw Hill (In Press)

1.3 MACROECONOMICS FOR BUSINESS DECISIONS

Objectives:

1. To familiarise students with key macro economic variables and their behaviour, and enable them to critically evaluate different economies.
2. To enable students to integrate macroeconomic analysis into business decisions.

Module – 1

Introduction to economics, macro economics, and its interface with business and industry.
Resources and goals of an economic systems, free market and mixed economy.
National income and product concept, computation of national income and related aggregates, problems in computation of national income.

Module – 2

Consumption, Savings, investment, marginal propensity to consume, marginal propensity to save, multiplier, paradox of thrift, income and employment determination.

Module – 3

Money, monetary system, role of credit, financial inter-mediaries, level and structure of interest rates - interest and macroeconomic equilibrium, central bank, monetary management and policy.
Fiscal policy – Objectives, tools, fiscal variables and the public debt, co-ordination of monetary and fiscal policies.

Module – 4

Economic growth, factors determining economic growth, growth models, capital output ratio, problems of growth.
Policies towards economic stability, business cycle, inflation and deflation, control measures, conflicts between growth and stability.

Books for Reference:

1. Gupta G. S. - *Macroeconomic theory*- Tata Mc-Graw Hill publications
2. Samuelson,Paul – *Economics*, Tata Mc-Graw Hill publications
3. Dornbush R & Fisher S – *Macroeconomics* – Tata Mc-Graw Hill publications
4. Blanchard O. J & Stanley Fischer – *Lectures on Macro-economics* – Tata Mc Graw Hill publications
5. Dwivedi D N – *Managerial Economics* – Vikas publications
6. J. K. Bhagawathi – *Economics of Underdeveloped Countries* – All India Traveler Book Seller Publishing Company.
7. A. K. Agarwall – *Indian Economics – Problems of Development and planning* – D.K Publishers.
8. V. K. R. V. Rao - *National Income of India* – 1950 to 1980 Sage Publishers
9. Bimal Jalan – *India's Economic Crisis*, Oxford, IBM.
10. Rangarajan C. – *Principles of Macro Economics*, Tata McGraw Hill Pub co.
11. Vaish M. C – *Macro Economic Theory* – Willey Eastern
12. Jha. R – *Contemporary Macroeconomic Theory and Policy*
13. Schultze C. L – *National Income Analysis*
14. Bramhananda P R & V R Panchamukhi – *Development process of Indian Economy Survey (Various issues)* – Ministry of Finance Government of India Publications, New Delhi.
15. Sheth M. L – *Macroeconomic theory* – S.Chand, New Delhi.
16. Bhole. L.M, *Financial Institutions and Markets*, Tata McGraw Hill.
17. Frank R.H: Principles of Macroeconomics, Tata McGraaw Hill.
18. Colander: Macroeconomics TMH.
19. Fischer and Blanchard: Lecturer an Macroeconomics PHI.
20. Turnovsky: Methods of Macroeconomics Dynamis, PHI.

1.4 INFORMATION SYSTEMS AND COMPUTERS

Objectives

1. To familiarize student with aspect of business information systems and relevant information technology.
2. To Develop skills to design and implement simple computer based business and audit information systems.

MODULE - 1

Information Systems and their role in businesses, types of information systems – Operation support system, management support system, TPS, PCS, EIS, MIS, OAS, DSS, GDSS, expert systems, artificial intelligence, Information systems at levels of management, HRIS, Accounting Information system, Marketing information systems, manufacturing and production information system, Developing information systems — systems analysis and design, SDLC – types, introduction to ERP, introduction to cloud computing.

MODULE - 2

IT-GRC (Governance, Risk and Compliance), Information system audit standards – ISO 27001 – Information security and management standard (ISMS) , Capability Maturity Model (CMM), Control Objectives for Information and related Technology (COBIT) – IT Governance model, Health Insurance Portability and Accountability Act (HIPAA), Statement on Auditing Standards (SAS) for service organization.

MODULE - 3

Overview of specific section of IT ACT 2008 different sections, electronic contracting, digital signature, cyber offence, certifying authorities, Concepts of Cyber forensics/Cyber Fraud investigation, Overview of Information Security Standards - ISAE 3402/SA 402, ITIL

MODULE - 4

Database definition, types of structures, DBMS software-creating, editing, modifying, searching and sorting databases, creating and printing formatted reports, designing custom screen displays, multiple data files, executing queries and relational algebra

MODULE - 5

Spread sheet software - range, formulas, types of functions, types of charts, what-if analysis-Goal Seek Analysis, data validation, subtotal, Applying Absolute (Fixed), statistical functions – min, max, count, countif, countA, stdev, mean, mode, median, variance, correlation, percentile, quartile, rank, financial functions – PV, NPV, NPER, PMT, RATE, IRR, SLN, SYD, IPMT, DB, logical functions – if, else, and, or, not, multiple if statements, Vlookup, Hlookup, sorting data - types, conditional formatting, page layout - settings, filtering data, data analysis - descriptive statistics, pivot tables

Books for Reference:

1.O' Brien James — A Management Information Systems, Tata Mc Graw Hill, New Delhi.
2. Lauden and Lauden —. Management Information Systems, Prentice flail of India, New Delhi.
3. Gordan B Davis — Management Information Systems, Mc Graw Hill .
4. Information Systems Control & Audit, By Weber, Pearson Education, India
5. Information Technology Control and Audit, Third Edition, Sandra Senft, Frederick Gallegos, CRC Press
6. Information System Audit and Assurance, By D. P. Dube, Ved Prakash Gulati, Maraw Hill Education
7. For modules 4 and 5 the teacher will decide the software of his/her choice and a appropriate books

***** A viva-voce and Practical exam for 30 marks will be conducted for above subject.

1.5 ADVANCED FINANCIAL MANAGEMENT

Objective:

1. To impart the knowledge in advanced techniques of financial management.
2. To enable the students to apply the techniques in financial decision making.

MODULE – 1:

Introduction – Finance Functions – Financing decisions – Capital structure theories – net income approach, Net operating income approach – The Traditional approach – Modighani – Miller hypothesis – capital structure planning and policy – elements of capital structure EBIT – EPS approach, Valuation approach, cash flow approach.

MODULE – 2:

Investment Decisions – Capital Budgeting decisions – Nature – type – Evaluation criteria – DCF – NPV –IRR – Reinvestment assumption and modified IRR – Varying opportunity cost of capital – Investment decision under inflation – Investment Analysis under inflation.

Complex investment decisions – projects unit, different project lives, investment timing and duration – Replacement of an existing asst – Investment decisions under capital rationing.

MODULE – 3:

Risk Analysis in Capital Budgeting – Nature of Risk/statistical techniques for Risk analysis – Risk analysis in practice – sensitively analysis – Scenario analysis simulation analysis - Decision trees for sequential investment decisions – utility theory and capital budgeting.

MODULE – 4:

Corporate Restructuring – Mergers and Acquisitions, Corporate Restructuring – Valuation under M&A: DCF approach Financing a merger – significance of PE Ratio and EPS analysis – Accounting for M&As – Leveraged buyouts.

MODULE – 5:

Derivatives for managing financial risk, Introduction – Derivatives & Risk hedging – Hedging instruments – Options, Futures, forwards & swaps – use of derivatives. A Survey of software packages for Financial Decisions making.

Books for Reference:

1. Weston :& Brigham, *Essentials of Managerial Finance,* The Dryden Press.
2. James Vanhorne, *Fundamentals of Financial Management,* Prentice Hall Inc.
3. John Hampton, *Financial Decision Making – concepts, problems & cases,* Prentice Hall of India.
4. Schall & Haley, *Financial Management,* McGraw Hill, New york.
5. Brealey & Myres, *Principles of Corporate Finance,* McGraw Hill, New York.
6. Prasanna Chandra, *Financial Management, Theory and Practice,* Tata McGraw Hill.
7. Khan & Jain, *Financial Management,* Tata McGraw Hill.
8. I.M. Pandey, *Financial Management,* Viaks Publishing House.
9. S.C. Kuchal, *Financial Management,* Chaitanya Publishers, Allahabad.
10. Chakraborthy & others, *Financial Management and Control,* Mcmillan India Ltd.

1.6 HUMAN RESOURCE MANAGEMENT

Objectives:

1. To expose the students to the principles and practices of Human Resources Management.
2. To make students internalize good HR practices.

Module – 1:

Nature and scope of Human Resource Management (HRM) objectives of HRM, HRM functions, organization of HRM department, qualities of HR Manager, personnel policies and principles, new challenges of HRM, HRM model.

Module – 2:

Human Resource planning, factors affecting planning, planning objective, planning process, evaluation of planning.

Job analysis and design- need for and process of job analysis and design.

Employee hiring: recruitment, importance, nature and international recruiting, selection, importance, process, recruitment and selection practices in India.

Training and development- nature, importance. Training, inputs, training process, recent trends in training, training practices in India.

Job evaluation, nature, objectives, process of evaluation, Performance and appraisal: nature, importance, process of evaluation, challenges.

employee compensation, wage concepts and principles, factors affecting compensation plans, incentives- group and individual plans, wage and salary policies in India.

Module – 3:

Employee safety and health – reasons for accidents and ways of avoiding accidents, need for safety, safety policy:

Health – physical, mental, noice control, work stress, AIDS, alcoholism and drug abuse, violence at work place, workplace harassment.

Participative management, scope and ways of participation, labour welfare – approaches and types. Industrial relation – causes for disputes and ways of resolving disputes. Trade union– relevance of unions.

Module-4:

Human resource audit, audit of corporate strategy, audit of human resource function, audit of managerial compliance, audit of employee satisfaction.

Ethical issues in HRM –HR ethical issues, managing ethics.

Books for Reference:

1. William .B. Werther & Keith Davis: *Human Resource & Personnel Management*, McGraw Hill.
2. Terry L. Leap & Michael D. Crino: *Personnel / Human Resource Management*, Maxwll Macmillan,
3. H.John Bernardin and Joyce E.A. Russel: *Human Resource Management an Experimental Approach*, McGraw Hill.
4. David. A. Decezo and Stephen P. Robbins: *Personnel / human Resource Management*, PHI.
5. Michael Armstrong*: A handbook of Personnel Management*, NP, Kogan page.
6. Gary Dessler: *Personnel Management*, Prentice Hall India.
7. Edwin D. Flippo: *Personnel Management,* McGraw Hill Book Co.
8. Aswathappa K: *Human Resource and Personnnel Management,* Tata McGraw Hill.
9. Wyne F. Cascio and Clias N. Awad: *Human Resource Management.*

1.7 COMMUNICATION SKILLS

Objectives

1. To sharpen the Analytical, written, non-verbal, Spoken Communication and interpersonal skills essential in organizations involving Decision making and implementation.
2. To demonstrate good team work and negotiation skills.

MODULE – 1: COMMUNICATION IN BUSINESS

Importance of Communication, Forms of Communication, Communication Network of the Organisation; Process of Communication: Different stages, Difference between oral and written communication.

MODULE – 2: ORAL COMMUNICATION SKILLS

Fundamentals, Barriers and Gateways, Public Speaking, Effective Power point presentations, body language, non-verbal, facial expression, voice modulation, eye contact, audience research, questions from the audience, Communication and emotional intelligence, Creativity in oral communication, Communication through telephonic, Video and Skype, Group Discussion.

MODULE – 3: WRITTEN COMMUNICATION SKILLS

Writing an effective Report: Stages of writing, Style and Tone; Five Ws and one H of Report writing, Divisions, Numbering and use of visual aids, Creativity in written Communication, Use of Picture, diagram in written communication, Writing Commercial letters, E-mail Messages, Maintaining a Diary, Job application and Resume writing.

MODULE – 4: LISTENING SKILLS

Importance and need, Types, Active and Empathic listening, Listening and Judgment, Developing skills, listening and understanding, Anatomy of Poor Listening, Features of good listener.

MODULE – 5: INTERPERSONAL COMMUNICATION SKILLS

Advantages and disadvantages of utilizing the team work; Characteristic features of successful teams; stages of the development of a team; team roles; challenges in team working, forms of non-team behavior.

Conditions of negotiating; strategies of negotiating (Win-win, win-loss); participative negotiations; negotiating tactics; cognition and emotions in negotiating; negotiating and ethics.

Types and sources of conflicts; the influence of various ultures on the solving of conflicts.

Book References:

1.
2. Monipally MM, Busines Communication Strategies, McGraw Hill
3. Bovee, Till and Schatzman, Business Communication today, Pearson
4. Scot Ober, Contemporary Busines Communication, Biztantra
5. Parag Diwan, Business Communication, Excell books
6. Murphy, Effective Business Communication, McGraw-hill
7. Teaching and learning Resources;
   http://eff.cls.utk.edu/fundamentals/eff standards.htm
   http://www.ndted.org/teachingResources/ClassroomTips/Communication.htm

2.1 INDIAN BANKING

Objectives:

1. To expose the students to Indian Banking System along with the latest reforms in Banking.
2. To enable the students to understand prudential norms and new technologies in Banking

MODULE 1:

Evolution of Banking Institutions in India-Role of Joint stock banks in India, Presidency banks, Imperial Banks, State Bank of India, Commercial Banks, and Nationalized Lead Banks, Regional Rural Banks (RRBs), Local Area Banks, Banking reforms after 1990. Private banks and Foreign Banks- Salient Features, Objectives, Functions.

MODULE 2:

RBI and its Role, monetary and credit policy, CRR,SLR in Banks, Banking system and Banks in India, Banking Regulation Act 1949.

MODULE 3:

Monitoring and Follow-up, IRAC Norms (i.e, Income Recognition and Asset Classification norms), Non-performing Assets, Securitization Act. E-Banking, Payment system, settlement system, Business and profit planning

MODULE 4:

BASEL I, II and III, CRAR and RBI Prudential norms on New capital Adequacy and framework.

MODULE 5:

Banking Innovations-New Technology in banking, E-Services, debit and credit cards, Internet Banking, ATM, Electronic Fund Transfer, MICR, RTGC, DEMAT

Book References

1. Tannan M L: Banking Law and Practice in India
2. Shekar K C: Banking Theory Law and Practice
3. Gorden and Natarajan: Banking Theory Law and Practice
4. S.P. Srivastava: Banking Theory Law and Practice
5. Kiran Prakashan: Banking and Financial Awareness
6. Moorad Choudhry: The Principles of Banking,
7. Mr. Yat-fai Lam, Mr. Edward Tak-wah Kwan and Dr. Kin-keung Lai, Managing Credit Risk Under the Basel III Framework
8. Leonard Matz, Liquidity Risk Measurement and Management: Basel III And Beyond

2.2 RISK MANAGEMENT

Objective

To provide basic knowledge of risk, type of risks and tools of risk management.

MODULE 1:

Definition of Risk and uncertainty- Classification of Risk, Sources of Risk-external and internal. Risk Management-nature, risk analysis, planning, control and transfer of risk, Administration of properties of an enterprise, provision of adequate security arrangements. Interface between Risk and Insurance-Risk identification, evaluation and management techniques, Risk avoidance, Retention and transfer, Selecti9on and implementation of Techniques. Various terminology, perils, clauses and risk covers.

MODULE 2:

Introduction to Risk Management, Types of Risk, Evolution of Risks, Steps in risk management, RBI guidelines.

MODULE 3:

Credit Risks Credit Risk Management models - Introduction, Motivation, Funtionality of good credit. Risk Management models- Review of Markowitz's Portfolio selection theory –Credit Risk Pricing Model – Capital and Rgulation. Risk management of Credit Derivatives.

MODULE 4:

Market Risk (includes asset liability management)

Yield Curve Risk Factor-Domestic and global contexts-handling multiple risk factor-principal component analysis- value at Risk (VAR) – implementation of a VAR system- Additional Risk in fixed income markets-Stress testing- Bank testing.

MODULE 5:

Operational Risk - Introduction-typology of operational risk- measuring operational risk -Who manages operational risk- key to implementing bank-wide operational risk management- why invest in operational risk management. Technology Risk- Best practice –operational risk systems/Solutions.

MODULE 6:

Tools for Risk Management Derivatives Futures, Options, Swaps, ECGS

Book Reference:

1. The professional's Hand book of Financial Risk Management by Marc Lox and Lev Borodorsky.
2. Thomas S. Coleman A, Practical Guide to Risk Management
3. Paul Hopkin, Fundamentals of Risk Management
4. George E Rejda and Michael McNamara, Principles of Risk Management & Insurance
5. John C. Hull, Risk Management & Financial Institutions

2.3 ADVANCED E-COMMERCE AND MOBILE COMMERCE

OBJECTIVE:

This course will provide an analytical and technical framework to understand the emerging world of e-commerce and mobile commerce. E-commerce and mobile commerce poses both a challenge and an opportunity for managers. As a matter of competitive necessity, savvy managers must gain an understanding of the rapidly changing technology and business models.

MODULE 1

Threats in e-commerce, Encryption overview, Elements of an encryption system, Secret key encryption, Public-key encryption, Digital signatures, Digital Certificates, Types of Cryptographies, Secure Sockets Layer (SSL), Smart Cards and its applications. Electronic Data Interchange-Evolution, uses, Benefits, Working of EDI, EDI Standards, EDI Components, EDI Services, ANSI X12 and EDIFACT

MODULE 2

Overview of Electronic Payment Systems, Cybercash, Smart Cards, Electronic Banking - types, Electronic Fund Transfers - Digital Token-based Electronic Payment Systems, E-cash, e-Cheque, Payment Systems on internet- Risk of Electronic Payment Systems. Secure Electronic Transactions (SET) Protocol

MODULE 3

M-Commerce - Introduction – Infrastructure Of M–Commerce – Types Of Mobile Commerce Services – Technologies Of Wireless Business – Benefits And Limitations, Support, Mobile Marketing & Advertisement, Non – Internet Applications/services in M–Commerce – Wireless/Wired Commerce Comparisons

MODULE 4

A Framework For The Study Of Mobile Commerce – NTT Docomo's I – Mode – Wireless Devices For Mobile Commerce – Towards A Classification Framework For Mobile Location Based Services – Wireless Personal And Local Area Networks – The Impact Of Technology Advances On Strategy Formulation In Mobile Communications Networks, 2G, 3G and 4G technology

MODULE 5

The Ecology Of Mobile Commerce – The Wireless Application Protocol – Mobile Business Services – Mobile Portals – Factors Influencing The Adoption Of Mobile Gaming Services – Mobile Data Technologies And Small Business Adoption And Diffusion – M–Commerce In The Automotive Industry – Location – Based Services: Criteria For Adoption And Solution Deployment – The Role Of Mobile Advertising In Building A Brand – M–Commerce Business Models

REFERENCE BOOKS:

1. Dave Chaffey, "E-Business and E-Commerce Management", Third Edition, 2009, Pearson Education
2. Brian E. Mennecke, Troy J. Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003.
3. P. J. Louis, " M – Commerce Crash Course", McGraw – Hill Companies February 2001.
4. Paul May, "Mobile Commerce: Opportunities, Applications, and Technologies of Wireless Business" Cambridge University Press March 2001.
5. Michael P. Papazoglou, Peter M.A. Ribbers, 'e – business organizational and Technical foundation ',Wiley India 2009
6. Dr.Pandey , Saurabh Shukla E-commerce and Mobile commerce Technologies , Sultanchand ,2011

7. M-Commerce: Technologies, Services, and Business Models By Norman Sadeh, Wiley Publications.
8. Mobile Commerce: Technology, Theory, and Applications - Idea Group Incorporation, UK
9. Mobile Commerce: Opportunities, Applications, and Technologies of Wireless, By Paul May, Cambridge University Press

2.4 BUSINESS RESEARCH METHODS

Objectives:

1. To familiarize students with concepts, tools and techniques of the methodology of business research.
2. To enable students to do a research / consultancy project in the fourth semester.

Module – 1:

Research: Meaning, Purpose, Scientific method, types of research; scope of business research.
Review of literature: need, purpose, notes taking.

Module – 2:

Selection and formulation of a research problem, formulation of hypothesis, operational definition of concepts, sampling techniques.
Research Design: Meaning, nature, process of preparation, components of research design.

Module – 3:

Data: Sources of data, methods, of collection; observation interviewing, mailing; tools for collection data; interview schedule, interview guide, questionnaire, rating scale, socio-metry, check list; pre-testing of tools, pilot study.
Processing of data; checking, editing, coding, transcription, tabulation, preparation of tables, graphical representation.

Module – 4:

Analysis of data; Simple statistical techniques and their uses. Testing of Hypothesis, Research Applications – market survey.
Report – Writing: Planning report writing work-target audience, type of report, style of writing synoptical outline of chapters; steps in drafting the report.

Books for References:

1. Moses, C.A. *Survey Methods in Social Investigation*.
2. Goode & Hatt, *Methods in Social Investigati*on.
3. William Emory, *Business Research Methods*.
4. Vemon Colver & H.L. Balsleg, *Business Research Methods.*
5. Krishnaswamy O.R, *Methodology of Research in Social Sciences,* Himalya Publishing house.
6. Kothari. C.R, *Methodology of Research*, Vikas Publishing House.
7. K.R. Sharma, *Research Methodology,* National Publishers , Jaipur.
8. Wilkinson & Bhandarkar, *Methodology and Techniques of Social Research*.
9. Cooper D.R and P.S. Schindler, *Business Research Methods,* Tata McGraw Hill

2.5 OPERATIONS RESEARCH & QUANTITATIVE TECHNIQUES

Objectives:

1. To impart knowledge in concepts and tools of OR and QT
2. To make students apply these in managerial decision making.

Module – 1

Linear programming, problem formulation, graphical method and simplex method of solution, description of software packages for solving LLP, product mix problems, other managerial applications. Transportation Models, Assignment models.

Module – 2

Probability- basic rules, random variables, probability distributions, expected value, variance, Normal distribution, risk analysis in capital – budgeting.

Module – 3

Network analysis, PERT,CPM-drawing the network activity times, event times, critical path, total and free slack-cost time trade off and crashing. Software packages (Description only)

Inventory models, EOQ model, sensitivity analysis, model with one, price break inventory control systems in practice.

Module – 4

Decision making under uncertainity, different decision criteria, decision trees. Simulation, model building, the process, problems with special reference inventory and financial managements. Critical evaluation of software.

Books for Reference

1. Srivastava V. K. etal – *Quantitative Techniques for Managerial Decision Making*, Wiley Eastern Ltd
2. Richard, I.Levin and Charles A.Kirkpatrick – *Quantitative Approaches to Management*, McGraw Hill, Kogakusha Ltd
3. Budnik, Frank S Dennis Mcleaavey, Richard Mojena – *Principles of Operation Research* - AIT BS New Delhi.
4. Sharma J K – *Operation Research- theory and applications*-Mc Millan,New Delhi
5. Kalavathy S. – *Operation Research* – Vikas Pub Co
6. Gould F J – *Introduction to Management Science* – Englewood Cliffs N J Prentice Hall.
7. Naray J K, *Operation Research, theory and applications* – Mc Millan, New Dehi.
8. Taha Hamdy, *Operations Research*, Prentice Hall of India
9. Tulasian: Quantitative Techniques: Pearson Ed.
10. Vohr.N.D. *Quantitative Techniques in Management*, TMH.
11. Stevenson W.D, *Introduction to Management Science*, TMH.

2.6 BUSINESS MARKETING

Objectives

1. To facilitate indepth understanding of similar and differences between Business to business Marketing and Consumer Marketing.
2. To equip students, with application tools towards formulating and implementing Business marketing strategies.

Module – 1:

Nature of Business Marketing

What is Industrial/Business Marketing; Differences between Business and Consumer Marketing; Nature of Demand in Industrial Markets.

Organisational Buying and Buying Behaviour

Organisational Buying Decision Process; Buying Situations; Buy grid Frame Work; Buying Centre Roles; Key Members of Buying Centre.

Models of organizational Buying Behaviour; The Webster and Wind Model; The Sheth Model.

Module – 2:

Buyer – Seller Relationship

Buyer and Seles representative Interaction; Relationship Marketing; Sales Presentation; Negotiation; Reciprocity; Dealing with Customers' Customer; Customer Service; Management of Major and National Accounts.

Relationship marketing, Managing Buyer Seller relationship, Customer Relationship Management. Defining E-Commerce, Key Elements Supporting E-Commerce, Internal Strategy implementation.

Supply Chain Management

Concept of Supply Chain Management, Strategic Role of Logistics, Business to Business Logistical Management.

Module – 3:

Marketing Research and Marketing Intelligence

Nature and Scope of Industrial Marketing Research; Marketing Research Process; Industrial Marketing, Intelligence System.

Strategic Planning, Implementing and Controlling in Industrial Marketing

Role of Marketing in Strategic Planning; Strategic Planning at Corporate Level; Strategic Planning Process at Business Unit Level; Developing Industrial Marketing Plan; Implementing and Controlling Marketing Plans; Industrial Market Segmentation, Target Marketing, and Positioning.

Module – 4:

Product, Pricing Strategies and New Product Development

Meaning of Industrial Product; Changes in Product Strategy; Strategies for Existing Products; Product life Cycle and Strategies, Pricing Strategies

Impact of Technology; High Tech Marketing; New product Classification, Development Process and Strategy.

Distribution Channels and Marketing Logistics

Alternative structures of Industrial Channels; Types of Business Intermediaries; Channel Design; Managing Channel Members.

Business Logistics System; Tasks of physical Distribution; Total Distribution Cost and Customer Service.

Module – 5:

Business Communication

Developing Business Communication Programme; Functions performed by Industrial Advertising; Media used for Industrial Advertising.

Promotion – Trade shows, Seminars, Demonstrating; Role of Indirect Marketing – On-line marketing, Telemarketing, Direct Mail; Publicity and Public Relations.
Business – To – Business Selling: Team Selling Approach; Solution – Oriented effort; Entrepreneurial Philosophy.
Selling Structure: Direct sales force; sales coverage through Manufacturer's representative and Distributors. Sustaining customer relationship.

Books for Reference:

1. Michael Dhutt Thomas W Spen, A Strategic View of Industrial and Organisational Markets, homson Publications.
2. Robert R. Reeder, Edward G.Brierty and Betty H. Reeder, Industrial Marketing – Analysis, Planning and Control, Prentice Hall, India, 1998.
3. Richard Hill, Alexander Rosph and James S. Cross, Industrial Marketing, AITBS, 2001
4. James C. Anderson, James A.Narus, Business Market Management, Pearson Education, 1999.
5. Krishna K Havaldar, Industrial Marketing, Tata Magraw Hill.

2.7 MICRO FINANCE

Objectives:

1) To make the student understand the concept of Financial Benefits and RBI guidelines to Micro Finance.
2) To have on overview of different players, institutions and regulatory agencies influencing the Micro Finance activity.
3) To examine & compare the changing scenario of the Rural people with the use of Microfinance.

Module 1 : Introduction to Finance
Meaning & definition of Finance -- Who, where, what, how & when of financial Arrangements -- Types of Financial or credit arrangements.

Module 2: Financial Institutions
Financial institutions – establishments -- objectives & functions -- NABARD, IFCI, SIDBI, ICICI, SFC & GRAMEEN BANKS Role of Commercial Banks and Rural Credit-Objectives and functions of commercial Banks-The Progress of Commercial Banks-Types of Rural Credit- Short term and long term credit-Terms and Conditions of finance-Repayment conditions-Lead Banks Scheme and Rural Credit Institutional Linkages Need for Readjustment of Rural Development Strategies Need for Sustainable Rural Development

Module 3: Micro Credit:
Micro finance: Concept, Elements, Importance and Brief History-Sustainable community Banking-role of Micro finance in Poverty Reduction.
Meaning & Definition of Micro Credit – Micro Finance -- Features – Models – Channels – Micro Finance Institution – Introduction – establishment – objectives – their operations – pros & cons of MFI's.

Module 4: Self Help Groups:
Meaning of SHG's – Pattern of their functions – Funding Agencies of these SHG's – Activities of SHGs: Savings, Credit, Marketing and Insurance – Role of SHG's in Financial & Social Inclusion.
Self-help, Self-help Groups and Self-help Promotion: concepts, Elements, Stages and Significances - Structure of Self-help groups - Precautions to be taken while forming the SHGs

Module 5: Functioning of SHG's
Various Models of SHGs existing in India -- their features, objectives, functions – Govt. schemes – NGO Activeness – Present state - Role of NGOs in Rural Development Interface between NGOs and GOs : Need and Strategies of Non Governmental Organizations :Concept - Structure – Funding.

Books for references:

1. A.N.Agarwal and Kundana Lal: - Rural Economy of India – Vikas publilshing House Ltd. – New Delhi-110014, 1990
2. The Economics of Microfinance by Jonathan Morduch and Beatriz Armendáriz
3. Women at the Centre: Grameen Bank Borrowers After One Decade by Helen Todd
4. Small, Short and Unsecured: Informal Rural Finance in India by F J A (Fritz) Bouman
5. Micro Finance – Impact and insights S.Rajagopalan Nirali Parikh The ICFAI University press 2007
6. Micro Finance and Poverty eradication - Indian and global experiences Dr. Daniel Lazar Prof. P.Palanichany New Century Publication, New Delhi 2008
7. Macro Dynamic of Micro Finance Daniel Lazar P. Natarajan Malabika Deo Excels Books 2010

8. Johns Hopkins School of Advanced International Studies: Microfinance and Development 1, taught by Elissa McCarter and Kate Druschel Griffin
9. Rudradath and K.P.M.Sundaram-Indian Economy—S.cand & Co. Limited, New Delhi-110055, 2008
10. S.K.Mistra & V.K.Puri – Indian Economy- Himalaya Publishing House, Mombai- 400004, 2008.
11. I.C.Dingra: Rural Banking in India- S.Chand & Co. Limited, New Delhi-110055, 1994
12. Yunus, M., Rural Agricultural Credit Operations in Bangladesh

13.Vasant Desai A Study of Rural Economy

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ve of the Master of Commerce course is to impart to the Students, professional education and training in various aspects of business and its environment and provide them with opportunities to develop managerial and analytical skills in order to meet the challenges of business at the national and global level.

2. Eligibility for Admission:

A candidate who has passed the B.Com/B.B.M/ BBS and BBA Degree examination of this University or of any other University re

cognized as equivalent thereto and has secured not less than 50% of the marks in the aggregate in all the Commerce subjects of Business Education in all the years (Examinations of the B.Com/BBM course) shall be eligible for admission to the course. In the case of SC/ST/Cat-I students and blind students the minimum percentage of marks required shall be less by 5%

3. Duration of the Course:

The course of study for M.Com, degree shall extend over a period of two years divided into 4 (four) semesters. Each Semester will be of 16 weeks or more duration with a minimum of 90 actual working days.

4. Scheme of Instruction:

1. In each semester there will be seven papers (including practicals)
2. There will be 27contact hours per week. This includes practicals.
3. Candidates are required to maintain record for computer practicals, which will have to be certified by the Chairman / Co-ordinator of the course, failing which students will not be permitted to take the end semester examination in that subject.

5. Attendance:

Each course (theory/practical) shall be treated as an independent unit for the purpose of attendance. A student shall attend a minimum of 75% of the total instruction hours in a course (theory/practical) including tutorials and seminars in each semester. There shall be no provision for condonation of shortage of attendance and a student who fails to secure 75% attendance in a course shall be required to repeat that semester.

6. Medium of Instruction:

The medium of instruction shall be English. However a candidate will be permitted to write the examination either in English or in Kannada.

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ination:

register for all the papers of a semester when he appears at semester for the first time.

8.1 There shall be a University examination at the end of each semester.

8.2 The details of the scheme of examination are as given below:

Sl. No.	Course	Duration	No. of papers per semester	Maximum Marks of Per Semester	No. of Credits
1	M.Com	I & II	6+1	700	52 (26+26)

8.1 Each semester will normally have six (Hardcore) and one (soft core) paper and each shall be for 100 marks.

8.2 (i) The composition of theory and internal assessment marks for each paper will be 70 and 30 respectively. However, in Computer related papers it will be 70+30 (theory + practical).

ii. Duration of examination per theory paper of 70 marks shall be for 3 hours, for practicals it will be $1_{1/2}$ (one and half) hours.

iii. Practical records will be evaluated as part of the practical examination.

iv. In case of practical examinations, students will be assessed on the basis of knowledge of processes, skills operations involved, results/calculations and reporting.

v. Practical examination will be conducted with both internal and external examiners. If the external examiner absents, then the examination will be conducted by two internal examiners.

8.3 Every theory paper shall ordinarily consist of two/three sections, developed to testing of conceptual skills, understanding skills, comprehension - skills, articulation and application skills.

8.4 (i) In case of theory papers the various components of internal assessment will be as follows:

a) Assignment ï 5 Marks
b) Attendance ï 5 marks
c) Internal Test ï 20 Marks

(The test shall be for $1_{1/2}$ hour duration carrying 40 marks. The marks scored by the candidate shall be later reduced to 20 marks).

(ii) The Departmental Council / College / Centre shall notify in the first week of each semester, scheme of internal assessment, containing the details of tests, assignments, and seminars.

(iii) Co-ordination Committee: In order to monitor IA tests there shall be Co-ordination Committee consisting of the following:

1. Chairman BOS: Chairman
2. One Senior Faculty Member

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s from affiliated colleges as recommended by the BOS on System and Computers Subject, A Viva-Voce and n for 30 marks will be conducted by external examiners.

k prior to the last working day, I.A. marks secured by the e displayed on the notice board.

(v) The Departmental Council / College / Centre may decide to give test/seminar to candidates who absent themselves for the above, only if the Council is convinced that the absence of the candidate is on valid grounds. However, the Council will allow the candidate to avail of this provision within the duration of that semester.

(vi) The statement of internal assessment shall be sent to the Registrar (Evaluation) one week prior to the commencement of that particular semester examination.

8.5 **Question Paper Pattern:**

Section – A:

Answer any Seven Questions out of Ten. Each Question Carries Two Marks (7x2=14)

Section – B:

Answer any Four Questions out of Six. Each Question Carries Five Marks (4x5=20)

Section – C:

Answer any Three Questions out of Five. Each Question Carries Twelve Marks (3x12=36)

8.6 Dissertation:

Each student will choose business research project/live business problem in a business organization or industry, and prepare a dissertation report. He/she will formulate it as a research/consultancy problem, work under the guidance of a faculty member on it during the II & III semesters, prepare a report based on his/her work under the guidance of a faculty member and submit at the end of each semester. This will be evaluated for 150 marks. Project Dissertation guidance for a faculty member will involve a workload of 5 hours per week in a semester. Dissertation guidance of 8 students by a faculty member will be equivalent to the teaching of one paper per semester. Viva voce examination will be conducted for 50 marks by BOE.

9. Board of Examiners and Valuation of Answer Scripts:

9.1 There shall be a Board of Examiners for scrutinizing and approving the question papers and scheme of valuation.

9.2 About 50% of the examiners appointed for setting of question papers and valuation work in each semester shall be external.

9.3 Each written paper shall be valued by one internal examiner and one external examiner. Each practical examination shall be jointly conducted and evaluated by one internal examiner and one external examiner or two external

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are no internal examiners. But not by two internal

marks between two valuation is more than 15% of the e Registrar (Evaluation) or his nominee shall check the marks assigned by the two valuers. If there is any mistake in totaling, it shall be rectified. While checking the total, if it is observed that any one or more of the answers is not valued by one of the valuers, the Chairman, BOE shall advise internal members of the Board of Examiners to value that answer. After receiving the marks, the Chairman, BOE shall make the necessary corrections. Despite all these corrections, if the difference between the two valuations is still more than 15%, the Chairman, BOE shall arrange for third valuation by examiners from the approved panel of examiners.

9.5 In case of two valuations, the average of the two valuations and if there are three valuations, the average of the nearest two valuations shall be taken for declaring results. The candidates not satisfied with the results may apply for photocopies of the answer scripts and / or challenge valuation.

9.6 **Challenge Valuation:**

A student who desires to challenge the marks awarded to him/her may do so by submitting an application along with the prescribed fee to the Registrar (Evaluation) within 15 days after the announcement of the results. Such candidates shall be provided with a Xerox copy of the answer book after concealing the name of the valuers.

The answer scripts for which challenge valuation is sought for shall be sent to another external examiner. The average of the marks awarded in the challenge valuation and the marks of the earlier valuation which is closer to the challenge valuation shall be the final award.

10. <u>Classification of Successful candidates:</u>

Minimum for a pass in each paper shall be 40% in Semester paper and 50% in aggregate of all the papers in that semester.

The results of successful candidates at the end of each semester shall be declared on the basis of Percentage of Aggregate Marks and in terms of Grade Point Average (GPA) and alpha ï sign grade. The results at the end of the fourth semester shall also be classified on the basis of Percentage of Aggregate Marks and on the basis of the Cumulative Grade Point Average (CGPA) obtained in all the four semesters and the corresponding overall alpha ï sign grade. An eight point grading system, alpha ï sign grade as described below shall be adopted.

First Class with Distinction	70% and above (A+, A++ or O)
First Class	60% and above but less than 70% (A)
High Second Class	55% and above but less than 60% (B+)
Second Class	50% and above but less than 55% (B)
Pass Class	40% and above but less than 50% (C)

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ding Scale:

5-<5.5	5.5-<6	6-<7	7-<8	8-<9	9-10
B	B+	A	A+	A++	O

verage (GPA) in a Semester and the Cumulative Grade Point Average (CGPA) at the end of fourth semester shall be computed as follows:

Computation of Grade Point Average **(GPA):**

The grade points (GP) in a course shall be assigned based on the basis of actual marks scored in that course as per the table below. They shall be generally percentages divided by 10. The Grade Point Weights (GPW) shall then be calculated as the product of the grade points earned in the course and the credits for the course. The total GPW for a semester is obtained by adding the GPW of all the courses of the semester.

ILLUSTRATION 1 (26 Credits)

Papers	P1	P2	P3	P4	P5	P6	P7	Total
Max. marks	100	100	100	100	100	100	100	700
% Marks Obtained	77	73	58	76	64	66	82	496
Grade Points Earned (G.P.)	7.7	7.3	5.8	7.6	6.4	6.6	8.2	-
Credits for the Course (C)	4	4	4	4	4	4	2	26
Total GPW = GP x C	30.8	29.2	23.2	30.4	25.6	26.4	16.4	182

Semester Aggregate Marks : **496 / 700 = 70.86%**

Classification of Result **:** First Class with Distinction

The GPA shall then be computed by dividing the total GPW of all the courses of study by the total credits for the semester, GPA = Total GPW / Total Credits = 182 / 26 **= 7.0**

Semester Alpha Sign Grade: **A+**

ILLUSTRATION 2 (24 Credits)

Papers	P1	P2	P3	P4	P5	P6	Total
Max. marks	100	100	100	100	100	100	600
% Marks Obtained	67	73	78	76	84	88	466
Grade Points Earned (G.P.)	6.7	7.3	7.8	7.6	8.4	8.8	-
Credits for the Paper	4	4	4	4	4	4	24
Total GPW = GP x C	26.8	29.2	31.2	30.4	33.6	35.2	186.4

Semester Aggregate Marks: **466 / 600 = 77.67%**

Classification of Result**:** First Class with Distinction

GPA = Total GPW / Total Credits = 186.4 / 24 = **7.77**

Semester Alpha Sign Grade: **A++**

11. Calculation of Cumulative Grade Point Average (CGPA):

The Cumulative Grade Point Average (CGPA) at the end of the fourth semester shall be calculated as the weighted average of the semester GPW. The CGPA is obtained by dividing the total of GPW of all the four semesters by the total credits for the programme.

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	I	II	III	IV	Total
	700	700	600	600	2600
	496	560	466	510	2032
Semester Alpha Sign Grade	A+	A++	A+	A++	-
Semester GPA	7.0	8.0	7.77	8.5	-
Semester Credits	26	26	24	24	100
Semester GPW	182	208	186.5	204	822.9

Aggregate Percentage of Marks = 2032 / 2600 = **78.15 %**

Classification of Result**:** ***First Class with Distinction***

Cumulative Grade Point Average (CGPA)

= Total of Semester GPW / Total Credits for the programme = 780.5 /100 **=7.805**

Programme Alpha Sign Grade: **A++**

These are the sample illustrations of computing semester grade point averages and cumulative grade point average and the alpha ï sign grades assigned.

12. MINIMUM FOR A PASS:

12.1 A candidate shall be declared to have passed the PG program if he/she secures at least a CGPA of 4.0 (Course Alpha-Sign Grade C) in the aggregate of both internal assessment and semester end examination marks put together in each unit such as Theory Papers / Practicalôs / Project Work / Dissertation / Viva-Voce.

12.2 The candidates who pass all the semester examinations in the first attempts are eligible for ranks provided they secure at least CGPA of 6.0 (or Alpha-Sign Grade A).

14.3 The results of the candidates who have passed the fourth semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed Lower semester examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

12.4 A candidate who passes the semester examinations in parts is eligible for only Class / CGPA and Alpha-Sign Grade but not for ranking.

12.5 There shall be no minimum in respect of internal assessment.
However minimum pass in each paper shall be 40% in semester end exam (28 Marks out of 70 Marks) and 50% aggregate of all papers in that semester.

12.6 A Candidate who fails in any of the unit / dissertation / viva-voce shall reappear in that unit / dissertation / viva-voce and pass the examination subsequently.

13. CARRY OVER PROVISION: Candidates who fail in a lower semester examinations may go to the higher semesters and take the examinations.

14. REJECTION OF RESULTS:

i. A candidate who fails in one or more papers of a semester may be permitted to reject the result of the whole examination of that semester. **Rejection of result**

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e permitted. A candidate who rejects the results shall n of that semester in the subsequent examination.

sed only once in each semester and the rejection once oked.

iii. Application for rejection along with payment of the prescribed fee shall be submitted to the Registrar (Evaluation) through the department/college together with the original statement of marks within 30 days from the date of publication of the result.

iv. A candidate who rejects the result is eligible for only class and not for ranking.

15. IMPROVEMENT OF RESULTS:

i) A candidate who has passed in all the papers of a semester may be permitted to improve the result by reappearing for the whole examination of that semester.

ii) The reappearance could be permitted twice during double the period without restricting it to the subsequent examination only. The regulation governing maximum period for completing various degree/ diploma programme notified by the University from time to time shall be applicable for improvement of results also.

iii) The student could be permitted to apply for the improvement examination 45 days in advance of the pertinent semester examination whenever held.

iv) If the candidate passes in all the subjects in reappearance, higher of the two aggregate marks secured by the candidate shall be awarded for that semester. In case the candidate fails in the reappearance, candidate shall retain the first appearance result.

v) A candidate who has appeared for improvement is eligible for class only and not for ranking.
Internal assessment marks shall be shown separately in the marks card. A candidate who has rejected the result or who, having failed, takes the examination again or who has appeared for improvement shall retain the internal assessment marks already obtained.

A candidate who fails in any of the semester examinations may be permitted to take the examinations again at a subsequent appearance as per the syllabus and scheme of examination in vogue at the time the candidate took the examination for the first time. This facility shall be limited to the following two years.

16. POWER TO REMOVE DIFFICULTIES

i) If any difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may by order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty.

ii) Every order made under this rule shall be subject to ratification by the Appropriate University Authorities.

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OF COMMERCE) - COURSE MATRIX

M.Com (MASTER OF COMMERCE)

		Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
1.1	Monetary System	4	3	30	70	100	**4**
1.2	International Business	4	3	30	70	100	**4**
1.3	Macro Economics for Business Decisions	4	3	30	70	100	**4**
1.4	Information Systems and Computers	4	3	30	70	100	**4**
1.5	Advanced Financial Management	4	3	30	70	100	**4**
1.6	Human Resource Management	4	3	30	70	100	**4**
1.7	**SOFT CORE** Communication Skills	3	3	30	70	100	**2**
I SEMESTER TOTAL OF CREDITS							**26**

II SEMESTER M.Com (MASTER OF COMMERCE)

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
2.1	Indian Banking	4	3	30	70	100	**4**
2.2	Risk Management	4	3	30	70	100	**4**
2.3	Advanced E ï Commerce & Mobile Commerce	4	3	30	70	100	**4**
2.4	Business Research Methods	4	3	30	70	100	**4**
2.5	Operations Research & Quantitative Techniques	4	3	30	70	100	**4**
2.6	Business Marketing	4	3	30	70	100	**4**
2.7	**SOFT CORE** Micro Finance	3	3	30	70	100	**2**
II SEMESTER TOTAL OF CREDITS							**26**

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M.Com (MASTER OF COMMERCE)
– I ACCOUNTING & TAXATION

		Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
3.1	Business Ethics & Corporate Governance	4	3	30	70	100	**4**
3.2	Corporate Financial Reporting	4	3	30	70	100	**4**
3.3	Accounting for Managerial Decision	4	3	30	70	100	**4**
3.4	Strategic Cost Management ï I	4	3	30	70	100	**4**
3.5	Direct Taxes & Planning	4	3	30	70	100	**4**
3.6	**Open Elective**	4	3	30	70	100	**4**
III SEMESTER TOTAL OF CREDITS							**24**

III SEMESTER M.Com (MASTER OF COMMERCE)
ELECTIVE – II FINANCE AND BANKING

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
3.1	**Common Paper** Business Ethics & Corporate Governance	4	3	30	70	100	**4**
3.2	Financial Markets	4	3	30	70	100	**4**
3.3	Financial Services	4	3	30	70	100	**4**
3.4	Security Analysis	4	3	30	70	100	**4**
3.5	Portfolio Management	4	3	30	70	100	**4**
3.6	**Open Elective**	4	3	30	70	100	**4**
III SEMESTER TOTAL OF CREDITS							**24**

III SEMESTER M.Com (MASTER OF COMMERCE)
ELECTIVE – III SYSTEM MANAGEMENT

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
3.1	**Common Paper** Business Ethics & Corporate Governance	4	3	30	70	100	**4**
3.2	Relational Database Management Systems	4	3	30	70	100	**4**
3.3	Data Communications and Networking	4	3	30	70	100	**4**
3.4	Enterprise Resource Planning	4	3	30	70	100	**4**
3.5	Systems Analysis and Design	4	3	30	70	100	**4**
3.6	**Open Elective**	4	3	30	70	100	**4**
III SEMESTER TOTAL OF CREDITS							**24**

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M.Com (MASTER OF COMMERCE)
– I ACCOUNTING & TAXATION

		Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
	Commodity Market	4	3	30	70	100	**4**
4.2	Corporate reporting practices and Ind AS	4	3	30	70	100	**4**
4.3	Strategic Cost Management - II	4	3	30	70	100	**4**
4.4	Goods and Service Taxes	4	3	30	70	100	**4**
4.5	**Dissertation**	8	--	Viva - Voce 50	150	200	**8**
IV SEMESTER TOTAL OF CREDITS							**24**

IV SEMESTER M.Com (MASTER OF COMMERCE)
ELECTIVE – II FINANCE AND BANKING

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
4.1	**Common Paper** Commodity Markets	4	3	30	70	100	**4**
4.2	Forex Management	4	3	30	70	100	**4**
4.3	International Financial Institutions & Markets	4	3	30	70	100	**4**
4.4	Banking Operations and Management	4	3	30	70	100	**4**
4.5	**Dissertation**	8	--	Viva - Voce 50	150	200	**8**
IV SEMESTER TOTAL OF CREDITS							**24**

IV SEMESTER M.Com (MASTER OF COMMERCE)
ELECTIVE – III SYSTEM MANAGEMENT

Paper	Subjects	Instruction Hrs/Week	Duration of Exam (Hrs)	Marks			Credits
				IA	Exam	Total	
4.1	**Common Paper** Commodity Markets	4	3	30	70	100	**4**
4.2	Artificial Intelligence	4	3	30	70	100	**4**
4.3	Distributed Computing and Applications	4	3	30	70	100	**4**
4.4	Data Mining and Data Warehousing	4	3	30	70	100	**4**
4.5	**Dissertation**	8	3	Viva - Voce 50	150	200	**8**
IV SEMESTER TOTAL OF CREDITS							**24**

OPEN ELECTIVE

a. **Income Tax**

b. **Finance and Banking**

ELECTIVE PAPERS:

I. **ACCOUNTING & TAXATION**

II. **FINANCE & BANKING**

III. **SYSTEM MANAGEMENT**

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scious about ethical values in real life and in business.
2. To make students internalize ethical values and practices.

Module – 1:
Ethics in Business: Definition of business ethics ï A model of ethics; ethical performance in business; managerial values and attitudes; ethical congruence; managerial philosophy; types of ethics ; code of ethics; importance of ethics in business.

Module – 2
Ethical Theories and Corporate social responsibility: Cognitivism and non-cognitivism; consequentialism versus non-consequentialism- Utilitarianism; Religion and ethics; Kantianism versus Utilitarianism; Business and Religion; Ethics and Social responsibility: Corporate social responsibility; changing expectations; diagnostics model of social responsiveness; four faces of social responsibility- ethical climate in companies.

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Module – 4
Ethics in Human Resources Management: Human resource system- psychological expectancy model- Human resource management practices and ethical implications-Individualism versus collectivism in human resource management practices
Ethics and Information Technology: Ethical issues relating to computer applications; security threats ï computer crime- computer viruses- software piracy- hacking ï computer crime prevention ï ethical dilemmas and considerations.

Module – 5
Concept of corporate governance ï importance - Corporate governance and agency theory. Benefits of good corporate governance - present scenario in India.
Reforming Board of Directors, Birla committee, Naresh Chandra Committee, Narayana Murthy committee, Corporate Governance code future scenario. Changes is corporate governance issues as per new Companies Act 2013

Books for Reference:

1. S.K. Chakraborthy: *Foundations of Managerial Work Contributions from Indian Thought,* Himalaya Publishing House, Bombay.
2. V.S. Mahesh: *Thresholds of Motivation,* Tata McGraw Hill.
3. Pradip N. Khandwalla: *Organisational Designs for Excellence,* Tata McGraw Hill.
4. Theophane A. Mathias: *Corporate Ethics,* (Ed) Allied. Publishers.
5. Beanchamp Tom L: *Ethical Theory and Business,* Prentice Hall.
6. Behram Kack N: *Essays on Ethics in Business and the Professions,* Prentice Hall.
7. Blanchard, Kenneth : *The Power of Ethical Management,* EM of Co.
8. Borchert, Donald M: *Exploring Ethics,* Macmillan Pub. Co.
9. Bowie, Norman E: *Business Ethics,* Prentice Hall.
10. Brady, F. Neil : *Ethical Managing,* Macmillan Pub. Co.

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at Work, Wadsworth Publishing Co.
Contemporary Issues in Business Ethics, Wadsworth Publishing Company.

15. Donaldson, Thomas: *Ethical Issues in Business,* Prentice Hall.
16. Donaldson, Thomas: *The Ethics of International Business,* Oxford University Press.
17. Ferreth oc: *Business Ethics,* Prentice Hall.
18. Garrelt, John C: *Business Ethics,* Prentice Hall.
19. Hoffman, W. Michael: *Business Ethics,* Prentice Hall.
20. Gupta. L.C. *Corporate Management and Accounability.*
21. Mc.Millan Institution for FM and Research Chennai.

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ge to analyze financial statements and to familiarize with
he area of financial reporting.
2. To gain ability to solve financial reporting and valuation problems.

Module 1: Accounting Standards: Accounting Standards, Interpretations and guidance notes on various aspects issued by the ICAI and their applications. Overview of International Accounting Standards (IAS);

Module 2: International Financial Reporting Standards (IFRS): Interpretations by International Financial Reporting Committee (IFRIC), Significance vis-à-vis Indian Accounting Standards. US GAAP, Application of IFRS and US GAAP.

Module 3: Corporate Financial Reporting: Issues and problems with special reference to published financial statements; **Sustainability Reporting:** Concept of Triple Bottom Line Reporting, Global Reporting Initiative (GRI), and International Federation of Accountants (IFAC)

Module 4:Accounting and Reporting of Financial Instruments: Meaning, recognition, de-recognition and offset, compound financial instruments, measurement of financial instruments, Hedge accounting, Disclosures; Financial Reporting by Non-banking finance companies, Merchant Bankers, stock and commodity market intermediaries.

Module 5: Developments in Financial Reporting: Value Added Statement, Economic Value Added, Market Value Added, Shareholdersô Value added, Human Resource Reporting, and Inflation Accounting.

References:

1. IFRS for India, Dr.A.L.Saini, Snow white publications
2. Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
3. IFRS explained ï A guide to International financial reporting standards by BPP learning Media
4. IFRS for finance executives by Ghosh T P, taxman allied services private limited
5. IFRS concepts and applications by Kamal Garg, Bharath law house private limited
6. IFRS: A Quick Reference Guide by Robert J. Kirk, Elsevier Ltd.
7. First lesson to International Financial ReportingStandards beginners guide by MP Vijay Kumar, prime knowledge services.
8. A studentôs guide to international financial reporting standards by Clare Finch, Kalpan Publishing.

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ost accounting theory in management decision making

Module – 1: managerial Decision making
Decision making process, Database for decision-making, Cost-based Decision-making.

Module – 2: Cost behavior and profit analysis:
Marginal Costing and Short term Decisions and pricing, Application of short term decision models: key factors, diversification of products, profit planning, Product mix decision, contribution analysis, make or buy decisions, discontinuation of product, diversification of product line, accept or reject special order, break-even analysis, cost-volume profit analysis.

Module – 3: Responsibility accounting and divisional performance measurement:
Responsibility accounting: meaning and definition, process in implementation, responsibility reporting, centres for control, benefits of responsibility accounting, difficulties in the implementation of responsibility accounting, methods for measuring divisional performance, divisional performance reporting.

Module – 4: budgetary control and variance analysis
Steps in Preparation of master budget, zero based budgeting (ZBB): meaning, requisites for implementation, features, ZBB vs Traditional budgeting, benefits, criticism. Planning, programming budgeting system (PPBS): meaning, definition, PPBS vs conventional budgeting, stages in PPBS, advantages. Performance budgeting: meaning, reasons of performance budget, requisites, and steps in implementation. Monitoring results and control variances: planning and operational variances, interpretation of variances. (Theory only).

Module – 5: Uniform Costing and inter firm comparison
Meaning, objectives, requisites for the installation of Uniform costing, uniform costing manual, advantages and disadvantages. Inter-firm comparison: meaning, requisites, Procedure involved under inter-firm comparison, advantages and disadvantages.

Books for Reference:

1. Vashist and Saxena, *Advanced Cost and Management Accounting,* Sultan Chand and sons.
2. Jain and Narang, *Advanced Cost Accounting,* Kalyani.
3. Arun Prasad Roy Chowdhury, etal; *Cost and Management Accountancy,* New Central Book Agency.
4. Horngren, *Cost Accounting; A Managerial Emphasis,* PHI.
5. Prasad. N.K, *Principles and Practice of Cost Accounting,* Book Syndicate.
6. ICWA Publications on application of costing principles in different industries.
7. Jawaharlal, *Cost Accounting,* TMH
8. Khan and Jain, *Theory and Problem of Management and Cost Accouting,* TMH.
9. Nigam and Sharma, *Cost Analysis and Control Management Approach,* HPH.
10. ICWA, Calcutta, *Advanced Cost and Management Accountancy Methods, Techniques and Applications.*
11. Mukherjee. S and Roy Chowdhury, *Advanced Cost and Management Accountancy,* New Central Book Agency, Calcutta.

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ts to the internal environment of business and to enable ting to cost.

Influence of different cost elements on business enterprise, Importance of analyzing cost elements, cost control and cost reduction: meaning, process, methods and techniques of cost control and cost reduction, cost management: areas of cost management, difference between cost management and cost accounting, role of cost accounting in strategic planning and management control.

Module – 2: Strategic Cost and Performance Evaluation:
Integration of strategic cost management with performance evaluation, Strategic cost management issues in different elements of cost; material, labour and overheads; product design, value analysis and value engineering, strategic analysis of cost, business process re-engineering, benchmarking.

Module – 3: Activity Based Costing System:
Introduction to traditional methods of overhead absorption, problems of overhead absorption system under Traditional System, introduction to ABC, Kaplan and Coopers approach to ABC, cost drivers and cost activities, allocation of overheads under ABC, Characteristics of ABC, benefits from adaptation of ABC System, problems on comparison between traditional system and ABC system.

Module – 4: Life Cycle Costing:
Meaning of LCC, factors affecting Life cycle costing, phases in product life cycle, characteristics, product life cycle and cost control. Experience curve in product life cycle costing. Project life cycle costing: Meaning, categories of project life cycle costs, optimization of project life cycle costs.

Module – 5: Just in Time and Kaizen Costing
JIT ï features, methodology in implementation of JIT, Benefits of JIT. Kaizen Costing: concept, procedure for implementation, evaluation, benefits of Kaizen costing. Lean Cost Management: Meaning, definition, factors, applications, procedure to implementation, comparison with traditional management system, Modern production management techniques, benefits and drawbacks of Lean Cost Management.

Books for Reference:

1. Ravi. M. Kishore, Cost Management, Taxman, Allied Services (p) Ltd.,
2. S.K.R. Paul, *Management Accounting,* New Central Book Agency Private Ltd., Calcutta.
3. Charles T. Horngren, George Foster, Srikant M. Data, *Cost Accounting: A Managerial Emphasis,* Prentice Hall of India, New Delhi.
4. Roger Cowe, *Hand Book of Management Accounting,* A Grower Handbook.
5. S. Mukherjee & A.P. Roychowdhury, *Advanced Cost and Management Accountancy,* New Central Book Agency, Calcutta.
6. Anthony R.N, *Management Accounting Principles,* Grawin Publishing.
7. Batty J, Mc Donald & Evans, *Management Accountancy,* London.
8. Bierman H &Drabin A.R, *An Introduction Managerial Accounting,* McMillan Company, New York.
9. Broad H.W & Carmichael K.S, *A Guide to Management Accounting,* HFL (Pub) Ltd., London.
10. Brown &Haward, Mac Donald , Evans, *Principles of Management Accountancy,* London.
11. De Pauls, *Management Accounting in Practice,* F.C. Europe Pub. Ltd., London.
12. Keith Ward, *Strategic Management Accounting,* Butterworth Heirmann Pub.
13. John K. Shank, *Cases in Cost Management: A Strategic Emphasis,* South-Western Publishing, Thomson Learning.

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ect tax and apply the laws to business decisions.

Basic frame work of direct taxation, principles of direct taxation appraisal of annual Finance Act, tax planning and its methods, advance tax rulings.

Module – 2:
Sailent features of company taxation, scheme of taxing business income of companies, business deductions/allowances, disallowances and depreciation.

Module – 3:
Computation of taxable income of companies set off and carry forward of losses, deductions under section 80G/801A-801B-801C

Module – 4:
Tax planning with respect to amalgamation and mergers, multinational companies, double taxation treaties, joint ventures and foreign collaborations, tax consideration in make or buy, own or lease, retain or replace, Transfer pricing.

Module – 5:
Procedure for assessment, deduction of tax at source, advance payment of tax, refunds, appeals and revision.

Module – 6:
Wealth tax for companies, charging section, exempted wealth computation of net wealth, wealth tax planning.

Books for References:

1. Vinod K. Singhania, *Direct Tax Law and Practice*, Taxman.
2. AgrarwalP.K, *Tax Planning for Companies*, Hind Law Publishers, New DELHI.
3. Dr. H.C. Mehrotra and Dr. S.P. Goyal, *Income Tax Law and Practices*, Sahitya Bhavan, Agra.
4. Sukumar Bhattachary, *Tax Planning in India*.
5. Sharat Bargava: *Direct Taxes*.
6. B.B. Lal & N. Vashist ï *Direct Taxes, - Pearson* ï New Delhi.
7. Girish Ahuja and Dr. Ravigupta ï *Direct Taxes Law and practices*-Bharaths.
8. Dr. Manohar ï Direct Taxes, - Snow white.

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ICS AND CORPORATE GOVERNANCE

scious about ethical values in real life and in business.
2. To make students internalize ethical values and practices.

Module – 1:
Ethics in Business: Definition of business ethics ï A model of ethics; ethical performance in business; managerial values and attitudes; ethical congruence; managerial philosophy; types of ethics; code of ethics; importance of ethics in business.

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4. Theophane A. Mathias: *Corporate Ethics,* (Ed) Allied. Publishers.
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9. Bowie, Norman E: *Business Ethics,* Prentice Hall.
10. Brady, F. Neil : *Ethical Managing,* Macmillan Pub. Co.

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15. Donaldson, Thomas: *Ethical Issues in Business,* Prentice Hall.
16. Donaldson, Thomas: *The Ethics of International Business,* Oxford University Press.
17. Ferreth oc: *Business Ethics,* Prentice Hall.
18. Garrelt, John C: *Business Ethics,* Prentice Hall.
19. Hoffman, W. Michael: *Business Ethics,* Prentice Hall.
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21. Mc.Millan Institution for FM and Research Chennai.

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the working of financial markets in India and abroad.

Module –1

Security markets ï Primary and Secondary market, Primary market ï Its role and functions, Methods of selling securities in Primary market bought out deals and private placements trading mechanism ï Screen based trading, insider trading

Module – 2

Public Issue Management, prospectus, regulation and certification, pricing of new issues, guidelines, functions of underwriters, merchant bankers, issue managers, registrars to issue

Module – 3

Organization and functioning of stock exchange in India, operations of stock markets, listing requirements, regulation and control of stock markets, National Stock Exchange (NSE) and OTCEI, investor protection and SEBI guidelines.

Module – 4

International financial environment, raising of finance in international markets, Euro issues, GDRôs and ADRôs Guidelines for raising funds in international markets through various instruments.

Working of International Stock exchanges with respect to their size ï listing requirements ï membership ï clearing and settlement of New York Stock Exchange, NASDAQ, London Stock Exchange, Tokyo Stock Exchange, Luxemburg Stock exchange, German and France Stock Exchanges.

Books for Reference:

1. Dalton, John M: *How the stock markets works*, Practice Hall, Delhi.
2. Machiraju H R: *Working of Stock Exchanges in India*, Wiley Eastern Ltd, New Delhi.
3. Gupta L. C.: *Stock Exchange Trading in India Society for Market Research and Development*, Delhi.
4. Raghunatham V: *Stock Exchange and Investments*, Tata, McGrawHill,New Delhi
5. Gorden & Nataraj: *Financial Markets and Services*, Himalaya Publising House
6. Avadhani : *Investment and securities markets in India*, Himalaya Publising House
7. Khan M Y: *Indian Financial System*, Tata McGraw Hill, New Delhi.
8. Giddy I H: *Global Financial Markets*, AITBS New-Delhi.
9. Preethi Singh: *Investment Management,* Himalaya Publishing house

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.3 FINANCIAL SERVICES

ide variety of emerging financial services.

Financial Services and Economic environment, Fund based and Non-fund based activities ï Modern activities ï Financial innovations ï New financial instruments ï challenges to the sector.

Module – 2

Financial, Legal and tax aspects of leasing lease evaluation types of leases, lease structuring and funding of lease, import leasing and cross border leasing, evaluation of hire purchase agreements.

Module – 3

Factoring, features, factoring V/S bill discounting, recent developments in Indian context, consumer finance, credit financing schemes for consumer durables, credit cards & other cards, venture capital financing, guidelines and evaluation of new project ideas.

Module – 4

Credit rating concept, scope and need, features, Credit rating process and agencies, credit rating symbols, Rating frame work, Factors. Advantages and limitations of credit rating.

Mutual funds - meaning and definition, types, determination of NAV, Advantages and disadvantages of mutual funds.

Module – 5:

Securitisation Definition and concept, players involved, Instruments of securitisation, process of securitisation.

Depository Services: meaning and need, dematerialization, process of dematerialization and rematerialization ï Derivatives.

Books for Reference:

1. Gorden & Nataraj: *Financial Markets and Services*, Himalaya Publising House
2. Avadhani : *Investment and securities markets in India*, Himalaya Publising House
3. Khan M Y: *Indian Financial System*, Tata McGraw Hill, New Delhi.
4. Giddy I H: *Global Financial Markets*, AITBS New-Delhi.
5. Preethi Singh: *Investment Management,* Himalaya Publishing house
6. Guruswamy, S:Financial services, Vijay Nicole imprints, Chennai.
7. P.K. Sahoo, *Financial Services and markets*, Himalaya
8. I.M. Pondey *Venture Capital; The Indian Experince* Prentice Hall, New Delhi.
9. J.K. Dietrich, *Financial Services and Financial Institution*, Prentice Hall.
10. Sashi. K. Gupta & Nisha Aggarwal, *Financial Services*, Kalyni Publication.

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SECURITIES ANALYSIS

s in analyzing various types of securities

Investment management, nature and scope, investment avenues, types of financial assets and real assets, Security return and risk ï Systematic and unsystematic risk ï sources of risk, Measurement of risk and return, sources of investment information.

Module – 2

Risk and return analysis, Definitions of risk. Types of Risk, minimizing risk explosive, Risk measurement (Standard Deviation, Beta, covariance, correlation coefficient) review problems.

Module –3

Fixed income securities ï bonds, preference shares-sources of risk, valuation, duration of bonds-theory of interest rates ï yield curve. Bond innovations and their valuation.

Module –4

Analysis of variable income securities, fundamental analysis ï analysis of economy, industry analysis, company analysis ï financial and non-financial. Equity valuation models. Options, futures, forwards, warrants, and their valuations.

Module – 5

Technical analysis ï Dowôs theory, charts ï Efficient market hypothesis and its implications, Tax aspects of investment, Securities Trading Procedure.
A Critical survey of software packages for security analysis.

Books for Reference:

1. Donald E. Fischer and Ronald J. Jordan: *Security Analysis and Portfolio Management*, Pearson Ed.
2. Stanely S.C. Huang Maury Stall : *Investment Analysis and Management*, Allyn and Bacon Inco., Massachustes
3. Timoty E. Jahanson : Investment Principles, Prentice Hall, New Jersy.
4. Jerome B. cohen and Edward D. Zinbarg etal : Investment Analysis and Portfolio Management, Ricchard D., Irwin Inc., Illinois.
5. J. C. Fancis: Investment Analysis and Management
6. Haim Levy and Marshall Sarnat: Portfolio and Investment Selection Theory and practice, prentice hall International New Jersy.
7. Graham B. D. Dodd and S. Bolts: Securities Analysis, McGraw Hill, Newyork
8. Bombay Stock Exchange Directory.
9. Pandyan Puneethavarty, *Securities Analysis and Portfolio Management,* Vikas Pub. House.
10. Fuller & Farrel, *Modern Investments and Security Analysis,* McGraw Hill International.
11. Strong R.A, *Portfolio Management Handbook. South western college Publishing.*
12. A. Brahmiah & P. Subba Rao, *Financial Futures and Options,* HPH.
13. Singh Preeti, *Investment Management,* HPH
14. Alexander Fundamental of Investments, Pearson Ed.
15. Hangen: Modern Investment theory. Pearson Ed.
16. Kahn: Technical Analysis ï Plain and sample Pearson Ed.
17. Ranganthan: Investment Analysis and Port folio Management.
18. Chandra Prasanna: Managing Investment ï Tata Mc Gram Hill.
19. Alexander, shampe and Bailey ï Fundamentals of Investments Prentice Hall of India
20. Newyork Institute of Finance ï How the Bond Market work ï PHI.
21. Mayo ï Investment Thomason hearning
22. Strong ï Practical investment

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udents to design and revise a portfolio of securities.

ement, portfolio analysis, why portfolios? Portfolio objectives, portfolio management process, selection of securities.

Module – 2

Portfolio theory, Markowitz Model, Sharpeôs single index model. Efficient frontier with. Lending and borrowing, optimal portfolio capital Asset pricing model. Arbitrage pricing theory two factor and multifactor models.

Module – 3

Bond Portfolio management strategies, Equity portfolio management strategies, strategies using derivaties, hedging. Portfolio revision ï rebalancing plans, portfolio evaluation, Sharpeôs index, Treynorôs measure and Jensonôs measure.

Module – 4

Effiecent Market Hypothesis, Random walk theory. Forms of efficient market theories. Credit Derivatives, (Credit Default Swap).

Module – 5

Mutual funds, Investor life cycle, Personal investment, Personal Finance, Portfolio Management of funds in banks, insurance companies, pension funds, International investing, international funds management, emerging opportunities.
A brief survey of software packages for Portfolio management.

Books for Reference:

1. Donald E. Fischer and Ronald J. Jordan: *Security Analysis and Portfolio Management*, Pearson Ed.
2. Stanely S.C. Huang Maury Stall : *Investment Analysis and Management*, Allyn and Bacon Inco., Massachustes
3. Timoty E. Jahanson : Investment Principles, Prentice Hall, New Jersy.
4. Jerome B. cohen and Edward D. Zinbarg etal : Investment Analysis and Portfolio Management, Ricchard D., Irwin Inc., Illinois.
5. J. C. Fancis: Investment Analysis and Management
6. Haim Levy and Marshall Sarnat: Portfolio and Investment Selection Theory and practice, prentice hall International New Jersy.
7. Graham B. D. Dodd and S. Bolts: Securities Analysis, McGraw Hill, Newyork
8. Bombay Stock Exchange Directory.
9. Pandyan Puneethavarty, *Securities Analysis and Portfolio Management,* Vikas Pub. House.
10. Fuller & Farrel, *Modern Investments and Security Analysis,* McGraw Hill International.
11. Strong R.A, *Portfolio Management Handbook. South western college Publishing.*
12. A. Brahmiah & P. Subba Rao, *Financial Futures and Options,* HPH.
13. Singh Preeti, *Investment Management,* HPH
14. Alexander Fundamental of Investments, Pearson Ed.
15. Hangen: Modern Investment theory. Pearson Ed.
16. Kahn: Technical Analysis ï Plain and sample Pearson Ed.
17. Ranganthan: Investment Analysis and Port folio Management.
18. Chandra Prasanna: Managing Investment ï Tata Mc Gram Hill.
19. Alexander, shampe and Bailey ï Fundamentals of Investments Prentice Hall of India
20. Newyork Institute of Finance ï How the Bond Market work ï PHI.
21. Mayo ï Investment Thomason hearning
22. Strong ï Practical investment

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ICS AND CORPORATE GOVERNANCE

scious about ethical values in real life and in business.
2. To make students internalize ethical values and practices.

Module – 1:
Ethics in Business: Definition of business ethics ï A model of ethics; ethical performance in business; managerial values and attitudes; ethical congruence; managerial philosophy; types of ethics ; code of ethics; importance of ethics in business.

Module – 2
Ethical Theories and Corporate social responsibility: Cognitivism and non-cognitivism; consequentialism versus non-consequentialism- Utilitarianism; Religion and ethics; Kantianism versus Utilitarianism; Business and Religion; Ethics and Social responsibility: Corporate social responsibility; changing expectations; diagnostics model of social responsiveness; four faces of social responsibility- ethical climate in companies.

Module – 3
Ethics in Marketing: Ethical dilemmas in marketing- unethical marketing practices-ethical and social issues in advertising- common deceptive marketing practices-role of consumerism.
Ethics in Finance: Unethical financial practices ï creative accounting- hostile takeovers-tax evasion- corporate crimes.

Module – 4
Ethics in Human Resources Management: Human resource system- psychological expectancy model- Human resource management practices and ethical implications-Individualism versus collectivism in human resource management practices
Ethics and Information Technology: Ethical issues relating to computer applications; security threats ï computer crime- computer viruses- software piracy- hacking ï computer crime prevention ï ethical dilemmas and considerations.

Module – 5
Concept of corporate governance ï importance - Corporate governance and agency theory. Benefits of good corporate governance - present scenario in India.
Reforming Board of Directors, Birla committee, Naresh Chandra Committee, Narayana Murthy committee, Corporate Governance code future scenario. Changes is corporate governance issues as per new Companies Act 2013

Books for Reference:

1. S.K. Chakraborthy: *Foundations of Managerial Work Contributions from Indian Thought,* Himalaya Publishing House, Bombay.
2. V.S. Mahesh: *Thresholds of Motivation,* Tata McGraw Hill.
3. Pradip N. Khandwalla: *Organisational Designs for Excellence,* Tata McGraw Hill.
4. Theophane A. Mathias: *Corporate Ethics,* (Ed) Allied. Publishers.
5. Beanchamp Tom L: *Ethical Theory and Business,* Prentice Hall.
6. Behram Kack N: *Essays on Ethics in Business and the Professions,* Prentice Hall.
7. Blanchard, Kenneth : *The Power of Ethical Management,* EM of Co.
8. Borchert, Donald M: *Exploring Ethics,* Macmillan Pub. Co.
9. Bowie, Norman E: *Business Ethics,* Prentice Hall.
10. Brady, F. Neil : *Ethical Managing,* Macmillan Pub. Co.

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undamental concepts and problems in business Ethics,

hical Dilemmas in the Modern Corporation, Prentice

at Work, Wadsworth Publishing Co.
Contemporary Issues in Business Ethics, Wadsworth Publishing Company.

15. Donaldson, Thomas: *Ethical Issues in Business,* Prentice Hall.
16. Donaldson, Thomas: *The Ethics of International Business,* Oxford University Press.
17. Ferreth oc: *Business Ethics,* Prentice Hall.
18. Garrelt, John C: *Business Ethics,* Prentice Hall.
19. Hoffman, W. Michael: *Business Ethics,* Prentice Hall.
20. Gupta. L.C. *Corporate Management and Accounability.*
21. Mc.Millan Institution for FM and Research Chennai.

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ts about different Databases and Query Language.
practical knowledge and reporting skills.

Unit-I

Introduction to databases- Introduction ï Application development without databases- Advantages- Concepts and history of DBMS- commercial databases.

Data base design- Feasibility study- designing system ï class diagrams- data types- elements.

Unit-II

Data normalization- Introduction ï Sample database- first ï second ï third Normal Forms Beyond third normal form- Data rules and integrity ï effects of Business rules- Converting class clan diagram to normalized tables- data dictionary.

Unit-III

Queries and sub queries- Data queries- basics- computation- group by ï multiple tables- sub queries- joints- SQL testing queries.

Unit-IV

SQL FORMS - Application development using SQL FORMS organization of SQL FORMS- Function Key- Screen Painter, default form designing a complete form- trigger and their types trigger command syntax- Use of macro generating a form, running a form, user exits.

Unit-V

SQL Report writer- Types of reports, entering the query formulating the report, calculated filed, group settings modifying tent settings, previewing a report running a report, SOL LOADER, Database Administrator

Suggested Readings:

1. James Perrya T and Joseph, G. Lateer: Understanding Oracle, BP

2. Abbey and Corey, Oracle: A Beginners Guide, Tata MC Graw Hill

3.Gerald V. Post: Data Base Management Systems- Designing and Business Application, Tata Mc Graw Hill.

4.McFadden: Database Management System, Addison Wesly.

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unication and its fundamentals to students
ent with the basic taxonomy and terminology of the
a.

Unit-I : Introduction
Data Communications ï Components - Data Representations - Data Flow - Networks - Distributed Processing, Network Criteria - Physical Structures - New work models - Categories of Networks - Interconnection of Networks - The Internet-Protocol and Standards.

Unit-II:
Network Models - Layered tasks - OSI model- Layered architecture-Peer-to peer processes- encapsulation layers in the OSI model- TCP/IP Protocol suite- Addressing

Unit-III:
Data and Signals - Analog and Digital - Periodic Analog Signals - Digital Signals - Transmission Impairment - Data Rate Limits ï Performance.

Unit-IV:
Digital Transmission - Digital ï to Digital Conversion ï Analog - to Digital Connection - Transmission modes Analog Transmission- Digital to Analog Conversion - Analog-to-Analog conversion.

Unit-V:
Bandwidth Utilization: Multiplexing and Spreading ï Multiplexing-Spread Spectrum- Guided Media- Unguided media- Wireless- Radio waves- Micro Waves- Infra red.

Suggested Readings:
1. Data Communication and Networking by Behraaz A Forouzan (Fourth edition) McGraw Hill Companies
2. Communication Networks Principles and Practice by Sumit Kasua/ Nishil Narang Sumita Narang.
3. Tomasi ï Introduction to Data Communications & Networking, Pearson Education.
4. William A Shay: Understanding Data Communications & Networks, Vikas Publishing.
5. William Stallings: Data and Computer Communications, Pearson Education.

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ate business processes and systems.
ually successful by learning the techniques of ERP

Unit-I

ERP overview- Evolution of ERP-EP Technologies-ERP Technologies- ERP As Decision support system- ERP Architecture Consideration for ERP implementation

Unit- II

Introduction to ERP: ERP Vs MRP, Evolution- Growth- Benefits and limitations of ERP- Phases of ERP- Sales, Marketing, Distribution Manufacturing- Finance- Personnel- Purchase and Inventory- Planning & Control

Unit-III

ERP- Related Techniques Business Process Reengineering (BPR), MIS-DSS- EIS- Data warehousing- Data Mining- Online Analytical Processing (O&AP), Supply- Chain Management CAD/CAM-, Materials Requirement Planning, Bills of Materials, Manufacturing Resource Planning, Distribution Requirement Planning, JIT & Kanban - Make to order- make to stock-Assemble to order, engineerï to-order.

Unit-IV

ERP Models-Finance- Plant and Maintenance- Quality Management-

Materials Management- Benefits of ERP.

Unit-V

ERP Implementation life cycle- pre-evaluation screening, Package Evaluation- Project Planning Phase- GAP Analysis- Reengineering, Configuration- Team Training- Testing & Going Live

Suggested Readings:

1. S. Sadgopan: ERP A Managerial Perspetive, Tata McGraw Hill.
2. Alexis leon: Enterprise Resource Planning, Tata Mc Graw Hill.
3. Vinod Kumar Kard and Arid NK Venkaita Krishtean: E.R.P Concepts and Practice, Prentice Hall of India.
4. Luvai F Motiwallo, Jeff Thompson Enterprise Systems for Management ï Pearson Education, 2009
5. Jyotindram,Enterprise Resource Planning, Himalaya Publishing House.

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ific needs of a system and facilitate comprehensive

cycle models and its contribution to system analysis and design.

Unit-I

Assuming the role of the systems analyst- Types of systems ï Integrating Technologies for system- Need for systems Analysis and Design- Role of the system Analyst- System Development life cycle- using case tools-Upper and Lower case- Object oriented systems- Analysis and Design-Agile approach and other alternative methodologies.

Unit-II

Understanding organizational style and its impact on information systems- organizations as systems ï Depicting systems graphically ï Use cage modeling ï Levels of Management ï Organizational culture

Unit-III

Project Management ï Project initiation- Determining Feasibility ï Activity planning and control- Computer-based project Scheduling- Function point Analysis- Managing Analysis and Design activities- Agile Development.

Unit-IV

Information Gathering-Interactive methods-Interviewing-Joint Application Design-Using Questionnaires-Sampling-Investigation-Observing a Decision making behavior

Unit V

Agile modeling and prototyping- prototyping ï Developing prototype ï userôs Role in prototyping Rapid application development ï Agile modeling comparing agile modeling and structured methods

Suggested Readings:

1. System Analysis and Design by Kendall Kendall (seventh edition)
2. Analysis & Design of information systems by James A. Sen (second edition)
3. Sodzinger Jackson Burd: Systems Analysis & Design.

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world of commodity markets
financial instruments used in commodity markets.

Module – I Commodity Markets and Exchanges:
Growth of Global and Domestic Commodities Derivatives Markets, Agricultural Commodities Market and Non-Agricultural Commodities Markets
Commodity Exchanges: Exchanges around the World and its Importance, Commodity Exchanges in India. National Exchanges and Regional Exchanges, platform ï Structure, Exchange memebership, Capital requirements, commodities traded on National exchanges, instruments available for trading and Electronic Spot Exchanges.

Module – II Quality Assurance
Quality Assurance, Concepts of Quality in Commodities, Methods of Quality Assurance GRanding and Standardization: Meaning of grading and Standardization, purpose of grading, advantages of grading, inspection and quality control, Indian standards.

Module – III Commodity Derivatives:
Commodity Derivatives: Evolution of Commodity, Derivatives, Evolution of Commodity, Derivatives in India, Types of Derivatives, Other Classifications of Derivatives, Pricing Derivatives, Derivative Markets and Participants, Economic Importance of Commodity Derivatives Markets.

Module – IV Warehousing Trading and Settlement:
Warehousing and Warehouse Receipts, Storage, practice s in India, Risks in Storage, Structures, Essentials of storage structures, cost of storage/carry, returns of storage cost, warehousing, types of warehouses, Central warehousing corporation(CWC) FCI, functioning, growth, capacity and utilization.
Trading on óCommodity Exchanges: the Exchange platform, Exchange Membership, Commodity Brokerage, trading systems, participants in Commodity Markets, Role of speculators, Trading mechanism ï Margin Trading, Mark to Market, Conflict Management; Arbitration and International Legal provisions, Market Positions, Order Types, Access to Commodity Exchanges, Volume and Open Interest.
Clearing and Settlement on Commodity Exchanges, Clearing House Operations and Risk Management, procedures, Delivery related issues like delivery centers, Deliverable varieties, Issues related to monitoring and surveillance by exchanges and regulator, Margining Method and the settlement process.

Module – V Regulatory Framework:
FCR Act 1952, FMC and Regulatory structure of commodities Derivatives markets in India (Objective, Functions, Power and responsibilities, Scope of Regulation), Essential Commodities Act and role of central and state Governments, Intermediaries, Investor Grievances and arbitration, Commodities Board in India ï Coffee Board of India, Tea Board of India, Spice Board of India, Rubber Board of India, Tobacco Board of India.

Books for Reference:

1. Location in Space: A Theoretical Approach to Economic Geography, Lloyd and peter.
2. Land, Work and Resource: An Introduction to Economic Geography, Patterson J.H.
3. Annals of an Abiding Liberal, Galbraith.
4. Economic Geography, Truman A. Harsshron and John W. Alexander.
5. World Resouces and Trade, Khanna and Gupta.
6. World Resources, Zimmerman.
7. Economic Geography ï A Resouces Approach ï Gun and Chatterji.
8. CD of IIPM Commodity Futures National Seminars.
9. Economic Geography ï Prentice Hall of India.
10. Economic Times & Business Line (Daily)
11. Business India (Magazine).

Web sites of Commodity exchanges like CBOT, KBOT, LIFFE, SIMEX, TOCOM, NCDEX, MCXM NMCE, NBOT.

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nt developments in the area of financial reporting and to
ncial reporting problems in special cases.

Module 1: Evolution and Convergence of International Financial Reporting Standards (IFRS) in India: GAAP in India and Hierarchy of GAAP in India, International Financial Reporting Standards, First time adoption (IFRS 1) ï Convergence with IFRS ï Stage-wise Approach, Advantages of converting to IFRS, Significant Criticisms of IFRS, Key Business issues that will need to be addressed for successful implementation of IFRS, challenges and opportunities faced by India in the implementation of IFRS - An overview of IND ASs: list of converged Indian Accounting Standards notified by Ministry of Corporate Affairs (MCA) - Comparison of IFRS with Ind AS.

Module 2: Accounting and Reporting for Business Combinations (As per Ind AS): Relevant Terms, Types of merger, methods of accounting, treatment of Goodwill arising on merger, purchase consideration and settlement; Accounting in books of vendor/transferor company, Accounting for investment in subsidiary, Accounting for holding companies (including chain holdings, multiple holdings), Corporate Financial Restructuring (including intercompany holdings), Reconstruction schemes, De-merger.

Module 3: Group Financial Statements/ Consolidated Financial Statements: Consolidation of foreign-Holding company, Subsidiary Company and Associate Company including multiple subsidiaries, Concept of a group, Purposes of consolidated financial statements, consolidation procedures-Minority interest, Goodwill, Treatment pre-acquisition profit and concept of Fair value at the time of acquisition,

Module 4: Consolidated Income Statements: balance Sheet and cash Flow Statements for Group companies, Impact of group financial statements at the point of acquisition, Treatment of investment in associates in consolidated financial statements, compare and contrast acquisition and equity methods of accounting, Treatment of investment in Joint ventures in consolidated financial statements

Module 5: Accounting for Industry based standards: Agriculture ï Insurance contracts-Exploration for and Evaluation of Mineral Resources-Regulatory Deferral Accounts.

References:

1. IFRS for India, Dr.A.L.Saini, Snow white publications
2. Roadmap to IFRS and Indian Accounting Standards by CA Shibarama Tripathy
3. IFRS explained ï A guide to International financial reporting standards by BPP learning Media
4. IFRS for finance executives by Ghosh T P,taxman allied services private limited
5. IFRS concepts and applications by Kamal Garg, Bharath law house private limited
6. IFRS: A Quick Reference Guide by Robert J. Kirk, Elsevier Ltd.
7. First lesson to International Financial ReportingStandards beginners guide by MP Vijay Kumar, prime knowledge services.
8. A studentôs guide to international financial reporting standards by Clare Finch, Kalpan Publishing.

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ts to the external environment of business and to enable ting to cost and pricing.

in Decision Making

Pricing strategies: Pricing policy, process, Role and methods: cost plus pricing, Marginal cost pricing, pricing for target rate of return, added value method of pricing, differential cost pricing going rate pricing, opportunity cost pricing, standard cost pricing, customary pricing, pricing strategy for Export oriented products, methods of export pricing, pricing strategies for new products, management accountant role in product pricing.

Module –2: Transfer Pricing

Transfer Pricing ï meaning, necessity, Objectives, applications, Methods (Cost Based, Market Price Based and Negotiated Pricing), Advantages and Disadvantages, Criteria for setting Transfer Prices, Guiding Principles in the fixation of transfer prices, Transfer Price in different situations. International transfer pricing: meaning, factors affecting international transfer pricing.

Module 3: Learning Curve Theory:

Introduction, meaning and definition of learning curve, phases in learning curve, applications of learning curve, factors affecting learning curve, comparison between learning curve and experience curve.

Module – 4: Cost of Quality and TQM

Definition, classification of quality costs, cost of Conformance, Prevention costs, appraisal costs, cost of Non-conformance, optimization of quality cost, TQM Core concepts of TQM, Benefits of TQM. TQM ï basics, stages, principles, control, corrective actions, PRAISE- steps, problems, implementation Cost of quality report Continuous process improvement.

Module – 5: Balanced Scorecard and Benchmarking

BSC: Introduction, drawback of traditional financial measures, attributes to good performance measurement system, concept of balanced score card, perspectives of B.SC and implementation of Balanced score Card, case studies on BSC.

Benchmarking ï Concepts, Benchmarking process, Impact on Indian Industry, Types of Benchmarking

Books for Reference:

1. Ravi. M. Kishore, Cost Management, Taxman, Allied Services (p) Ltd.,
2. S.K.R. Paul, *Management Accounting,* New Central Book Agency Private Ltd., Calcutta.
3. Charles T. Horngren, George Foster, Srikant M. Data, *Cost Accounting: A Managerial Emphasis,* Prentice Hall of India, New Delhi.
4. Roger Cowe, *Hand Book of Management Accounting,* A Grower Handbook.
5. S. Mukherjee & A.P. Roychowdhury, *Advanced Cost and Management Accountancy,* New Central Book Agency, Calcutta.
6. Anthony R.N, *Management Accounting Principles,* Grawin Publishing.
7. Batty J, Mc Donald & Evans, *Management Accountancy,* London.
8. Bierman H &Drabin A.R, *An Introduction Managerial Accounting,* McMillan Company, New York.
9. Broad H.W & Carmichael K.S, *A Guide to Management Accounting,* HFL (Pub) Ltd., London.
10. Brown &Haward, Mac Donald , Evans, *Principles of Management Accountancy,* London.
11. De Pauls, *Management Accounting in Practice,* F.C. Europe Pub. Ltd., London.
12. Keith Ward, *Strategic Management Accounting,* Butterworth Heirmann Pub.
13. John K. Shank, *Cases in Cost Management: A Strategic Emphasis,* South-Western Publishing, Thomson Learning.

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the indirect tax laws.

Introduction : Special features of indirect tax levied, all pervasive nature, contribution to Government Revenues, fiscal preference as instrument of planning and developmentð role of indirect tax laws.

Module - 2 :
Central Excise and Salt Act 1944 : Nature of levy of excise duty, classification of excisable goods, price lists and their significance, valuation of excisable goods, central excise licensing ï detailed procedure.
Clearance of excisable goods ï procedure under physical control, compounded levy scheme and self-removal procedures, gate passes, personal ledger account and daily stock accounts.
Exemption from excise duty levies ï nature and types of exemption notifications.
Procedure for clearance of samples, semi-finished goods and return and retention of duty paid goods. CENVAT, CENVAT on Capital goods.
Tariff item 68 ï significance of the levy, exemption and clearance procedure.
Set off of duties ï meaning, schemes of set-off and details of procedure.
An overview of accounts, records and returns to be maintained/filed under the Act.
Adjudication and appeals ï detailed procedure before various excise authorities and the appellate tribunal ï Transfer pricing

Module - 3 :
Customs Act 1962 : Details of procedure in relation to the levy, collection and exemption from customs duties ï documents to be prepared and presented to customs authorities, valuation of goods, clearance of imported and exported goods procedure.
Detailed procedure in relation to transportation and warehousing ï relevant rules and regulations.
Drawback of customs duties paid, preparation and submission of drawback claim forms.
Adjudication and appeals before the customs authorities and the appellate Tribunal.

Module - 4:
Central Sales Tax Act 1956 : Constitutional background of CST, Inter-state trade and commerce restriction of powers of taxation on sales by state ï liability of sales tax ï inter-state sale ï occasions movement of goods, sale by transfer of documents, sale under CST ï transactions which are not sales ï persons liability of sales tax.
Persons liable to pay CST ï exemptions from CST ï sales outside the state ï sale in course of import/export ï declared goods, forms of declaration.
KST ï VAT, advantages, disadvantages. Etc..

Module - 5:
G.S.T (GST should be taught after introduction by the Government along with the amendments time to time)

Books for Reference:

1. L.K. Jain, *Central Excise Mannual,* Contay Publishers P. ltd.
2. D.N. Khole, B.N. Sharma etal, *Customs Tariff,* Census Publishers.
3. Bare Acts of CST and KST
4. B.K. Ghargava, *Indirect Tax Laws,* Taxman Allied Services.
5. V.S. Datey, U.K. Bhargava, *Indirect Tax Law and Practice.*

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…und Procedures, Nabi Pub. New Delhi.
…Manual, ii) Central Excise Manual, iii) Central Excise Law …elhi.
…entral Excise – Law and Practice Vol. I, Wadhwa and Co.
…al Excise – Law, Practice and Procedure Vol. I & II, Modern

10. S.P. Bhatnagar, *Customs Law and Procedure,* Contex Pub. New Delhi.
11. P.L. Malik, *Commentaries on Customs Act, 1962, with Rules and Notifications,* Eastern Book Company, Lucknow.
12. Jai. Kr. Jain and Anand Prakash, *Law of Control Sale Tax in India,* Anand Prakashan, Jaipur.
13. Dokania, *Central Sales Tax Act,* Bharat Law House, Allahabad.
14. Background material on GST ï The Institute of Chartered Accounts of India ï New Delhi.

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world of commodity markets
financial instruments used in commodity markets.

Module – I Commodity Markets and Exchanges:
Growth of Global and Domestic Commodities Derivatives Markets, Agricultural Commodities Market and Non-Agricultural Commodities Markets
Commodity Exchanges: Exchanges around the World and its Importance, Commodity Exchanges in India. National Exchanges and Regional Exchanges, platform ï Structure, Exchange memebership, Capital requirements, commodities traded on National exchanges, instruments available for trading and Electronic Spot Exchanges.

Module – II Quality Assurance
Quality Assurance, Concepts of Quality in Commodities, Methods of Quality Assurance GRanding and Standardization: Meaning of grading and Standardization, purpose of grading, advantages of grading, inspection and quality control, Indian standards.

Module – III Commodity Derivatives:
Commodity Derivatives: Evolution of Commodity, Derivatives, Evolution of Commodity, Derivatives in India, Types of Derivatives, Other Classifications of Derivatives, Pricing Derivatives, Derivative Markets and Participants, Economic Importance of Commodity Derivatives Markets.

Module – IV Warehousing Trading and Settlement:
Warehousing and Warehouse Receipts, Storage, practice s in India, Risks in Storage, Structures, Essentials of storage structures, cost of storage/carry, returns of storage cost, warehousing, types of warehouses, Central warehousing corporation(CWC) FCI, functioning, growth, capacity and utilization.
Trading on óCommodity Exchanges: the Exchange platform, Exchange Membership, Commodity Brokerage, trading systems, participants in Commodity Markets, Role of speculators, Trading mechanism ï Margin Trading, Mark to Market, Conflict Management; Arbitration and International Legal provisions, Market Positions, Order Types, Access to Commodity Exchanges, Volume and Open Interest.
Clearing and Settlement on Commodity Exchanges, Clearing House Operations and Risk Management, procedures, Delivery related issues like delivery centers, Deliverable varieties, Issues related to monitoring and surveillance by exchanges and regulator, Margining Method and the settlement process.

Module – V Regulatory Framework:
FCR Act 1952, FMC and Regulatory structure of commodities Derivatives markets in India (Objective, Functions, Power and responsibilities, Scope of Regulation), Essential Commodities Act and role of central and state Governments, Intermediaries, Investor Grievances and arbitration, Commodities Board in India ï Coffee Board of India, Tea Board of India, Spice Board of India, Rubber Board of India, Tobacco Board of India.

Books for Reference:

12. Location in Space: A Theoretical Approach to Economic Geography, Lloyd and peter.
13. Land, Work and Resource: An Introduction to Economic Geography, Patterson J.H.
14. Annals of an Abiding Liberal, Galbraith.
15. Economic Geography, Truman A. Harsshron and John W. Alexander.
16. World Resouces and Trade, Khanna and Gupta.
17. World Resources, Zimmerman.
18. Economic Geography ï A Resouces Approach ï Gun and Chatterji.
19. CD of IIPM Commodity Futures National Seminars.
20. Economic Geography ï Prentice Hall of India.
21. Economic Times & Business Line (Daily)
22. Business India (Magazine).

Web sites of Commodity exchanges like CBOT, KBOT, LIFFE, SIMEX, TOCOM, NCDEX, MCXM NMCE, NBOT.

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FOREX MANAGEMENT

- acquire skills in forex management.
- apply the above knowledge to managing finances of an

Module - 1 :
The foreign exchange market, structure and organization- mechanics of currency trading ï types of transactions and settlement dates ï exchange rate quotations and arbitrage ï arbitrage with and without transaction costs ï swaps and deposit markets ï option forwards ï forward swaps and swap positions ï Interest rate parity theory.

Module - 2 :
Currency and interest rate futures, future contracts, markets and trading process, future prices spot and forward, hedging and speculation with currency futures ï interest rate futures ï foreign currency options ï option pricing models ï hedging with currency options ï futures options ï innovations.

Module - 3 :
Exchange rate determination and forecasting ï Setting the equilibrium spot exchange rate ï theories of exchange rate determination ï exchange rate forecasting.

Module - 4 :
Foreign exchange risk management ï hedging, speculation and management of transaction exposure ï using forward markets for hedging ï hedging with money market, currency options and currency futures ï internal hedging strategies ï speculation in foreign exchange and money markets.

Module - 5 :
Management of interest rate exposure ï nature and measurement ï forward rate agreements (FRAôs) interest rate options, caps, floors and collars, cap and floors ï options on interest rate futures, some recent innovations ï financial swaps.

Books for Reference:

1. Shapiro Alan. C., *Multinational Financial Management,* Prentice Hall, New Delhi.
2. Apte P.G, *International Financial Management,* Tata McGraw Hill, New Delhi.
3. Mcrae T.N and D.P Walkar, *Foreign Exchange Management,* Prentice Hall.
4. Evilt H.E, *Manual of Foreign Exchange.*
5. Holgate H.C.F, *Exchange Arithmetic.*
6. Rajwade A.V., *Foreign Exchange Risk Management,* Prentice Hall of India.

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ernational Financial institutions & markets

e this knowledge in financial decision making of

Module – 1:

Introduction: What are the global Financial Markets? The Foreign Exchange Market ï Comparison of Domestic and International Money and Capital Markets ï Global Derivatives Market ï The mechanism of Foreign Exchange Transfers ï Foreign Exchange and Eurocurrency Markets.

Module – 2:

International Money Market ï Instruments traded ï Euro currency time Deposits ï Euro notes ï Bankerôs acceptance ï Floating Rate Notes ï International banking and Euro Currency Market ï Syndication technique.

International Capital Markets ï Bond Market ï Eurobonds and Foreign Bonds ï Structure of International Bond Market ï Yields and Proceeds Computation ï Currency and Interest ate swaps ï How Scrap rates are determined ï Swaps versus Long ï Dated Forwards ï Caps and Floors.

Module – 3:

International Equity Markets ï Worldôs Major Stock Markets ï Emerging Stock Markets ï International Equity trading ï Diversification benefits of International Investment ï New Issue procedures ï Private Placements and Rule 144A ï fledging the currency Risk of International Portfolios.

International Banking ï Services offered by the foreign banks ï Organisation structure and operations of foreign banks (as affiliated banks, consortium banks, correspondent banks etc..) ï Why banks became Multinational units ï Problems of Multinational banks.

Module – 4:

Financial Intermediation ï maturity transformation and inter bank activity ï International Trade involving letter of credit ï An overview of typical transaction ï alternative payment and guaranteeing procedure.

Books for Reference:

1. Meric, Ilhan, ñGlobal Financial Markets at the Turn of the Centuryò, Science & Technology Books.
2. Maxwell, Charles E; Bruckner (editor), ñFinancial Markets and Institutions: The Global Viewò, West Publishing Company, 1994.
3. Ian H Giddy, Global Financial Markets, Houghton Mifflin in Co., USA, 1997.
4. John R. Prick, Hkent Basker, John A Hasliem, ñFinanical Markets: Instruments and Conceptsò, Reston Pub. Co. NY 1995.
5. David Kidwell Richar I. Peterson and David W Bcakwell, ñFinancial Institutions: Markets and Moneyò, Harcourt Brace, Javanbvich, 1993.
6. Rajwade V A ñForeign Exchange: International Finance and Risk Managementò, Academy of Business Studies, New Delhi, 1991.
7. Apte P G, ñInternational Financial Managementò, Tata McGraw Hill, New Delhi, 1995.
8. Johnson, Hazel, ñGlobal Financial Institutions and Marketsò, Blackwell publishing.
9. Kaushik, Surendra K, ñInternational Capital Markets: New Directionsò, New York Institute of Finance, 1989.
10. Yoon S Park Jack Zwick Addision, ñInternational Banking Theory and Practiceò Wesley Publication, 1984.

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erstanding of Banking Operations.
application tools towards formulating and implementing
agement.

Module – 1:
Regulatory policies influencing bank operations ï an overview (Basel committee, prudential norms, FEMA-Bankerôs compliance)

Module – 2:
Resource Mobilisation or Liability Management ï Deposits ï types, classification and pricing; management of reserves; management of NRI funds.

Module – 3:
Asset Management ï credit management ï origination, appraisal, sanction, documentation, disbursement, credit policy, credit planning, pricing of credit; Investment Management; Cash and Treasury Management.

Module – 4:
Monitoring and Follow-up; IRAC Norms (i.e., Income recognition and Asset Classification norms); Non-performing Assets. Securitisation Act.

Module – 5:
Financing imports and exports ï foreign currency dealing and foreign exchange markets. Monitoring of foreign trade transactions ï EXIM Policy.

E-Banking, Payment Systems, Settlement System, Business and Profit planning.

BOOKS RECOMMENDED:

1. Indiaôs Banking and Financial sector in the New Millennium ï Volume I & II.
2. Bala Shenmugam, Craig Turton, George Hempel; Bank Management.
3. How to borrow from Banking and Financial Institutions, Nabhi Publication.
4. Mary P. Merril; Financial Planning in the Bank.
5. David Kidwell Richar I. Peterson and David W Bcakwell, ñFinancial Institutions: Markets and Moneyò, Harcourt Brace, Javanbvich, 1993.
6. Rajwade V A ñForeign Exchange: International Finance and Risk Managementò, Academy of Business Studies, New Delhi, 1991.
7. Apte P G, ñInternational Financial Managementò, Tata McGraw Hill, New Delhi, 1995.
8. Johnson, Hazel, ñGlobal Financial Institutions and Marketsò, Blackwell publishing.
9. Kaushik, Surendra K, ñInternational Capital Markets: New Directionsò, New York Institute of Finance, 1989.

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SYSTEM MANAGEMENT
COMMODITY MARKETS

world of commodity markets
financial instruments used in commodity markets.

Module – I Commodity Markets and Exchanges:
Growth of Global and Domestic Commodities Derivatives Markets, Agricultural Commodities Market and Non-Agricultural Commodities Markets
Commodity Exchanges: Exchanges around the World and its Importance, Commodity Exchanges in India. National Exchanges and Regional Exchanges, platform ï Structure, Exchange membership, Capital requirements, commodities traded on National exchanges, instruments available for trading and Electronic Spot Exchanges.

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Quality Assurance, Concepts of Quality in Commodities, Methods of Quality Assurance Granding and Standardization: Meaning of grading and Standardization, purpose of grading, advantages of grading, inspection and quality control, Indian standards.

Module – III Commodity Derivatives:
Commodity Derivatives: Evolution of Commodity, Derivatives, Evolution of Commodity, Derivatives in India, Types of Derivatives, Other Classifications of Derivatives, Pricing Derivatives, Derivative Markets and Participants, Economic Importance of Commodity Derivatives Markets.

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Trading on óCommodity Exchanges: the Exchange platform, Exchange Membership, Commodity Brokerage, trading systems, participants in Commodity Markets, Role of speculators, Trading mechanism ï Margin Trading, Mark to Market, Conflict Management; Arbitration and International Legal provisions, Market Positions, Order Types, Access to Commodity Exchanges, Volume and Open Interest.
Clearing and Settlement on Commodity Exchanges, Clearing House Operations and Risk Management, procedures, Delivery related issues like delivery centers, Deliverable varieties, Issues related to monitoring and surveillance by exchanges and regulator, Margining Method and the settlement process.

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23. Location in Space: A Theoretical Approach to Economic Geography, Lloyd and peter.
24. Land, Work and Resource: An Introduction to Economic Geography, Patterson J.H.
25. Annals of an Abiding Liberal, Galbraith.
26. Economic Geography, Truman A. Harsshron and John W. Alexander.
27. World Resouces and Trade, Khanna and Gupta.
28. World Resources, Zimmerman.
29. Economic Geography ï A Resouces Approach ï Gun and Chatterji.
30. CD of IIPM Commodity Futures National Seminars.
31. Economic Geography ï Prentice Hall of India.
32. Economic Times & Business Line (Daily)
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Web sites of Commodity exchanges like CBOT, KBOT, LIFFE, SIMEX, TOCOM, NCDEX, MCXM NMCE, NBOT.

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ples of intelligence and its application in different areas.
knowledge representative, problem society and learning

Unit-I:
AI roots and scope- History of applications from Eden to ENIAC: Attitudes towards intelligence knowledge, and Human Artifice, Overview of AI Application areas.

Artificial Intelligence as Representation and Search : Introduction, The prepositional Calculus, The predicate calculus, Using co Rules to produce predicate calculus Expressions, Applications: A Logic Based Financial Advisor.

Unit-II:
Structures and Strategies for state space search : Introduction, Graph Theory- Strategies for state space search, Using the state space to represent. Reasoning with the predicate Calculus.

Unit-III:
Heuristic Search: Introduction, An algorithm for Heureistic search, admissibility, Monotonicity and Informedness, using Heuristics in Games, Complexity issues.

Unit-IV:
Representation and Intelligence : The Al Challenge knowledge representation: Issues in knowledge representation- A brief History of AI representational schemes- conceptual Graphs: A Network Language- Alternatives to Explicitly Representation- Agent based Distributed Problem solving

Strong Method Problem Solving:
Introduction, Overview of Experts systems- Technology- Rule-Based Expert systems- Model, Case based and Hybrid systems, Planning.

Unit-V:
Reasoning in uncertain situations: Introduction- Logic-Based Abductive Inference- Abduction - Alternatives to Logic- The Stochastic Approach to Uncertainty.

Suggested Readings:

1. George Fluge, Artificial Intelligence, Pearson Education,5th Edition 2008.
2. Elaine Rich Kevin Knight, Artificial Intelligence, Tata McGraw Hill, New Delhi, 2007

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secure distributed applications.
erstand basic operation system and networking.

Introduction ï Definition - the history of distributed computing ï Different forms of computing ï the strengths and weakness of distributed computing ï Basics of operating systems- Network basicsï s/w engineering basics.

Unit-II:
Inter process communication- An archetypal IPC program interface ï event synchronization- Timeouts and threading- Deadlocks and timeouts ï Data representation- Data encoding ï Text ï Based protocols- Request Response protocol-Event Diagram and sequence diagram ï connection oriented Vs Connectionless IPC- Evolution of paradigms for interprocess communication.

Unit-III:
Distributed computing paradigm ï paradigms and abstraction ï An example application ï Paradigms for distributed applications - Trade offs.

Unit-IV:
The Socket API- Socket Metaphor in IPC-The Datagram Socket API-Stream Mode Socket API-Sockets with Non-blocking I/o operations-Secure Socket API.

Unit-V:
Client-server paradigm- Client- server paradigm issues ï Software engineering for a N/w service-connection oriented and connection less server - Iterative server and concurrent server- stateful servers.

Suggested Readings:

1. Distributed computing principles and applications by M.C. Liu. (Pearson education)
2. Distributed Databases principles & Systems by Stefanoceri, Ciaeppe pelagatti Fater Mc Graw Hill Edition
3. Principles of distributed Database systems by M. Tamer Ozsel Patrick valderiez (Pearson education)

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ytics results from data mining.

2. To understand overall architecture of data warehouse, techniques and methods for data gathering

Unit-I: Introduction

Data Mining Functionalities- Classification of Data Mining systems-Data Mining task primitives- Integration of a Data mining system with a Database or Data warehouse system-Major Issues in Data Mining.

Unit-II:

Data Processing- Descriptive Data Summarization ï Data cleaning ï Data Integration and Transformation ï Data Reduction- Data Discretization and Concept hierarchy generation.

Unit-III:

Data warehouse and OLAP Technology ï an overview- A multi Dimensional Data Model-Data ware house Architecture- Data warehouse Implementation ï from Data ware house into Data Mining.

Unit-IV:

Mining Frequent patterns, Association and Co-relation ï Basic Concept and a road map-efficient and Scalable frequent item set mining methods- Mining various kinds of Association rules.

Unit-V:

Classification and Prediction ï Issues regarding classification and Prediction ï Classification by decision tree induction- Bayesian classification ï Rule Based classification.

Suggested Readings:

1. Jiaweihan and Micheline Kamber:Data Mining Concepts and Techniques.
2. Richard J. Roigel, Michael W. Geatz, Data Mining ï A tutorial Based primmer ï Pearson Education, New Delhi,2005.
3. Tan ï Data mining, Pearson Education.

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ELECTIVE SUBJECT
6 a. INCOME TAX

OBJECTIVE

The objective of this subject is to expose the students to the various provision of Income Tax Act, 1961 relating to computation of Income relating to individual assesses only.

Unit 1: INTRODUCTION TO INCOME TAX

Income Tax: Brief History of Indian Income tax - Legal Frame Work ï Types of Taxes - Cannons of Taxation ï Important Definitions ï Assessment ï Assessment Year ï Previous Year ï Exceptions to the general rule of Previous Year - Assessee ï Person ï Income ï Casual Income ï Gross Total Income ï Total Income - Agricultural Income.

Income tax authorities: Powers and Functions of CBDT, CIT & A.O.

Residential Status: Residential Status of an Individual ï Determination of Residential Status - Resident ï Ordinary / Not Ordinarily Resident ï Non-resident ï Incidence of Tax ï Simple Problems on Scope of Gross Total Income.

Exempted Incomes: Introduction ï Exempted Incomes U/S 10 (Restricted to Individual Assessee) ï Only theory

Unit 2: INCOME FROM SALARY

Meaning ï Definition - Basis of Chargeï Advance Salary ï Arrears of Salary ï Allowances ï Perquisitesï Provident Fund - Profits in Lieu of Salary ï Gratuity -Commutation of Pension - Encashment of Earned leave -Deductions from Salary U/S 16 ï Problems on Income from Salary (Only Individual assessee).

Unit 3: INCOME FROM HOUSE PROPERTY

Basis of Charge ï Deemed Owners ï Exempted Incomes from House Property ï Composite Rent - Annual Value ï Determination of Annual Value ï Treatment of Unrealized Rent ï Loss due to Vacancy ï Deductions from Annual Value ï Problems on Income from House Property.

Unit 5: COMPUTATATION OF TOTAL INCOME

Income from **Business / Profession, Capital Gains, Other Sources** (Theory only) and Deductions **U/S 80C, 80D and 80G**. Simple problems on Computation of Total income of an Individual assessee (Computed incomes of Business / Profession, Capital Gains, Other Sources will be given).

BOOKS FOR REFERENCE

1. B.B. Lal and Vashist: Direct Taxes, Konark Publisher (P) ltd.
2. Dr. Mehrotra and Dr. Goyal: Direct Taxes ï Law and Practice, SahityaBhavan Publication.
3. Dr. Vinod K. Singhania: Direct Taxes ï Law and Practice, Taxmann publication.
4. Gaur &Narang: Income Tax, Kalyani Publisher s
5. DinakarPagare: Law and Practice of Income Tax, Sultan Chand and sons.
6. Dr.V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax ï I and II, Vittam Publications.

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I ELECTIVE SUBJECT
INANCE AND BANKING

Objectives:

1. To expose the students to Finance and Banking System along with the latest reforms in Banking.
2. To enable the students to understand the operations in Finance and Banking

Unit 1: FINANCIAL MARKETS

Introduction, Primary Market and Secondary Markets - Meaning ï Features - Players of Primary Market. Shares, debentures ï meaning, features. Stock market operations treading, clearance and settlement procedures. Types of Investments ï Stock and Shares, real estate, mutual funds, post office, insurance ï schemes.

Unit 2: COMMODITY MARKET:

Evolution, Commodity derivatives, Commodity exchanges-Regional & National and International, Functions, role, objectives and types- Types of transactions in Commodity market ï Spot, Future and Forward options markets. (Concepts only)

Unit 3: BANKS :

Introduction, functions and types of Banks, Role of RBI, Types of Accounting, Procedure for opening accounting, KYC, types of loans, Operation of Accounting, Retail Banking , Corporate Banking.

Unit 4: NEGOTIABLE INSTRUMENTS

Cheques ï Meaning & Definition ï Features - Parties ï Crossing of cheques ï types of crossing. Endorsements ï Meaning ï Essentials ï Kinds of Endorsement.

Book References

1. Gorden and Natarajan: Banking Theory Law and Practice
2. Tannan M L: Banking Law and Practice in India
3. Vasant Desai, Bank and Institutional Management, HPH,
4. Muralisubbakrishna, Bank Credit Management,
5. O Payramval, Modern Banking of India.
6. Shekar K C: Banking Theory Law and Practice
7. S.P. Srivastava: Banking Theory Law and Practice
8. Location in Space: A Theoretical Approach to Economic Geography, Lloyd and peter.
9. Land, Work and Resource: An Introduction to Economic Geography, Patterson J.H.
10. Annals of an Abiding Liberal, Galbraith.
11. Economic Geography, Truman A. Harsshron and John W. Alexander.
12. World Resouces and Trade, Khanna and Gupta.

M.SC IN PSYCHOLOGY

Subjects	Paper	Instruction hrs/week	Duration of Exam (hrs)	Marks			Credits
				IA	Exam	Total	
a) I Semester of the Postgraduate Program							
Core Subject	101 - Theoretical Perspectives of Psychology 102 - Cognitive Psychology 103 - Biopsychology 104 - Research Methods	4x4	4x3	4x30	4x70	4x100	4x4
	105 - Experimental Psychology (Practical 1) 106 - Computer Applications (Practical 2)	2x8	2x6	2x30	2x70	2x100	2x4
Soft Core	107 - Psychometry	1x3	1x3	1x30	1x70	1x100	1x2
						Semester Total of Credits	26

b) II Semester of the Postgraduate Program							
Core Subject	201 – Personality Psychology 202 – Counselling and guidance 203 – Child Psychopathology 204 - Qualitative Research Methods	4x4	4x3	4x30	4x70	4x100	4x4
	205 - Child assessment and intervention. (Practical1)	1x8	1x6	1x30	1x70	1x100	1x4
	206 - Project Work (Practical 2)	8	Report Evaluation	1x30	1x70	1x100	1x4
Soft Core	207 – Theories of Learning	1x3	1x3	1x30	1x70	1x100	1x2
						Semester Total of Credits	26

c) III Semester of the PG Program							
Core Subject	301 - OrganiationalBehavior I –A micro perspective. 302 – Psychopathology 303- Psychological Therapies	3x4	3x3	3x30	3x70	3x100	3x4
	305 - Clinical assessment and intervention.(Practical1) 306 - Assessment and Intervention in Organisations (Practical 2)	2x8	2x6	2x30	2x70	2x100	2x4
Open Elective	304 - Foundations and Application of psychology	1x4	1x3	1x30	1x70	1x100	1x4
						Semester Total of Credits	**24**

d) IV Semester of the PG Program							
Core Subject and Electives	401 - Organizational behaviour II -A Macro perspective. 402 - Social and Community Psychology 403 - Rehabilitation Psychology 404 - Positive psychology	4x4	4X4	4x30	4x70	4x100	4x4
	405 - Alternative healing techniques. (Practical1)	1x8	1x6	1x30	1x70	1x100	1x4
	406 - Dissertation (Practical 2)	8	Report Evaluation	1x30	1x70	1x100	1x4
						Semester Total of Credits	**24**
						Program Grand Total of Credits	**100**

M.Sc
I SEMESTER

Preamble:

Masters Degree in psychology has been of great demand in the recent years. The need for psychological assistance and guidance has been recognized by all the sections of the society and there is a dearth of professionals in the field. Keeping this in mind the present curricula has been framed to provide theoretical as well as practical training in a wide range of specializations that would help the post graduate to be eligible to be employed in the field of education, clinical/hospital setup as well as in organizations in the capacity of counsellor, clinical psychologist, psychometrician, trainer and as a facilitator in organizational development process. Students would also be equipped to prepare and fare well in competitive examinations conducted by UGC/ICSSR/State and Central Civil Services Boards etc.

The course has been redesigned with emphasis not only on the syllabi but also on co-curricular activities such as book reviews/seminars/ presentations/assignments that would be out of the syllabi and constitute a part of the internal assessment.

Project work in the second semester:

Since the students would study psychometry as a soft core paper field work could be thought of as a group/team work with each group working on designing/developing a psychological test. The evaluation of the same would constitute presentation by the batch/team followed by viva voce examination(the procedure is being followed in the professional courses like engineering).

Project work in the fourth semester:

This would also be team/batch wise and topics could be chosen from any of the field of their interest.

101: THEORETICAL PERSPECTIVES OF PSYCHOLOGY

Learning objective: Students would get a historical perspective about the development of psychology as an independent body of knowledge. The emphasis is on understanding human behaviour from each school's perspective in respect of human motivation, development and

functioning of human personality and the application of principles of each school to the development of mankind as well as its therapeutic value.

Unit 1- Psychoanalytical perspective:
History, Sigmund Freud's approach, Carl Jung, Adler, and other Neo-freudian approach to motivation, personality, therapy and applications.

Unit 2 - Behaviouristic perspective:
- Learning- Classical Conditioning (Pavlov) and Operant Conditioning (Skinner);
- Motivation – Drive and incentive theories (Hull), (Miller and Dollard, Rotter);
- Personality – Mowrer; therapeutic techniques and applications.

Unit 3 - Humanistic & Existential perspectives:
- Motivation : Hierarchy of motives (Maslow), ERG Theory (Alderfer), Theory of needs (McClelland);
- Personality : Personal construct (Kelly), Self-theory of personality (Rogers); Existential approaches; therapies and application.

Unit 4 - Cognitive and Social Perspectives:
- Motivation: Cognitive balance and dissonance theory (Hieder, Festinger);
- Personality: Dissonance (Brehm), Social learning theory (Bandura); therapy and application.

Unit 5 -Indigenous Perspectives:
- Motivation: Advaita, Buddhist and Jaina perspectives;
- Personality: Advaita, Upanishads, Buddhist and Jaina perspectives;
- Therapy (healing techniques), Applications.

References:

- Davis R.S (1996). Psychology of Learning and Motivation, academic press.
- Ekman, Paul and Davidson, R.J (Eds-1994). The nature of emotions, fundamental questions.Delhi, OxfordUniversity press Series in affective science.
- Hall. C.S. Lindzey G and Campbell J.B (1998) theories of personality New York john wiley and sons (4th edition).
- Hergenhahn B.R. and Olson M. H. (1998) Theories of personality, Prentice Hall
- Hilgard, E. R Bower G.H, Sahakian, H (1997) Psychology of learning. Prentice hall of India, revised edition
- Lawrence .A, Pervin and Oliver P John (1997) Personality: theory and research new york, John Wiley , 7th edition
- Sahakian(1976) Introduction to psychology of learning. Chicoga: Rand Mcnally college publishing company.
- Weiner B (1985) Human Motivation, New York: Springer and Verlag.

102: COGNITIVE PSYCHOLOGY

Learning Objective: Cognitive Psychology is one of the fields of psychology that addresses many of the specialised functions of human beings. Development in the field of science especially in computer science and neurology has brought in a paradigm shift in understanding human behaviour. Students would get an orientation in this direction.

Unit 1.Fundamentals & Current areas of research in cognitive psychology.

- Definition, Emergence of cognitive psychology, nature of cognitive psychology, Current areas of research in cognitive psychology, (Educational application, marketing and advertisement,)
- Research methods in cognitive psychology- goals of research. Distinctive research method.
- Attention and consciousness. Theories models of attention.
- Consciousness – history, function, consciousness of mental process, modern theories of consciousness. Memory- types, determinates models of memory.

Unit 2. Higher Cognitive processes – Reasoning, Creativity.

- Reasoning definition, types, influencing factors, moral reasoning,
- creativity- definition, steps involved in creative process, obstacles involved in creativity, enhancing techniques of creativity.

Unit 3.Psycholinguistics

- Language origin, Definition, theories - Chomsky.
- Semantics, pragmatics, syntax, characteristics of language.

Unit 5.Meta cognition

- Problem solving, steps in problem solving, types, methods, obstacles and aids of problem solving, Meta-cognitive strategies.
- Artificial intelligence, Robotics, Models on Information processing, Consciousness.

Unit 4. Cognitive neuroscience

- Definition, Emergence of cognitive neuroscience, Scope,
- Perspectives on Examining the Architecture and Function of the Human Brain as a Complex System.
- The Landscape of Cognitive Neuroscience: Challenges, Rewards, and New Perspectives. Development of the Primate Cerebral Cortex. Early Development of Neuronal Circuitry of the Human Prefrontal Cortex.Unraveling the Role of Neuronal Activity in the Formation of Eye-Specific. Connections. Brain Changes Underlying the Development of Cognitive Control and Reasoning.

- Plasticity : Mechanisms of Selective Attention in the Human Visual System: Evidence from Neuroimaging. The Frontoparietal Attention Network. Spatial Deficits and Selective Attention. Selective Attention Through Selective Neuronal Synchronization

References:

- Kathy Pazdek, Applied psychology, Lawrence Erlbaum associates publishers, 2006 New Jersey.
- Matlin. M. W. (2012). Cognitive psychology.(8^{th}ed). Wiley John and Sons.
- Carroll. D. W. (2007). Psychology of language.(5^{th}ed). Brooks Cole.
- Jay T (2003) The psychology of language Prentice Hall.
- Goldstein E. (2009). Sensation and perception (8^{th}ed).Cengage Learning.
- Solso. R. L., Maclin. H. O., Maclin. M. K. (2008). Cognitive psychology.(8^{th}ed) Pearson.
- Galotti. K. M. (2008) Cognitive psychology in and out of the laboratory. (8^{th}ed). CengageLearning 2012 .
- Rabort J. Stenberg congnitive psychology 6th edition words worth cenga
- Steven J. Luck and George R. Mangun.

103: BIOPSYCHOLOGY

Learning objective: Students would get an orientation towards the dynamics of brain behaviour complexity. Each unit would deliberate on psycho physiological correlates accounting for general phenomena, individual differences, and abnormal functions of human behaviour.

Unit 1 - Brain behaviour dynamics

- Bio psychology- Nature and Scope. Methods of studying the brain – Ablation, Recording and Stimulation methods, Neurochemical methods.
- Nervous systems. – Structure and functions. Divisions - Central and Peripheral NS.
- Brain and cognitive functions – intelligence, memory, learning,
- Endocrine system – functions and effects of endocrine glands.

Unit 2 – Neuro psychology

- Neurons - Structure, types and functions of neuron. Neuronal conduction – communication between neurons, synaptic conduction
- Neurotransmitters – categories and functions.
- Neurological disorders- Tumors, Seizures, Parkinson's disease, Huntington's disease, Alzheimer's disease, Multiple Sclerosis.

Unit 3 - Behaviour genetics

- Behaviour genetics: Nature and scope,
- Methods of study and research techniques,

- Chromosomal functions,
- Hereditary determinants of behaviour.
- Eugenics, genetic engineering.

Unit 4 - Evolutionary perspectives-

- Principles of Evolution – human behaviour - Reflexes, Instincts
- Environmental influences on behaviour – human and non-human species.
- Current researches in evolutionary biopsychology
- Controversial issues in evolutionary bio-psychology

Unit 5 - Psycho pharmacology

- Basic principles of psychopharocology
- Classification of Psychotropic Medications - Antipsychotics, Antidepressants , Anxiolytics and sedatives , Mood stabilizers , Stimulants , Sedatives / Hypnotics , Miscellaneous drugs.
- Adverse Effects of Psychotropic Medications - Drug-drug interactions , Side effects , Orthostatic Hypotension , Sexual dysfunction and hyper prolactinemia , Liver/Kidney dysfunction
- Ethical issues in Psycho-pharmocology.

References:

- Neil . R. Carlson (2005) Foundations of Physiological Psychology. 6th ed . Pearson.
- David.M.Buss (2005) The Handbook of Evolutiovary psychology, John Wiley and Sons.
- Handbook of Biological Psychology – Sage publications.
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3031936/ - principles of psychopharmocology
- http://nursece4less.com/tests/materials/n075materials.pdf - classification , effects

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104: RESEARCH METHODS

Learning objectives: psychology being a science subject measurement and quantification is of great importance. Undertaking an empirical study, Testing the accuracy of the findings require sound knowledge about the various statistical techniques and tests. Students would get acquainted with the types of research, designs and the ways and means of analysing the data.

Unit 1 - Research Process (12 hours)

- Definitions of research, science and scientific methods, limitations of scientific research. Steps involved in research process (Formulation of a problem, Literature review, Development of a hypothesis, Research design, Sampling design, Research proposal, Collecting data, Data analysis, Report writing/ thesis writing).
- Research problem-source, selection criteria, defining, statement, delimitation
- Ethical issues for research.

Unit 2- Variables, Probability and Hypothesis testing (14 hours)

- Variables: IV, DV, control and extraneous variables.
- Hypothesis- definition, characteristics, types; Hypothesis testing
- Concept of Probability, Normal Probability Curve, Characteristics of the Curve,: probabilistic estimation and limitations (Type I & type II errors).
- Concept of Statistics: parametric and non-parametric, descriptive, inferential, correlational, tests of significance, effect size, power of tests, tests for homogeneity of variance, regression, data reduction

Unit 3 Sampling and Data Collection (10 hours)

- Sampling design: Meaning, probability and non-probability sampling methods and determinants of sample size.
- Data collection methods: Observation: naturalistic, laboratory, participant and non-participant, structured and unstructured; interview: structured and unstructured, questionnaires: close-ended and open-ended, scales.

Unit 4- Research designs (16 hours)

- Part A: Experimental Designs: True Experimental (Between group, within groups, factorial),
- Part B: Quasi-experimental Designs: (Designs with control group, designs without control group, designs to measure developmental changes)
- Part C: Non-experimental (Observational, survey, correlational) ,
- Other ways of classifying Research Designs: Designs based on the purpose of the study- Exploratory research designs, Descriptive designs, Explanatory designs, Experimental designs; Designs classified by their intended use- Interventions designs, Evaluation designs, Action research designs; Designs indicating the effects of time- Cross sectional research designs, Longitudinal research designs

Unit 5- Report Writing (8 hours)

- General Guidelines, Need for a report, Types of Writing, Purpose of writing, Avoiding plagiarism, Organizing information, Report writing in APA format, references in APA format

References:

- Best,J.W. & Kahn, J.V (2005). Research in education. Prentice-Hall of India.(9th ed, EEE).
- Bordens,K.S. &Abbot,B.B. (2002) Research designs and methods: A process approach. McGraw-Hill(5th ed).
- Cozby,P.C. (1997) Methods in behavioral research. Mayfield Publishing company.(6th ed).
- Creswell, J.W. (2007) Qualitative inquiry & research design. Sage publications (2nd ed)
- Compilation of articles for qualitative research.
- Heppner,P.P, Wampold,B.E. &Kivilighan,D.M. (2008). Counselingresearch.Brooks-Cole.
- Kothari,C.R. (2003) Research methodology: Methods and techniques. WishwaPrakashan(2nd ed).
- McBurney, D.H. (2001) Research methods. Thomson Wadsworth (5th ed).
- Publication Manual of the American Psychological Association (6^{th}ed).

PRACTICALS 1: Experimental Psychology.

a. Experiments on sensation and perception.
b. Experiments on learning and memory.
c. Experiments on higher cognitive functions.

PRACTICALS 2: Computer Applications.

- Using MS Word to create and edit documents:

Opening MS Word, Font, centring, justification, right and left alignment, cut, copy, paste, bold, italics, underline, all caps, small caps, strike through, upper case, lower case, sentence case, title case, subscript, superscript, headings and levels, running head and header, page numbers and footer, inserting pictures, smart art and shapes, margins, new page, new section, inserting symbols, inserting tables, inserting charts, views (print view, outline view), importing and exporting to MS Excel, printing documents; renaming files in the file explorer, copying and moving files to other spaces in the hard drive and other drives.

- Using MS Excel to create and edit spread sheets

Rows and columns, entering data, copying and auto fill of data, formulae, creating charts, formatting cells, creating tables, views (print view) importing and exporting to MS Word and SPSS, printing spread sheets, renaming files in the file explorer, copying and moving files to other spaces in the hard drive and other drives.

- Using MS Power point to create and edit presentations

New slides, title slide, body slide, two column slides etc, creating backgrounds, inserting pictures, charts, drawing objects, and smart art; inserting simple animations, inserting slide transitions, outline view and slide sorter view, merging two presentations, creating handouts, creating .rtf files to export to MS Word, renaming files in the file explorer, copying and moving files to other spaces in the hard drive and other drives.

- Using any one statistical package SPSS

Data entry and coding, Importing data to SPSS from MS Excel, Calculating Mean, Median and Mode, and, Standard Deviation, Scatter-plot,Pearson's Product Moment Method, Spearman's Rank order Method, t-test (independent & paired), ANOVA, MANOVA, Chi-square, Mann Whitney U test, Median test, Wilcoxon test, Sign test, Kruskal-Wallis test, Friedman test, Interpreting the output generated by SPSS, Exporting to MS Word, MS power point, and creating PDF and html formats.

- Interpretation of output drawn from the statistical package.

SOFT CORE PAPER

105: PSYCHOMETRY

Learning objective: To orient the students to the concept of measurement and test construction, to enable students to create tests that are reliable and valid and develop norms, to enable students to use appropriate tests in various situations.

Unit 1 – Measurement and Testing Basics (12 hours)

- Part A: Measurement: meaning, differences between psychological and physical, properties of scales and measures, Levels of measurement, Likert scale; Uses of scales
- Part B: Testing: Nature, meaning and use of psychological tests. Characteristics of a good Psychological test.Ethical issues in use of tests.

Unit 2 – Test Construction (12 hours)

- Item response theories, Item writing, item difficulty, item discrimination, item validity, item analysis.
- Development of norms, interpreting test scores.
- Reliability and validity of tests – types and methods.

Unit 3 – Application of Tests (12 hours)

- Types of tests. Individual tests, tests for special populations, group testing; self-report, projective testing and behavioural measures; speed and power tests, verbal, nonverbal and performance tests; culture fair and culture free tests
- Using tests in Educational, occupational and clinical-counselling settings

References:

- AnastasiA&Urbina S (2005).Psychological testing. (7th ed)
- Cohen. R. J., Swerdlik. M. E., Phillips. S. M. (1996) Psychological testsing and assessment: an introduction to tests and measurements (3rd ed)
- Cozby. P. C. (1997) Methods in behavioural research (6th ed)
- Cronbach. L. J. (1990) Essentials of psychological testing (5th ed)
- Heiman. G. W. (1999) Research Methods in Psychology 2nd ed)
- Kaplan. R. M. &Saccuzzo. D. P. (2005) Psychological testing: principles, applications, and issues (6th ed).

M.Sc- II SEMESTER

201: PERSONALITY PSYCHOLOGY

Learning objective : The primary objective of the study of psychology is to understand individual differences. Personality is one of the variable that accounts for individual differences in the manner in which people understand and react to the various life experiences. Understanding of personality is essential across the stages of development in shaping the personality for its optimal functioning.

Unit 1 – Nature, Dimensions and measurement of personality

- Definition and Approaches to study personality, The trait approach to personality,
- Methods of personality assessment,
- Structural models of personality,
- The Five-Factor Model of personality traits.

Unit 2 – Personality in the social and cultural context

- The storied construction of personality,
- Personality and social support processes, Social pain and hurt feelings
- Personality in cross-cultural perspective, Culture and personality
- Personality and politics

Unit 3 – Personality in the educational context,

- Personality development of students,
- Factors influencing personality development

Unit 4 – Personality in the work context,

- Personality and personnel selection,
- Personality correlates of job performance ,

Unit 5 – Personality and Criminal psychology: Crime and Personality, Personality Modification in the criminal justice system.

References:

- Cambridge Handbook of Personality.
- Personality Psychology. Domains of knowledge about Human Nature, Randy.J.Larsen, David M Buss.2nd edition
- Theories of Personality, Hall and Lindsey.

202: COUNSELLING AND GUIDANCE

Learning objective: The professional services of a psychologist in the modern era has undergone a paradigm shift from clinical orientation to enhancing quality of life. Professional counselling approach and guidance based on objective, scientific guidelines would ensure the quality of life. The paper highlights on the principles, theories and the requirements for an effective counselling psychologist.

Unit 1. Basic concepts, types and scope, principles of guidance and counselling

Unit 2. Theories of guidance and counselling – Roger, Erikson, Adler, Skinner

Unit 3. Qualities of a counsellor – personal and professional, ethical considerations

Unit 4. Counselling process – steps and procedures of counselling

Unit 5. Areas of counselling – educational, vocational, avocational, social, health, personal and moral

References:

- Nayak A.K. 2007 Guidance and counselling APH Publishing New Delhi
- Barki B.G. &Mukhyopadhay B 2008 Guidance and counselling A Manual 10th reprint Sterling
- Corey G 2008 Theory and practice of group counselling 7th edition Stanford :Cengage Learning.

203: CHILD PSYCHOPATHOLOGY

Learning Objective: The paper provides the student with a thorough understanding of the causes, features and therapeutic intervention on developmental psychopathology.

Unit 1: Introduction to Developmental Psychopathology

- Models of child psychopathology; Development and Expression of psychopathology;
- DSM criteria of child psychopathology;
- Assessment, Diagnosis and Treatment strategies;
- Research on child Psychopathology;
- An overview of child psychopathology in India

Unit 2: Developmental disorders diagnosed first in infancy, childhood, and adolescence

- Mental retardation; Learning disorders
- Motor skills disorder: Developmental Coordination disorder
- Communication disorders: Expressive language disorder; Mixed Receptive-Expressive language Disorder; Phonological disorder; Stuttering

Unit 3

- **Pervasive Developmental Disorders**: Autistic disorder; Rett's disorder; Childhood Disintegrative disorder, Asperger's disorder; Pervasive Developmental Disorder Not Otherwise Specified.
- **Attention-Deficit and Disruptive Behaviour Disorders**: Attention-Deficit/Hyperactivity Disorder; Conduct disorder; Oppositional Deviant Disorder; Attention-Deficit/Hyperactivity Disorder Not Otherwise Specified; Disruptive Behaviour Disorder Not Otherwise Specified
- **Feeding and Eating Disorders of Infancy or Early Childhood**: Pica; Rumination Disorder; Feeding Disorder of Infancy or Early Childhood.

Unit 4

- **Tic Disorders**: Tourette's disorder; Chronic Motor or Vocal Tic Disorder, Transient Tic Disorder.
- **Elimination disorders:** Encopresis, Enuresis,
- **Other disorders of Infancy, childhood and adolescence:** Separation Anxiety disorder, Selective mutism, Reactive Attachment Disorder of Infancy or Early childhood; Stereotypic Movement Disorder

Unit 5

- Mood disorders and Suicide; Schizophrenia; Anxiety disorders
- **Special Areas**: pathological aspects of Day care, Foster care and adoption; Physical abuse, Sexual abuse and Neglect of the child; Identity problem and Borderline disorders in adolescence

References

- American Psychiatric Association (2000).*Diagnostic and Statistical Manual of*
- *Mental Disorders: -IV-TR*. Washington, DC: APA Press.
- Mash, E.J. & Wolfe, D.A. (2007).*Abnormal Child Psychology* (4th edition).
- Achenbach, Thomas, M. (1982).Developmental Psychopathology. 3rd ed. New York: Wiley.John B Sons, Inc
- Heward W L (1996). Exceptional children. 5th Ed. Ohio: Prentice Hall
- Kaplan, H.I. &Sadock, M.D. (1995).*Comprehensive Textbook of Psychiatry*/VI (Vol I & II, 6th Ed) (edited) .Baltimore: Williams & Wilkins.
- Mask E. & Wolfe, D. A, (1998), Abnormal Child Psychology, New York; Addison, Wesley
- Reinchmidt, Helmut & Schmidt, Martin.H.(1992).Developmental psychopathology. New York: Hogrefe& Huber Publishers
- Wenar, Charles. (1994). Developmental Psychopathology from Infancy through Adolescence. McGraw-Hill -International Ed

- Wiener J M (1999) (Ed) Textbook of Child and Adolescent Psychiatry.American Psychiatric Press.

204: QUALITATIVE RESEARCH METHODS

Learning objective: This paper provides students with a critical understanding of qualitative research methods in Psychology. The focus of this paper is also to use qualitative methods in conjunction with quantitative methods and independently. The hands on experiences will help the students to design qualitative studies and the importance of qualitative research in Psychology.

Unit 1 - Nature of qualitative research:

- The history of qualitative research; The Philosophy of qualitative research; Characteristics of qualitative research; The main steps in qualitative research;
- Reliability and validity in qualitative research;
- Critique of qualitative research: Application of qualitative research methodology to research in Psychology

Unit 2 - Designing Qualitative Research:

- Theory and concepts; Conceptual mapping; research questions; Defining the case;
- Sampling and Instrumentation. Mixed methods;
- Design a qualitative study to suit a Psychology research

Unit 3 –Paradigms of Qualitative research:

The Paradigm of Qualitative research methods – Ethnography; Participant Observation; Interviews in qualitative research

Unit 4 – Qualitative Research Techniques:

Focus Group Discussion; Conversation Analysis; Discourse Analysis; Life history method; Document based methods

Unit 5 - Data Analysis:

- Strategies of qualitative data analysis: Analytic induction; Grounded theory. Steps in qualitative data analysis - Coding, Within-case analysis, Cross-case analysis, Matrix displays; Triangulation;
- Ethical issues in Analysis;
- Computers in qualitative data analysis

References:

- Banister, P., Burman, E., Parker, I., Taylor, M., &Tindall, C. (1998).*Qualitative Methods in Psychology: A Research Guide.* Buckingham: Open University Press.
- Bryman, A. (2004). *Social Research Methods* (2 ed.). Oxford: Oxford University Press.
- Denzin, N. K., & Lincoln, Y. S. (1994). Introduction: Entering the field of qualitative research. In N. K. Denzin& Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*. Thousand oaks, Califf:: Sage Publications.

- Denzin, N. K., & Lincoln, Y. S. (2003). Introduction: The discipline and practice of qualitative research. In N.K.Denzin&Y.S.Lincoln (Eds.), *Strategies of Qualitative Inquiry*. Thousand oaks: Sage Publications.
- Frost, N. (2012). Qualitative Research Methods in Psychology: Combining Core Approaches. Middlesex: Open University Press.
- Glaser, B. G., & Strauss, A. L. (1967).*The Discovery of Grounded Theory*. Chicago: Aldine Publishing Company.
- King, G., Keohane, R., &Verba, S. (1994). *Designing Social Iinquiry*. Princeton: Princeton university press.
- Miles, M.B &Huberman, A. M. (1994). Qualitative Data Analysis(2nd Ed). Sage Publications: Thousand Oaks.
- Pidgeon, N., &Henwood, K. L. (1996). Grounded theory: practical implication. In J. T. E. Richardson (Ed.), *Handbook of Qualitative Research Methods For Psychology and Social Sciences.* United Kingdom: The British Psychological Society.
- Silverman, D. (2001). *Interpreting Qualitative Data: Methods for Analysing Talk, Text, and Interaction* (2 ed.). London: Sage Publications.
- Travers, M. (2001).*Qualitative Research Through Case Studies*. London: Sage Publications.

PRACTICALS 205 : Child Assessment and Intervention.

- Assessment of cognitive abilities
- Assessment of personality
- Screening and diagnostic tools
- Intervention strategies

PRACTICALS 206: Project Work.

SOFT CORE PAPER

207: THEORIES OF LEARNING

Learning objective: Learning is essential for adjustment to one's life. Knowledge of principles and theories of learning for a psychologist is essential in bringing about desirable changes in his/her clients. Hence, this paper throws light on application of learning theories in the human context.

Unit 1 – Nature of Learning Theories, Need for a theory, Variables, Laws of learning, Problems and issues, determinants of learning, applications of learning research.

Unit 2 – S-R Theories: Pavlov, Guthrie, Thorndike, Harlow, Skinner, Current status of research and applications.

Unit 3 – Drive Reduction Theories: Hull, Mowrer, Spence, Miller. Current status of research and applications.

Unit 4 –Cognitive Theories: Tolman, Gestalt theories- Kohler, Koffka, Current status of research and applications.

Unit 5– Learning in the educational context- learning styles, academic achievement, determinants of academic performance.

References:

- Contemporary Theories of Learning- Learning theorists … in their own words Edited by KnudIlleris, routledge
- Accelerated learning handbook Dave Meier 2000McGrawHill
- Introduction to theories of learning Sahakian
- Theories of learning Herganhan 9th Edition PearsonPrentice Hall
- Theories of learning Hilgard and Bower 5th Edition
- Educational Psychology books.

M.Sc -III SEMESTER

301: ORGANIZATIONAL BEHAVIOUR I - A MICRO PERSPECTIVE

Learning objective: Organisational behaviour is one of the branches of psychology with an objective of understanding people at work place. The factors related to individual differences like perception, learning, personality, motivation, etc., would contribute to satisfaction and effectiveness at both individual and organisational level. The dynamics of these factors are introduced to the students through this paper.

UNIT – 1: INTRODUCTION TO ORGANIZATIONALBEHAVIOUR

- Nature of organizational behaviour, importance and fundamental assumptions. Historical background, OB to Globalization and Diversity. OB to Technology. OB to people's Changing Expectations.
- Organizational Justice: Nature and Strategies. Ethical Behaviour in Organizations: Nature, Meaning. Individual Differences in Cognitive Moral Development, Situational Determinants of Unethical Behaviour, corporate ethics programmes. Beyond Ethics: corporate Social Responsibility.

UNIT – 2: PERCEPTION AND LEARNING:

- Social Perception and Social Identity. Attribution Process. Perceptual Biases: Systematic Errors, Stereotyping. Perceiving others: Organizational Applications- Performance appraisal.
- Learning: Operational Conditioning- Learning through Rewards and Punishments. Training-varieties of training, principles of learning. Orgnizational behaviour Management.

UNIT –3: INDIVIDUAL DIFFERENCES: PERSONALITY, SKILLS AND ABILITIES, STRESS

- PERSONALITY: Nature and Measurement. Big Five dimension. Work related aspects of Personality- Achievement motivation.
- ABILITIES AND SKILLS: Intelligence, physical abilities, social skills.
- STRESS: Nature, Stressors in organizations, Cognitive appraisal, Bodily responses. Causes and Effects of stress. Reducing Stress.

UNIT – 4: WORK - RELATED ATTITUDES: PREJUDICE, JOB SATISFACTION AND ORGANIZATIONAL COMMITMENT

- ATTITUDES: Nature and Definitions, essential components.
- PREJUDICE AND DISCRIMINATION: Meaning Stereotypes, strategies to overcome workplace prejudice.
- JOB SATISFACTION: Nature and Theories. Consequences of Job Satisfaction, Reduction of job dissatisfaction.

- ORGANIZATIONAL COMMITMENT: Attitude towards Companies, varieties of organizational commitment.

UNIT – 5: MOTIVATION IN ORGANIZATIONS

- Nature, Components, motivates by enhancing fit with an organization. Motivating by setting Goals, by Equitable, by Altering Expectations, by structuring jobs.

- Personality and values: values and ethical behaviour at work place
- Emotions and moods

References:

- Jerald Greenberg: Behaviour in Organisations. 10th ed. PHI Learning Pvt Ltd. ND 2012

- Jerald Greenberg and Robert A. Baron: Behaviour in Organisations. 9th ed. PHI Learning Pvt Ltd. ND 2009

- Fred Luthans: Organisational Behaviour. 12th ed. McGraw-Hill International ed.

- Stephen P. Robbins: Organisational Behaviour: Concepts, Controversies, Applications.PHI

302: PSYCHOPATHOLOGY

LEARNING OBJECTIVE: This paper aims to give a broad idea of the field of clinical psychology and to familiarize the student with the psychopathological aspects of human behavior.

Unit 1: Introduction. Definition, historical review.Changing attitudes and concepts of mental health and illness.Current views.Models for understanding psychopathology.Psychoanalytical, behavioral, interpersonal and humanistic. Need for and types of classification of mental disorders. DSM and ICD systems of classification.

Unit 2: Anxiety and stress related disorders: Causes, types and clinical features of anxiety disorders. GAD, panic, phobic disorders. Obsessive compulsive disorders.
Stress related disorders. Causes, types and clinical features of acute and PTSD.

Unit 3. Mood and schizophrenic disorders.Causes, types and clinical features of mood disorders (manic, depressive, bipolar mood disorders).Causes, types and clinical features of schizophrenia, Delusional disorders.

Unit 4: Somatoform and dissociative disorders. Causes, types and clinical features of somatisation disorder, hypochondriac disorders.
Personality disorders, Causes, types and clinical features of paranoid, schizoid personality, antisocial.

Unit 5: Substance abuse - Causes, types and clinical features of alcohol and substance abuse.
Brain impairment.Dementia, Amnestic syndromes.Pervasive developmental disorders.Causes, types and clinical features of mental retardation and Autism.

References:

- Carson, R. C. Pincka, S., & Butcher, I N. (1999). Abnormal Psychology and Modern Life. 11thed. New York: Addison Wesley Longman Inc
- Comer., R. J. (1999). Abnormal Psychology. New Jersey: W. H. Freeman Co.
- Davison, G. C. & Neale, J. M. (1998). Abnormal Psychology, 7th ed. New York: John Wiley & Sons.

303: PSYCHOLOGICAL THERAPIES

LEARNING OBJECTIVE: This paper aims at providing adequate information regarding the psycho therapeutic techniques for enhancing the psychological well-being of individuals.

Unit 1. Introduction to interventions.Definition of psychotherapy.Goals of intervention.Professional issues- training, ethical issues, personal characteristics of therapists, future of therapy.
B:Psychotherapy in India. Development and current status.Yoga and Buddhistic traditions in therapy.

Unit 2. Psychoanalytical therapies, Brief dynamic therapies, Indications and evaluation.
B: Neo Freudian approach, Ego analytical therapies. Current status and evaluation.

Unit 3. Humanistic approaches- Rogerian and Gestalt therapy
B: Group approaches. Nature of group therapy.Utility evaluation.Family therapy, general types, need and application.

Unit 4. Behavior therapy.A:Techniques based on Classical , operant and modeling theories. B: Cognitive behavior therapy. Therapy based on work of Ellis, Beck and Meichenbaum.

Unit 5. Community based intervention. Difference between therapeutic and community health models. Concepts of Prevention, Crisis Intervention and Rehabilitation.
B: Special issues- Intervention in Mental retardation, Learning disability, Autism, school problems of children.

References:

- Aveline. M. & Shapiro. D.A. (1995) Eds, Research for psychotherapy practice. Wiley.
- Bellack, A.S., Hersen M. &Kazdin, A.E. (1983). International handbook of behavioural modification and therapy. New York: Plenum Press.
- Bergin, A.E. & Garfield, S.L. (1994). Eds. Handbook of psychotherapy &behavioural change. 4ed. NY: Wiley.
- Jones, C. C. (1993). Family Systems therapy: Wiley.
- Lane, D & Miller, A (1992). Eds. Child & Adolescent therapy. A handbook. Milton Keynes Open Uni. Press.
- Norcross. J.C (1980). Handbook of psychotherapy integration (Ed.) New York: Basis books
- Spiegler.M.D. (1997). Contemporary Behaviour Therapy. New Delhi, Sage Publications.
- Srinivasa Murthy & Barbara. J. Buras. (1992). Eds. Community mental health-proceedings of the Indo-US symposium. Bangalore: NIMHANS
- Steven Jay Lynn & John P, G. (1985). Contemporary psychotherapeutic models and methods, Ohio, Charles E. Merritt.

- Wolberg. L.R. (1989). The technique of psychotherapy. Vol. I & II. London. Warburg and Heinemann.

PRACTICALS 305: Clinical assessment and intervention.

- Assessment of cognitive abilities
- Assessment of personality
- Screening and diagnostic tools
- Intervention strategies

PRACTICALS 306: Assessment and intervention in organisations.

- Assessment of cognitive abilities
- Assessment of personality
- Screening
- Job analysis, case studies, management games

OPEN ELECTIVE

304: FOUNDATIONS AND APPLICATION OF PSYCHOLOGY.

Learning objective: Psychology is one of the popular subjects having wide range of applications. However, myths and misconceptions related to individual differences are common that need to be addressed. The objective of the paper is to alleviate these and also towards application of psychological principles in understanding and enhancing self efficacy.

1. An Introduction to Psychology: Meaning, Branches of Psychology; Myths and Misconceptions of Psychology; Role of a Psychologist.

2. Psychology applied to the Social World: Interpersonal Communication- Non-verbal communication, effective communication, developing an assertive communication style; the problem of prejudice, forming impressions about others; the impact of Social Pressure.

3. Psychology applied to Education: Learning- Principles of Learning and Memory; Types of learning and Memory; Techniques to enhance learning and memory.

4. Psychology applied to the field of Work and Health: Facing an Interview; Choosing the right person to the right job, Occupational Stress- Coping; Health issues related to stress, Work-life Balance.

References:

- WeyneWeiten and Margaret A.Lloyd, "Psychology Applied to Modern Life-Adjustment in the 21st Century". 7th Edition, Thomson Wadsworth.
- Robert.S.Feldman, "Understanding Psychology",6th edition.
- Atkinson and Atkinson, "Introduction to Psychology".

M.Sc - IV SEMESTER

401: ORGANIZATIONAL BEHAVIOUR II - A MACRO PERSPECTIVE

Learning objective: The paper emphasises on understanding the interpersonal dynamics at the workplace contributing to organisational performance and effectiveness.

UNIT – 1: COMMUNICATION IN ORGANIZATION

- Nature of communication. Process, Purpose and levels of organizational communication. Verbal and non-verbal communication,
- Computer mediated communication, formal and informal communication. Individual differences in communication.
- Improving communication.

UNIT – 2: Decision Making

- Meaning and Model of Decision-making process, Organizational decisions, factors affecting Decisions in organizations.
- Individual decisions – imperfect nature of individual decisions.
- Group decisions: techniques for improving effectiveness of decisions.

UNIT – 3: LEADERSHIP

- Nature and characteristics. Trait approach, Leadership behaviour.
- Contingency theories- LPC theory, situational and path-goal theory.
- Leadership development.

UNIT – 4: ORGANIZATIONAL CULTURE

- Nature and characteristics. Creating, Transmitting and changing organizational culture.

UNIT –5: ORGANIZATIONAL STRUCTURE AND DESIGN

- Basics dimensions. Departmentalization, organizational designs. Inter-organizational designs.
- Understanding work teams groups and teams, types of teams, team building, high performance teams importance of interpersonal skills
- Organizational Change and Development
- Organizational Effectiveness

References:

- Jerald Greenberg: Behaviour in Organisations. 10th ed. PHI Learning Pvt Ltd. ND 2012
- Jerald Greenberg and Robert A. Baron: Behaviour in Organisations. 9th ed. PHI Learning Pvt Ltd. ND 2009
- Fred Luthans: Organisational Behaviour. 12th ed. McGraw-Hill International ed.

- Stephen P. Robbins: Organisational Behaviour: Concepts, Controversies, Applications.PHI

402: SOCIAL AND COMMUNITY PSYCHOLOGY

Learning Objective: This course enables students to understand the concepts and theories of social behavior and think more about social phenomenon. The students learn about social systems and individual well-being in the community contexts. This also helps the students to learn more about Indian community behavior.

Unit 1

a) Social Psychology: Introduction to social psychology; Process of socialization; Group influence; Group dynamics; Social perception; Attitudes
b) Community Psychology: Introduction to community psychology; factors underlying emergence of Community psychology, Principles of Community psychology. Concept of prevention. Theory and research in Community psychology - ecology, epidemiology, general systems theory, evaluation research.
c) Social behavior in communities: Socialization processes, Internalization of social norms and values, Role of institutions (ascriptive institutions such as Family, Caste, Class and Religion; role based institutions such as School, political parties and market mechanisms) in reinforcing societal values.

Unit 2

a) Aggression: Theories of aggression; Types of aggression; Consequences of aggression; Controlling aggression
b) Violence: Theoretical models for understanding violence; Categories of violence; self-directed violence (Suicide); domestic violence, sexual violence, collective violence
c) Aggression and violence in India: Extent, Variation across social groups and communities.
d) Psychological interventions for aggression and violence.

Unit 3

a) Crime: Theories of criminal behavior; Prevention of crime, rehabilitation of criminals, role of psychologists; Juvenile delinquents
b) Problem of alcoholism, Definition, types, theories of alcoholism, effects, methods of treatment, prevention and rehabilitation.
c) Gender: Difference between sex and gender, gendered patterns of institutions

d) Emerging challenges: Trans-gender issues, prostitution, same-sex marriage,

Unit 4

a) Unemployment: Problem of unemployment; defining unemployment, causes and types, effects of unemployment, role of psychologists in solving the problem
b) Poverty and deprivation: - definition, types, causes; Measuring poverty: Absolute and relative poverty, human development index; psychological studies of effects of poverty, Social exclusion, Culture of poverty; poverty alleviation programmes

Unit 5

a) Social Change: Definition and dynamics of social change; role of social movements in bringing changes; Mob and community behavior in response to social problems
b) Law and Psychology: Socio-psychological origins of law; Access to justice through psychological interventions; Human rights

References:

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403: REHABILITATION PSYCHOLOGY

Learning objective: Disability sector is one of the areas that has been especially overlooked by social scientists. Professional issues regarding understanding the disabled, its causes, concerns, management and intervention need a scientific approach. The present paper aims at providing the same.

Unit I- Nature and Scope of Rehabilitation psychology

- Definition, historical perspective, scope and methods, Functions of Rehabilitation Psychology: General functions and special functions, History and Philosophy of Disability Rehabilitation
- Goals and objectives of rehabilitation, Multi-disciplinary approach to rehabilitation: Biological, medical, psychological, educational and social aspects.

Unit II -Disabilities

- Disability - Concept and definitions, Classification of various disabilities, Incidence and prevalence
- Types of disabilities: Visual impairment, Hearing and speech impairment, Locomotor disability,
- Mental retardation, Cerebral palsy, Autism , Mental illness Learning disabilities, Multiple handicaps
- Etiological factors; pre-natal, natal and post-natal, chromosomal aberrations and genetic errors
- Prevention of disabilities

Unit III- Personality Development of Disabled Persons and intervention

- Factors influencing personality development of disabled individuals, Life span development of people with disabilities, Assessment of personality of disabled individuals, Screening and early identification of people with developmental disabilities. Social, Psychological Perspective in Rehabilitation Psychology.
- Early intervention: definition, assessment and strategies for intervention. Intervention packages for various disabilities. Services and programmes for disabled individuals and their families
- in India
- Special education: – aims, objectives and functions, Emerging trends in special education. Educational assessment and evaluation for persons with disabilities, Educational technology for disabled

Unit IV - Psychological Intervention

- Planning Intervention: Psychoanalytic Approach, Learning Theories and Strategies, Planning and Designing, Learning Situations, Counselling Strategies.Therapeutic services and Restorative techniques. Designing Training Programmes for Professionals: Training Need
- Analysis, Implementation of Training Programmes Monitory and Impact Studies.

Unit V - Organization & Management
Evolution of Non-Government Organizations Background Characteristics of Organization Capacity Building of Non-Government Organizations

References:

- Diverse Populations, Volume 9. Elsevier Science, Pergamon.
- Alan Hilton &RavicRinglaben, 1998. Best and Promising Practices in
- Developmental Disabilities. Pro-Ed, Texas.
- Ali Baquer& Anjali Sharma, 1997. Disability: Challenges Vs Responses.
- Concerned Action Now, New Delhi.
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404: POSITIVE PSYCHOLOGY

Learning Objective: The course enables the students to look at the strength-based part of psychology. The paper helps the students to explore what makes people happy. The overall focus of the course is to equip students to enhance subjective well-being. The course also equips students to be familiar with research that supports the concepts and application of positive psychology, especially in the Indian context.

Unit 1- Positive Psychology: An Introduction;

- The role of positive emotions in Positive psychology: The Broaden and Build Theory of Positive Emotions;
- Basic areas of Positive psychology;
- Western and Eastern views on Positive psychology and its application; Positive Psychology in India;
- Research approaches to study positive psychology

Unit 2 - Happiness and well-being:

- Defining happiness; Determinants of happiness; Gender difference in happiness; Love and happiness; Antecedents and Consequences of Happiness. Measuring happiness.
- Happiness across Cultures;
- Happiness and well-being in Indian culture.

Unit 3 -Positive relationships and well-being:

Meaningful relationships; Love and belongingness; Love and kindness; gratitude, forgiveness and altruism

Unit 4

- Religion, Spirituality and Well-being: Role of religion and spirituality to maintain subjective well-being; A special focus to Indian spirituality and well-being.
- Character strengths and virtues: Classification of strength; Positive psychology approaches to virtues; Virtues and work. Virtues in the Indian culture

Unit 5

- Resilience, Trauma and Subjective well-being:
- Resiliency applications; Resiliency skills; Resiliency factors; Positive parenting and resiliency factors. Resilience in Indian culture.
- Future trends in Positive psychology.

References:

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- Myers, D. G. (1999). Close relationships and quality of life. In D. Kahneman, E. Diener& N. Schwarz (Eds.), *Well-Being: The foundations of Hedonic Psychology* (pp. 374-391). New York: Russell Sage Foundation.
- Seligman, M (1990). Learned Optimism.
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- *and enduring personal joy*. New York: Avon.

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PRACTICALS 405:ALTERNATIVE HEALING TECHNIQUES.
Meditation
Acupressure
Acupuncture
Indigenous relaxation techniques

PRACTICALS 406: DISSERTATION