

B. Com (General)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	I	Business Economics	CBBE101	2015-16

SYLLABUS

Unit-I-Introduction

Meaning and Definitions of Business Economics-Nature and scope of Business Economics- Micro and Macro Economics differences- Cardinal Utility & Ordinal Utility.

Unit-II-Demand Analysis

Meaning and Definition of Demand- Determinants of Demand—Demand function—Law of demand-Demand Curve-Exceptions.

Unit-III- Elasticity of Demand

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand Measurements of Price elasticity of demand– Total outlay Method–Point Method–Arc Method.

Unit-IV-Cost and Revenue Analysis

Classification of Costs –Total- Average–Marginal and Cost function–Long-run–Short-run.

Unit-V-Break-Even Analysis

Type of Costs–Fixed Cost–Semi-variable Cost–Variable Cost–Cost behavior-Break even Analysis uses and limitations.

Reference Books

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics-Kalyani Publications.
3. Business Economics–HimalayaPublishingHouse.
4. Aryasri and MurthyBusiness Economics, Tata McGraw Hill.
5. Business Economics, Maruthi Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	I	Business Organisation	CBBO101	2015-16

SYLLABUS

Unit-I Introduction

Concepts of business, Trade, Industry and Commerce- Business –Features of Business-Trade-Classification – Aids to Trade- Industry- Classification- Relationship of Trade, Industry and Commerce.

Unit –II Business Factions & Entrepreneurship

Functions of Business-Factors Influencing the Choice of Suitable form of organization-
Meaning of Entrepreneurship- Types – Functions of Entrepreneurship.

Unity-III Forms of Organisation

Sole Proprietorship- Meaning- characteristics –Advantages and Disadvantages- Partnership-
Meaning- Characteristics- Kinds of Partners- Advantages and Disadvantages- Partnership
Deed –Hindu Undivided Family.

Unit-IV Company

Company-Meaning-Characteristics- Advantages –Kinds of Companies – Differences between
Private Ltd. and Public Ltd. Companies.

Unit –V Company Incorporation

Preparation of Important Documents for Incorporation of Company- Memorandum of
Association- Articles of Association- Differences Between Memorandum of Association and
Articles of Association Contents of Prospectus- Statement in Lieu of Prospectus

References:

1. Chottorjee S.K. Business Organisation
2. JagdishPrakash Business Organistaton and Management
3. Om Prakash Business Organisation

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	I	Fundamentals of Accounting	CBFOA101	2015-16

SYLLABUS

Unit-I –18hrs

Introduction to Accounting Need for Accounting – Definition – Objectives, Advantages –
Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle -
Classification of Accounts and its rules - Double Entry Book-keeping - Journalization -
Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II: 18hrs

Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty
cash Book (Problems).

Unit-III: 18hrs

Trail Balance and Rectification of Errors: Preparation of Trail balance - Errors – Meaning –
Types of Errors – Rectification of Errors (Problems)

Unit-IV-18hrs

Bank Reconciliation Statement: Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavourable balances.

Unit -V: 18hrs

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

References: 1. T.S.Reddy& A. Murthy, Financial Accounting ,Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers 4.Tulasian, Accountancy -I, Tata McGraw Hill Co. 5. V.K.Goyal, Financial Accounting, Excel Books 6. K. Arunjyothi, Fundamentals of Accounting; Maruthi Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	II	Business Economics-II	CBBE201	2016-17

SYLLABUS**Unit-I: Production and Costs**

Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production -Economies and Dis-economies of Scale -Costs of Production –Cobb-Douglas Production Function.

Unit-II: Market Structure-I

Concept of Market -Market structure -Characteristics -Perfect competition -characteristics equilibrium price -profit maximizing output in the short and long run , Monopoly-characteristics -Profit maximizing out-put in the short and long run -Defects of Monopoly – Distinction between Perfect competition and Monopoly.

Unit-III Market Structure-II

Monopolistic Competition -Characteristics -Product differentiation -Profit maximization - Price and output in the short and long -run –Oligopoly -characteristics -Price rigidity –Kinked Demand Curve -Distribution -Concepts -Marginal Productivity -Theory of Distribution.

Unit-IV National Income and Economic Systems

National Income -Definition Measurement -GDP -Meaning Fiscal deficit -Economic systems -Socialism -Mixed Economic System -Free Market economy.

Unit-V Structural Reforms

Concepts of Economic liberalization, Privatization, Globalization -WTO Objectives Agreements -Functions -Trade cycles -Meaning -Phases -Benefits of International Trade - Balance of Trade and Balance of payments.

Reference Books:

1. Aryasri and Murthy, Business Economics, Tata McGraw Hill
2. H.L Ahuja, Business Economics, Sultan Chand & Sons
3. KPM Sundaram, Micro Economics
4. Mankiw, Principles of Economics, Cengage Publications
5. Mithani, Fundamentals of Business Economics, Himalaya Publishing House
6. DAR Subrahmanyam&VHariLeela, A Text Book on Business Economics,

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	II	Principles of Management	CBPM201	2016-17

Unit-I:

Meaning of Management and its importance-Roles and Responsibility of 3 levels of Management. And their importance-Functions of management and its importance Challenges of Management and how to solve a case study.

UNIT- II

Planning Concept, process and principles-Planning significance techniques and problems

Unit-III:

Organizing Concept Process and principles, techniques-Types of organization-Formal and Informal Organizational design- Departmentation Types, advantage and disadvantage Span of control-Delegation of authority and responsibility, decentralization vs centralization, Line and staff

Unit-IV:

Staffing meaning, process and importance-Leading meaning, leadership styles and skills-Motivating meaning, importance of motivation and theories- Communication: Meaning importance process problems and importance, Barriers.

Unit-V:

Controlling; Meaning, importance, Control techniques.

References:

- 1.Koontz, H and Wihrich.H, Management,McGraw, New York.
- 2.Stoner, J.etc.,Management, Pearson Education.
- 3.MaitalSeshadri, Innovation Management, Sage Publications.
- 4.Stonner, Freeman, Gilbert, Management, Prentice Hall of India.
- 5.Stephen P. Robbins, Management,Pearson Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	II	Fundamentals of Accounting - II	CBFOA201	2016-17

SYLLABUS:

UNIT I : FINAL ACCOUNTS

Introduction-manufacturing account-trading account-balance sheet

UNIT-II :Consignment :

Consignment– Features, Terms used- Proforma invoice – Account sale – Delcredere commission – Accounting treatment in the books of the consignor and the consignee – Valuation of consignment stock – Normal and abnormal Loss – Invoice of goods at a price higher than the cost price.

UNIT – III: Joint ventures - features-difference between joint venture and consignment, Accounting Procedure – Methods of keeping records for Joint venture accounts-method of recording in co ventures books-separate set of books method.

UNIT-IV: Depreciation

Depreciation-Causes-objects of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of providing depreciation – Straight line method – Diminishing Balance Method.

UNIT-V : – Provisions and Reserves :

Provisions and Reserves – Reserve Fund – Different Types of Provisions and Reserves.

REFERENCE BOOKS :

1. Statistical Methods -- Gupta, S.C
2. Quantitative Techniques-I -- Chikkodi, Obul Reddy, Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	III	Advanced Accounting - I	CBAA301	2016-17

SYLLABUS:

UNIT – I (Accounts from Incomplete Records Hire Purchase and Installment Purchase system) :

Single Entry Features – Journal and Ledger – Recording of transactions – Ascertainment of Profit (Statement of Affairs method)

UNIT – II : Hire purchase system Features – Accounting treatment in the Books of Hire Purchases and Hire Vendor – Default and Repossession – Installment purchase system

UNIT – III : (Branch and Departmental Accounts) :

Features – Books of Accounts – method of Accounting – Debtors system stock and debtors system only.

UNIT – IV :Departmental Accounts : Need, Features, Basis for Allocation of Expenses, treatment of Inter – Departmental Transfer at cost or setting Price – Preparation of Departmental Profit and loss.

UNIT – V : Accounting of Non-Profit organizations – Non-Profit entities – Features of Non- Profit entities – Accounting Process- Preparation of summaries Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations.

REFERENCES:

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. SubbaRayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
IB.COM (GENERAL)	III	Banking & Financial Services	CBBFS301	2016-17

SYLLABUS:

UNIT – I

INTRODUCTION TO FINANCIAL SERVICES : Meaning Of Financial services, structure of Indian Financial system, importance of financial system for the Economic development Definition of Bank, functions of commercial banks and reserve bank of India.

UNIT – II

BANKING SYSTEMS AND ITS REGULATION

Banking Systems – Branch banking, unit banking, group banking, Mixed banking, Investment banking.

UNIT – III

Banking sector reforms classification of assets and NPA's

UNIT – IV

INNOVATIONS IN BANKING:-

ATM's, E-Banking, credit cards on line & off shore banking etc .

UNIT V

OTHER BANKING SYSTEMS :

Regional rural banks, co-operative banks , Micro Finance, priority sector lending : Indigenous banking : Role of NABARD and s development

REFERENCES: .

- ❖ Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
- ❖ Banking Theory, Law and Practice : B. Santhanam; Margam Publications
- ❖ Banking and Financial Systems : Aryasri
- ❖ Introduction to Banking : VijayaRaghavan

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	III	Income Tax	CBIT301	2017-18

SYLLABUS:**UNIT – I**

Deductions from gross total income- definition- deductions on certain payments under section 8044A- deductions on certain incomes 80IA to U theory and problems.

UNIT – II

Schedule of rate of tax – methods of taxation – step system- slab system – rebate and relief for arrears of salary- partly agricultural and partly business – agricultural income- definition- types, tests – calculation of tax and integration of agricultural income.

UNIT-III

Assessments of individuals- treatment of income- received form certain other institutions- computations of total income and tax liability- theory and problems

UNIT – IV

Assessment of Hindu undivided family – schools of Hindu Law – Residence of H U F – Assessment of H U F – Income not treated as family income.

UNIT–V

Income tax authorities – Administration of Income tax Act – Powers and duties of I T Authorities . Permanent Account number – procedure for obtain PAN situations where PAN quoted.

REFERENCES:

1. V P Gaur, DB Narang Puja Ghai : Income tax law and practice Kalyani publication.
2. Vinod. K Sighania . Direct taxes taxman publications.
3. Ahuja Gupta : Direct taxes Bharat publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	III	Business Statistics-I	CBBS301	2016-17

SYLLABUS:

Unit – I : Introduction to Statistics

Meaning – definition, importance and limitations of Statistics, collection of data – primary and secondary data – (sampling – Random – Non Random – Census) – schedule and questionnaire – frequency distribution – Tabulation – Diagrammatic and graphic presentation of data using Computer's (excel)

Unit – II : Measures of Central Tendency

Definition, objectives and Characteristics of Measures of central Tendency – Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, percentiles, properties of Averages and their applications. Calculation of average using computers.

Unit : III: Measures of Dispersion and Skewness

Meaning, definition, properties of Dispersion – Range – quartile Deviation – Mean Deviation - Standard Deviation – coefficient of variation – skewness – definition – Karl Pearson's and Bowley's Measures of Skewness – Normal Distribution. Calculation of Dispersion and skewness using computer.

Unit – IV : Measures of Relation

Meaning, definition and uses of correlation – Types of correlation – Karl Pearson's correlation coefficient – Spearman's Rank correlation – Probable error – calculation of correlation by using computers.

Unit – V : Meaning and utility of Regression analysis

Comparison between correlation and Regression – Regression equation – Interpretation of Regression coefficient.

REFERENCES:

- | | |
|-------------------------------------|-------------------------------|
| ❖ Business Statistics | Reddy, C.R Deep Publications. |
| ❖ Statistics Problems and Solutions | Kapoor V.K. |
| ❖ Fundamentals of Statistics | Elhance.D.N |
| ❖ Statistical Methods | Gupta S.P |
| ❖ Statistics | Gupta B.N. |

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	IV	Advanced Accounting – II	CBAA401	2016-17

SYLLABUS

Partnership Accounts :

UNIT – I

Legal provisions in the absence of partnership deed - fixed and fluctuating capitals - preparation of final Accounts - Accounting Treatment of Goodwill and admission of a partner.

UNIT-II

Accounting Treatment of Retirement and Death of a partner.

UNIT – III Dissolution of Firm –Legal rules in GarnetVs Murray case.

UNIT – IV Company Accounts :

Issue of shares at par, premium and at Discount forfeiture and Re- issued of shares – Recording of transactions relating to issue of shares using computers.

UNIT – V Issue and Redemption of Debentures – Redemption out of profits – sinking fund method.

REFERENCES:

1. SP Jain and K L Narang
2. A Mukherjee and M.Hanif
3. V. SubbaRayudu.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	IV	Insurance & Services	CBIS401	2016-17

SYLLABUS

UNIT-1:

Definition of banker and customer and their relationship, types of customer and modes of operations, procedure and precautions for opening an account, passbook and it's features, rights and duties and obligations of the banker.

UNIT-2:

Promissory note, bill of exchange and cheques, difference between them, types of crossing the cheque, payment of cheque and consequences of wrongful dishonor of cheque.

UNIT-3:

Indian money market: characteristics, structure, problems and reforms in Indian money market
Indian capital market: composition and growth of primary and secondary markets, difference between money market and capital market, stock exchange, NSE, OTCEL, SEBI.

UNIT-4

Life insurance: Meaning, definition of insurance, brief history, principles of insurance, characteristics, advantages, procedure for issuing of life insurance policy, issue of duplicate policy, nomination, surrender value, policy loans, assignment, revivals and claim settlement.

Non life insurance: fire insurance, marine insurance, social insurance, vehicle insurance and rural insurance.

UNIT-5

Regulation of insurance in India, insurance act 1938, IRDA 1999.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	IV	Business Statistics - II	CBBS401	2016-17

Unit : I

Meaning, definition and use of correlation – Types of correlation – Karl Pearson's correlation co-efficient – Spearman's Rank correlation – Probable error – Calculation of correlation by using computers.

Unit : II

Meaning and utility of Regression analysis – comparison between correlations and Regression – Regression Equations – Interpretation of Regression co-efficient .

Unit :III

Meaning and utility of time series analysis – components of Time series – Measurement of trend and seasonal variations – utility of Decomposition of time series – Decentralization of Data – Calculation of trend and seasonal variations using computers.

Unit-IV

Meaning, Definition and Importance of Index numbers – Methods of construction of Index numbers .

Unit-V

Price Index numbers – Quantity Index numbers – Tests of adequacy of Index Numbers – Deflating index numbers – cost of living index Numbers – Limitation of Index Numbers.

Reference Books :

1. Kalyanipublishers : K. Raghuvver , S.L. Bharadwaj
2. Technical Series : VarmaAgarwal

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Office Management	CBOFM501	2017-18

Unit-I: Office and Functions:

Features of Modern Office - Layout Planning - Interior, Security of the Office, Knowledge of Stationery Items and Maintenance - Office Manager - Duties and Responsibilities - Scientific Office Management - Work Simplification.

Unit-II: Office Systems:

Office procedures - Guides and Common charts of Office work simplification - Planning for improving office procedures - Forms Design, Design of Forms - Reproduction of Forms - Office Reproduction Services.

Unit-III: Records Storage and Retrieval: Nature of Files and Records - Storage - Purposes of Records Storage and Control - Filing systems, equipment and supplies - Records retention – ICT applications in Office Management.

References:

1. James, A.F. Stoner et. al: Management, Englewood Cliffs, N.J Prentice Hall
2. Mahajan, J.P.: Fundamentals of Office Management, Ane Books Pvt. Ltd.
3. Bhatia, R.C. Principles of Office Management, Lotus Press, New Delhi.
4. Terry, George R: Office Management and Control, R.D. Irwin.
5. Duggal, B: Office Management and Commercial Correspondence, Kitab Mahal.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Cost Accounting	CBCA502	2017-18

SYLLABUS

Unit-1: Introduction : -types of accounting – cost accounting – objectives and functions of cost accounting – cost accounting and financial accounting –comparison- advantages of cost accounting-limitations.

Cost concept and classification:- concept of cost – cost centre and cost unit –methods of costing –techniques of costing -classification of costs –special costs for management decision –making –elements of cost –cost sheet. problems

Unit -2: Elements of cost: – material cost - classification of materials –inventory or material control –ABC technique-methods of pricing material issues problems and solutions – problems on base stock methods ,FIFO method ,LIFO method , weighted average methods only - (Excluding simple average method, material levels and E.O.Q).

UNIT -3 : Labour Cost :- direct and indirect labour –methods of wage payment (labour remuneration)- time rate system –piece rate system –incentive schemes (Halsey plan ,rowan plan & Taylor plan –Problems .

UNIT -4 : Overheads :- meaning and definition , classification of overheads accounting of overheads – allocation and apportionment (primary distribution) apportionment of service department costs (secondary distribution) – problems .

UNIT -5 : Process costing :- meaning- Characteristics of process costing – process costing procedure – process losses and wastage –problems and solutions (Excluding by products and joint products problems).

Standard Costing :- introduction –meaning of standard cost and standard costing –variance analysis –material variances- labour variances .(problems on material variance and labour variance only)

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A text book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S. Chand & Sons.
5. S.N. Maheswari – Principles of Management Accounting.
6. I.M. Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Indirect Taxes	CBIT504	2017-18

Unit 1: Introduction

Basic aspects of Indirect Taxes- Constitutional provisions of Taxation in India – Features of Indirect Taxes – Types or forms of Indirect Taxes – Advantages and Dis-advantages of Indirect Taxes

Unit- II: Customs Act

Customs Act – Nature of customs duty – Different types of duties – bill of entry – customs area – customs station – dutiable goods – exported goods – goods – import manifest – imported goods – importer – Indian customs water – land customs station– Different types of assessments

Unit – III Goods and Service Tax – I

Meaning of GST – Objectives and Challenges of GST – Features and benefits of GST

Unit – IV Goods and Service Tax – II

Taxes included under GST – Models of GST – Applicability of CGST and SGST – Impact of GST – Chargeability of tax under GST

Unit – V Goods and Service Tax – III

Levy and exemption from tax – Levy and collection of CGST and SGST – Composition levy – Taxable person – Power to grant exemptions from GST

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Business Law	CBBL 503	2017-18

SYLLABUS

Unit-I-CONTRACT ACT

Introduction – Definition of Contract-Obligation- Nature of Contract-Essential Elements valid contract-Void and voidable Contracts-Indian Contract Act-1872.

OFFER & ACCEPTANCE

Definition of valid offer, Acceptance and Consideration- Essential elements of a valid-Offer, Acceptance and Consideration–Essential elements of Legality of Object and Consideration.

UNIT-II- CAPACITY OF THE PARTIES AND CONTINGENT CONTRACT

Introduction-Capacity to contract-who are competent to contract-Person not Competent to Contract- Minor-Law relating to Minor

CONTINGENT CONTRACT

Definition-Collateral Events- Characteristics of Contingent Contract- Rules - Rules relating to Breach of Contract.

UNIT-III Sale of GOOD ACT

Introduction-Scope-Goods-Classification of Goods-Contract of Sale- Sales and Agreement to Sell-Sales and Bailment-Caveat Emptor-Implied Conditions and Warranties-Rights of Unpaid Vendor.

Unit-IV CONSUMER PROTECTION ACT

Introduction –Objectives-Rights of Consumers- Definitions-District Forum- Restrictive trade Practice-Unfair Trade Practice-Redressal Machinery under the act- District – State Commission – National Commission -Consumer Protect Councils-Central-State- district-

Unit-V THE INFORMATION TECHNOLOGY ACT 2000 AND CYBER LAW

Introduction- Objectives of the Act-Exceptions-Electronic Governance –Digital Signature-Licence Issue for Digital Signature- -Procedure-Digital signature certificate- Penalties and Adjudication.

REFERENCES:

Legal Aspects of Business – Bhagavathi Pillai

Business Law S.N Maheshwari- Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Corporate Accounting and Accounting for Service Organizations	CBCAAS 505	2017-18

SYLLABUS

Unit I: Company Final accounts

Company final Accounts - Provisions relating to preparation of final Accounts -Profit and Loss A/c and Balance sheet

Unit II: Valuation of shares.

Valuation of shares – Need for valuation – methods of Valuation – Net assets Method, Yield basis Method, Fair value Method

Unit III:Accounts of Insurance Companies.

Life Insurance Companies – preparation of Revenue Account, profit and loss Account, Balance sheet and valuation Balance sheet.

Unit IV: Bank Accounts

Bank Accounts - Books and registers to be maintained by Banks - Slip system of posting - Rebate on Bills discounted - Schedule of advances - Non performing assets - Legal provisions relating to preparation of final Accounts.

UNIT – V : Non-Profit organisations

Accounting of Non-Profit organizations – Non-Profit entities – Features of Non- Profit entities – Accounting Process- Preparation of Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations

Books Suggested :

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Accounting and Auditing Standards	CBAAS 506	2017-18

SYLLABUS

Unit-I: Introduction: Accounting Standards – Objectives – Advantages and Dis-advantages – Procedure for issue of Accounting Standards – Scope – National and International Accounting Standards (list only)

Unit-II: Accounting Standards-I: AS-1: Disclosure of Accounting policies – AS-2: Valuation of inventories –AS-3: Cash flow statement – AS-4: Contingencies in balance sheet –AS-5: Net profit or loss, prior period items and changes – AS-6: Depreciation Accounting – AS-7:Construction Contracts – AS-9: Revenue Recognition – AS 10: Accounting for Fixed assets

Unit-III: Accounting Standards-II: –AS-11: Effects of changes in foreign exchange rates- AS-12: Accounting for government grants – AS-13:Accounting for investments– AS-14: Accounting for Amalgamation –AS-16: Borrowing costs - AS-19: Leases – AS-20: Earning per share - AS-26: Intangible assets – AS-29: Provisions, Contingent liabilities and assets;

Unit-IV: Auditing Standards: Procedure - International Federation of Accountants - Auditing and Assurance Standards Board - Indian Auditing Standards (issued so far) Overview. (List Only)

Unit-V: International Financial Reporting Standards (IFRS): Origin - Procedure – International Accounting Standards Board - Adoption in India.

References:

1. Taxman's Students' Guide to Accounting Standards, D. S. Rawat, Taxman Publications.
2. Compendium of Statements and Standards on Accounting, The Institute of Chartered Accountants of India, New Delhi.
3. British Accounting Standards, Ronal Leach and Edward Stamp, Woodhead Faulkner Ltd, Cambridge.
4. T. P. Ghosh, Accounting Standards and Corporate Accounting Practices, Taxman Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Accounting for Government Entities	CBAGE 507	2017-18

SYLLABUS**Unit-I: General Principles –**

Government Accounting System - Consolidated Fund of India - Comparison with Commercial Accounting system.

Unit-II: Role of Comptroller and Auditor General of India –

Role of Public Accounts Committee, Review of Accounts - Civil and Commercial Entities.

Unit-III: Government Accounting Standards

Issued by Government Accounting Standards- Advisory Board (GASAB) - Adoption and Review.

Unit-IV: Financial Reporting

Financial Reporting in Public Sector Undertakings and Government Companies.

Unit-V: Case Studies:

Railway Accounts - Defense Accounts - CPWD Accounts, etc.

References:

1. Jain, S.P., Narang, K.L., Advanced Accountancy (Vol-1), Kalyani Publishers, Ludhiana.
2. Paul Marcus Fischer, William James Taylor & Rita Hartung Cheng, Advanced Accounting, Cengage Learning, USA.
3. K.K. Bhardwaj, Public Accounting and Auditing (office of the Comptroller and Auditor General of India), Mittal Publications, New Delhi.
4. Mortimer A. Dittenhofer, Applying Government Accounting Principles, LexisNexis.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Event Management	CBEM 601	2017-18

SYLLABUS:

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events – Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets – Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

REFERENCES:

- ❖ Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga
- ❖ Sagar Singh - Har-and Publications Pvt. Ltd.
- ❖ Event Management by Swarup K. Goyal - Adhyayan Publisher.
- ❖ Event Management & Public Relations by Savita Mohan - Enkay Publishing House
- ❖ Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
- ❖ Special Event Production - Doug Matthews.
- ❖ Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Marketing	CBMR 604	2017-18

SYLLABUS

Unit-I: Introduction: Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 sof Marketing – Marketing Environment.

Unit-II: Consumer Markets and Buyer Behaviour: Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – antages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling and the their relative merits demertis.

Unit-IV: Pricing Decision:

Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing - Global marketing.

References:

- ❖ Philip Kotler, Marketing Management, Prentice Hall of India.
- ❖ Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
- ❖ Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
- ❖ V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Auditing	CBAU 605	2017-18

SYLLABUS

Unit-I: Auditing: Origin - Meaning – Objectives – Importance of Auditing – Advantages of Auditing - Disadvantages of auditing. **(15 HOURS)**

Unit-II: Types of Audit: Continuous audit – Final audit – Periodical Audit – Balance sheet audit – Interim audit – Management audit - **(15 HOURS)**

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control. **(15 HOURS)**

Unit-IV: Vouching and Verification : Vouching of cash and trading transactions – Verification of assets -

Valuation Vs Verification **(15 HOURS)**

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and

Reappointment – Removal - Rights, duties, liabilities and disqualifications - Audit report: Contents

(15 HOURS)

References:

- S. Vengadamani, “Practical Auditing”, Margham Publications, Chennai.
- Ghatalia, “Principles of Auditing”, Allied Publishers Pvt. Ltd., New Delhi.
- Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, “Auditing Theory and Practice”, Kalyani Publications, Ludhiana.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Management Accounting	CBMA 602	2017-18

SYLLABUS

Unit-I: Management Accounting:

Interface with Financial Accounting and Cost Accounting- Financial Statement analysis and interpretation: Comparative analysis- Common size analysis and trend analysis (including problems).

Unit-II: Ratio Analysis: Classification, Importance and limitations- analysis and interpretation of Accounting ratios- Liquidity, profitability, activity and solvency ratios (including problems).

Unit-III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit-IV: Cash Flow Statement: Concept of cash flow- Preparation of cash flow statement- Uses and limitations of cash flow analysis (including problems).

Unit-V: Marginal costing : Calculation of Break-even point- Uses and limitations- Margin of safety- calculation of P.V. Ratio (including Problems).

References:

- S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing, .
- I.M. Pandey, "Management Accounting", Vikas Publishing House, New Delhi,
- Shashi K. Gupta & R.K. Sharma, "Management Accounting: Principles and Practice", Kalyani Publishers, Ludhiana.
- Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Commercial Geography	CBCG 603	2017-18

SYLLABUS

Unit - I: THE EARTH:

Internal structure of the Earth- Latitude- Longitude- Realms of the Earth- Evolution of the Earth- Environmental pollution- Global Warming- Measures to be taken to protect the Earth

Unit - II: INDIA- AGRICULTURE:

Land Use- Soils- Major crops- Food and Non-food Crops - Importance of Agriculture- Problems in Agriculture- Agriculture Development

Unit - III: INDIA- FORESTRY:

Forests- Status of Forests in Andhra Pradesh- Forest (Conservation) Act, 1980- Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance- Need for protection of Forestry.

Unit - IV: INDIA- MINERALS AND MINING:

Minerals- Renewable and Non-Renewable- Use of Minerals- Mines- Coal, Barites etc.- Singareni Coal mines and Mangampeta Barites- District-wise Profile.

Unit -V:INDIA–WATERRESOURCES–RIVERS:

Waterresources-Rationalityand equitableuse of water – Protectionmeasures- Rivers- Perennialand peninsularRivers–Inter-linkingofRivers- ExperienceofIndiaand AndhraPradesh.

References:

- ❖ Shabiar Ahmad;Quazi,NaturalResourceConsumptionand Environment Management, APHPublishingCorporation.
- ❖ Tarachand, Economicand CommercialGeographyofIndia,VikasPublishingHouse.
- ❖ Dr.S.Sankaran,CommercialGeography,MargamPublications,Chennai.
- ❖ C.B.Memoria, CommercialGeography,LalAgarwal&Co.
- ❖ C.B.Memoria, EconomicandCommercialGeography,LalAgarwal&Co.
- ❖ VinodN.Patel,CommercialGeography,OxfordBookCompany

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Financial Reporting	CBFR 606	2017-18

SYLLABUS

Unit-1:Financial Reporting-Meaning-conceptual frame work- Evaluation –objectives – functions - financial reporting process - character sties of financial statements – global initiative in Financial reporting.

Unit-2:Consolidated Financial Statements: (Holding companies) Purposes of consolidated financial statements –Consolidation procedures – Minority interests - goodwill, Treatment of pre-acquisition and post acquisition profits. (Simple problems)

Unit -3:Companies Act 2013 – Reporting requirements - National Finical Reporting Authority(NFRA).

Unit -4: Companies Act 2013 : Board of directors - director’s report – Business Responsibility Report – corporate governance reporting – corporate social reasonability reporting .

Unit -5: Developments in financial reporting : value added statements – advantages and limitations -Economic added\ share holders value added –uses –market value added – benefits and limitations – market value added vs economic value added .(simple problems and theory)

REFERENCES:

- P.C .Tulsian&bharatTulsian ,Financial reporting , S.chand , New Delhi.
- RSN Pillai ,Bhagirathi &S.Uma , Fundamentals of Advanced Accounting ,Vol.1 , S. chand , New Delhi.
- S.K.Gupta ,Financial Analysis and Reporting ,Kalyani Publishers, Ludhiana.
- Maheswari S N., maheswari S K ., Corporate Accounting , Vikas Publishing house Pvt .Ltd.,

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	VI	Emerging areas in Accounting	CBEAA 607	2017-18

SYLLABUS

Unit-I: General Principles –

Government Accounting System - Consolidated Fund of India - Comparison with Commercial Accounting system.

Unit-II: Social Accounting: Rationale for Social Accounting - Qualitative and quantitative social accounting disclosures - Evaluation of social accounting reports.

Unit-III: Inflation Accounting: Historical Cost basis of Financial statements – Limitations – Evolution of Inflation accounting - Constant-rupee accounting - International standard for hyperinflationary accounting (including problems)

Unit-IV: Environmental Accounting: Qualitative and quantitative Environmental accounting disclosures - Evaluation of Environmental accounting reports - Green Accounting - Concept and implementation.

Unit-V: Special Areas in Accounting: Intrinsic Value Accounting – Resource Consumption Accounting – Forensic Accounting – Fund Accounting – Hedge Accounting.

References:

- Gupta R. L. – Advanced Financial Accounting – S. Chand & Sons
- Shukla and Grewal: Advanced Accounts, S. Chand & Ltd. New Delhi.
- Jain and Narang: Advanced Accounts, Kalyani Publishers, Ludhiana.
- Gupta, Shashi K. & Sharma, R.K., Management Accounting: Principles and Practice, Kalyani Publishers, Ludhiana.
- L. S. Porwal : Accounting Theory, Tata McGraw Hill
- S. N. Maheshwari : Corporate Accounting, Vikas Publishing House Pvt. Lit. New Delhi.
- Ashok Sehgal & Dr. Deepak Sehgal: Advanced Accounting, Taxmen, New Delhi.

B.Com (Computers)

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	I	Principals of Economics	CBPE101	2015-16

SYLLABUS**Unit-I-Introduction****15 Hrs**

Meaning and Definitions of Business Economics-Nature and scope of Business Economics-Micro and Macro Economics differences- Cardinal Utility & Ordinal Utility.

Unit-II-Demand Analysis**15 Hrs**

Meaning and Definition of Demand- Determinants of Demand—Demand function—Law of demand-Demand Curve-Exceptions.

Unit-III- Elasticity of Demand**15Hrs**

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand Measurements of Price elasticity of demand– Total outlay Meant Method– Arc Method.

Unit-IV-Cost and Revenue Analysis**15 Hrs**

Classification of Costs –Total- Average–Marginal and Cost function–Long-run–Short-run.

Unit-V-Break-Even Analysis**15 Hrs**

Type of Costs–Fixed Cost–Semi-variable Cost–Variable Cost–Cost behavior-Break even Analysis uses and limitations.

Reference Books

1. S. Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics-Kalyani Publications.
3. Business Economics–Himalaya Publishing House.
4. Aryasri and Murthy Business Economics, Tata McGraw Hill.
5. Business Economics, Maruthi Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	I	Quantitative Techniques – I	CBQT101	2015-16

SYLLABUS**Unit – I****15 Hrs**

Meaning – definition – functions – importance – limitations and distrust of Statistics–collection of data – primary and secondary data - direct personal Investigation – indirect personal investigation – information through correspondents, questionnaire method and schedule method.

Unit – II**10 Hrs**

Collection of data – types of classification – frequency distribution – tabulation of data objects – characteristics and preparation of the table-graphic representation of data-frequency graphs-simple, multiple, percentage bar, pie diagram, histograms, frequency polygons-frequency and give curves.

Unit – III**15Hrs**

Definition, objectives, and characteristics of mathematical measures-Arithmetic Mean Geometric Mean and Harmonic Mean-individuals series, discrete series and continuous series.

Unit-IV**15Hrs**

Definition, objectives and characteristics of positional measures-Median-Quartiles, defiles, percentiles and mode-individual series, discrete series and continuous series.

Unit – V**20Hrs**

Meaning-types of matrices-square matrix-rectangular matrix-row matrix-column matrix-non-singular matrix-scalar matrix-diagonal matrix-unit matrix and null matrix-transpose of matrix-symmetric and skew symmetric matrices. Matrix operations-algebra-addition, subtraction and multiplication of matrices-Inverse matrix-determinants-minors and co-factors-solutions of simultaneous equation by inverse method.

1. Statistics Methods: Gupta, S.C
2. Quantitative Techniques – I 1. Chikkodi 2. Obul Reddy 3. Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	I	Fundamentals Of Accounting	CBFA101	2015-16

SYLLABUS**Unit-I**

Introduction to Accounting Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II:

Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III:

Trail Balance and Rectification of Errors: Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV:

Bank Reconciliation Statement: Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavorable balances.

Unit -V:

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

References:

1. T.S.Reddy & A. Murthy, Financial Accounting, Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjyothi, Fundamentals of Accounting; Maruthi Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	II	Business Organization	CBBO201	2015-16

SYLLABUS

UNIT-I Introduction

Concepts of business, Trade, Industry and Commerce- Business –Features of Business-Trade- Classification – Aids to Trade- Industry- Classification- Relationship of Trade, Industry and Commerce.

10 HOURS

Unit –II Business Factors & Entrepreneurship

Functions of Business-Factors Influencing the Choice of Suitable form of organization- Meaning of Entrepreneurship- Types – Functions of Entrepreneurship.

15 HOURS

Unity-III Forms of Organization

Sole Proprietorship- Meaning- characteristics –Advantages and Disadvantages- Partnership- Meaning- Characteristics- Kinds of Partners- Advantages and Disadvantages- Partnership Deed –Hindu Undivided Family.

15 HOURS

Unit-IV Company

Company-Meaning-Characteristics- Advantages –Kinds of Companies – Differences between Private Ltd. and Public Ltd. Companies.

20 HOURS

Unit –V Company Incorporation

Preparation of Important Documents for Incorporation of Company- Memorandum of Association- Articles of Association- Differences between Memorandum of Association and Articles of Association Contents of Prospectus- Statement in Lieu of Prospectus

15 HOURS

References:

1. Chattarjee S.K. Business Organisation
2. JagdishPrakash Business Organisation and Management
3. Om Prakash Business Organisation

Class	Semester	Title Of The Paper	Paper Code	W.E.F
B.Com(Computers)	II	Quantitative Techniques – II	CBQT201	2015-16

SYLLABUS

UNIT-I: DISPERSION: - Meaning-definition-objectives of dispersion-range, quartile deviation- mean deviation-standard deviation and coefficient of variation. **15 HOURS**

UNIT – II: MEASURES OF SKEWNESS: - Definition and objectives of Karl-Pearson's and Bowley's coefficient of skewness-problems related to Karl-Pearson's and Bowley's coefficient of skewness individual-discrete-continuous series. **10 HOURS**

UNIT – III : MEASURES OF RELATION :- Meaning-definition-uses of correlation-types of correlation-Karl person's correlation coefficient-Spearman's rank correlation, probable error and standard error-meaning and utility of regression analysis, comparison between correlation and regression equations, interpretation of regression co-efficient. **15 HOURS**

UNIT – IV: SET THEORY :- Set-subset-types of sets-operations on sets-venn diagram-de-Morgan laws-application of set theory-laws of indices-arithmetic progression-geometric progression-harmonic progression. **15 HOURS**

UNIT – V : VARIOUS STATISTICAL ORGANIZATIONS IN INDIA :- Meaning-types-Indian statistical organization-statistical organization at the center-Central Statistical Organization (CSO), National Sample Survey Organization (NSSO)-ministry of planning-ministry of agriculture and cooperation-ministry of commerce-ministry of labour-ministry of industrial development-ministry of home affairs and ministry of defense-statistical organization in the states, non-governmental statistical organization-Indian Statistical Institute (Calcutta), Institute of Agriculture Research Statistics (IARS), Department of statistics (Reserve Bank of India). **20 HOURS**

REFERENCE BOOKS :

1. Statistical Methods -- Gupta, S.C
2. Quantitative Techniques-I -- Chikkodi, Obul Reddy, Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	II	Fundamentals of Accounting – II	CBFA201	2015-16

SYLLABUS

UNIT I: Bank Reconciliation Statement **15 Hrs**

Bank Reconciliation Statement – Need – Reasons for difference between cash book and pass book balances – problems on favorable and over draft balances – Ascertainment of correct cash book balance. Preparation of bank reconciliation statement using computers.

UNIT-II : Bills of Exchange **10 Hrs**

Definition – Promisory note and Bills of exchange – recording of bills transactions in books – books of drawer and drawee – honour and dishonor of the bills – renewal of bills – retiring a bill under rebate – accommodation bills.

UNIT – III: Consignment and Joint Ventures: 15 Hrs
 Consignment– Features, Terms used- Proforma invoice – Account sale – Delcredere commission – Accounting treatment in the books of the consignor and the consignee – Valuation of consignment stock – Normal and abnormal Loss – Invoice of goods at a price higher than the cost price.

UNIT-IV 15Hrs
 Joint ventures - features-difference between joint venture and consignment, Accounting Procedure – Methods of keeping records for Joint venture accounts-method of recording in co ventures books-separate set of books method.

UNIT-V: Depreciation – Provisions and Reserves: 20 Hrs
 Depreciation-Causes-objects of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of providing depreciation – Straight line method – Diminishing Balance Method – Annuity Method – Sinking Fund Method.
 Provisions and Reserves – Reserve Fund – Different Types of Provisions and Reserves.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	III	Advanced Accounting	CBAA301	2015-16

SYLLABUS:

UNIT – I

Accounts from Incomplete Records Hire Purchase and Installment Purchase system, Single Entry Features – Journal and Ledger – Recording of transactions – Ascertainment of Profit (Statement of Affairs method) **12 Periods**

UNIT – II

Hire purchase system Features – Accounting treatment in the Books of Hire Purchases and Hire Vendor – Default and Repossession – Installment purchase system **18 Periods**

UNIT – III :

Branch and Departmental Accounts
 Features – Books of Accounts – method of Accounting – Debtors system stock and debtors system only. **20 Periods**

UNIT – IV: Departmental Accounts: Need, Features, Basis for Allocation of Expenses, treatment of Inter – Departmental Transfer at cost or setting Price – Preparation of Departmental Profit and loss. **15 Periods**

UNIT – V :

Accounting of Non-Profit organizations – Non-Profit entities, Features of Non- Profit entities – Accounting Process- Preparation of summaries Receipts and Payments Account meaning and Special Features, Procedure for Preparation, uses and Limitations. **25Periods**

REFERENCES:

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	III	Banking And Financial Services	CBBFS301	2015-16

SYLLABUS:

UNIT – I

20 Periods

INTRODUCTION TO FINANCIAL SERVICES: Meaning of Financial services, S structure of Indian Financial system, importance of financial system for the Economic development Definition of Bank, functions of commercial banks and reserve bank of India.

UNIT – II

20 periods

BANKING SYSTEMS AND ITS REGULATION Banking Systems – Branch banking, unit banking, group banking, Mixed banking, Investment banking. Banking sector reforms classification of assets and NPA's

UNIT – III

15 Periods

INNOVATIONS IN BANKING: ATM's, E-Banking, credit cards on line & off shore banking etc .

UNIT – IV

20 Periods

OTHER BANKING SYSTEMS: Regional rural banks, co-operative banks, Micro Finance, priority sector lending: Indigenous banking: Role of NABARD and s development

REFERENCES:

- ❖ Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
- ❖ Banking Theory, Law and Practice : B. Santhanam; Margam Publications
- ❖ Banking and Financial Systems : Aryasri
- ❖ Introduction to Banking : Vijaya Raghavan
- ❖ Indian Financial System : M.Y.Khan
- ❖ Indian Financial System : Murthy & Venugopal

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	III	Business Mathematics	CBBM301	2016-17

SYLLABUS:

Unit -I Analysis of Time Series-I

15 Hrs

Meaning and Definitions – characteristics of time series – utility of time series Analysis. Components of time series- measurement of trend –free hand graphic method semi average method moving average method.

Unit-II Analysis of Time Series-II

15 Hrs

Measurement of trend by straight line method of least square- seasonal variations meaning objectives seasonal indices- computation of seasonal indices by simple average method.

Unit-III Differentiation – I

15 Hrs

Differential co-efficient meaning, definition- different models of differentiation, model of the derivation of a constant with any function- model for the derivation of constant model for a

derivation of an exponential function- model for the derivative of an exponential function- model of the derivative of the logarithmic function- model of the derivative of a sum of two or more functions- product rule- quotient of the two functions- chain rule (simple problems).

Unit-IV Differentiation-II

15 Hrs

Differentiation of implicit functions- differentiation of higher order- maxima & minima. Integration- meaning- definition- indefinite integration- integration by substitution- integration by parts- elementary knowledge and simple problems.

Unit – V Linear programming

15 Hrs

Meaning and definition- types of linear programming problems- formulation of linear programming problem and importance of linear programming- graphic method (maximization and minimization) and simplex method (maximization problems) of linear programming.

REFERENCES:

- ❖ Quantitative Techniques- Digambar Patra
- ❖ Business Statistics- Aggarvalbhardwaj

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	IV	Advanced Accounting	CAA 401	2016-17

SYLLABUS

Partnership Accounts:

30 Hrs

UNIT I: Legal provisions in the absence of partnership deed - fixed and fluctuating capitals - preparation of final accounts - Accounting Treatment of Goodwill and admission of a partner.

UNIT-II: Accounting Treatment of Retirement and Death of a partner.

10Hrs

UNIT-III: Dissolution of Firm –Legal rules in Garnel Vs Murray case.

20 Hrs

Company Accounts:

UNIT- IV: Issue of shares at par, premium and at Discount forfeiture and Re- issued of shares – Recording of transactions relating to issue of shares using computers.

15 Hrs

UNIT – V: Issue and Redemption of Debentures – Redemption out of profits – sinking fund method.

15 Hrs

Books Suggested:

1. SP Jain and K L Narang
2. A Mukherjee and M. Hanif

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	IV	Business Mathematics-II	CBBM401	2016-17

SYLLABUS

UNIT-1: **15 hrs**
Meaning, definition, characteristics-importance of index numbers-cost of living index numbers-methods of construction of cost of index numbers-aggregate expenditure method, family budget method.

UNIT-2: **15 hrs**
Different methods in computing an index numbers-simple aggregate method-simple relative method-weighted aggregate method-weighted relative method- construction of quantity index numbers-various tests of consistency of methods of index number.

UNIT-3: **15 hrs**
Different methods in computing the series of index numbers-fixed base index numbers-chain base index numbers-base shifting.

UNIT-4 **15 hrs**
Meaning and definition of probability-concept of certain terms related to probability-types of event-rules of probability (or) theorems of probability-rule of multiplication-rule of summation.

UNIT-5: **15 hrs**
Meaning and importance of theoretical distribution-types –binomial distribution-Poisson distribution and normal distribution.

REFERENCE

Quantitative techniques – DIGAMBAR PATRI

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	IV	Insurance and Services	CBIS401	2016-17

SYLLABUS

UNIT-1: **15 periods**
Definition of banker and customer and their relationship, types of customer and modes of operations, procedure and precautions for opening an account, passbook and its features, rights and duties and obligations of the banker.

UNIT-2: **15 periods**
Promissory note, bill of exchange and cheques, difference between them, types of crossing the cheque, payment of cheque and consequences of wrongful dishonor of cheque.

UNIT-3: **5 periods**
A) Indian money market: characteristics, structure, problems and reforms in Indian money market

A.) Indian capital market: composition and growth of primary and secondary markets, difference between money market and capital market, stock exchange, NSE, OTCEL, SEBI.

UNIT-4 15periods

A.) Life insurance: Meaning, definition of insurance, brief history, principles of insurance, characteristics, advantages, procedure for issuing of life insurance policy, issue of duplicate policy, nomination, surrender value, policy loans, assignment, revivals and claim settlement.

B.) Non-life insurance: fire insurance, marine insurance, social insurance, vehicle insurance and rural insurance.

UNIT-5 15periods

Regulation of insurance in India, insurance act 1938, IRDA 1999.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	V	Office Management	CBOFM501	2017-18

SYLLABUS

Unit-I: Office and Functions: 15 periods

Features of Modern Office - Layout Planning - Interior, Security of the Office, Knowledge of Stationery Items and Maintenance - Office Manager - Duties and Responsibilities - Scientific Office Management - Work Simplification.

Unit-II: Office Systems: 15 periods

Office procedures - Guides and Common charts of Office work simplification - Planning for improving office procedures - Forms Design, Design of Forms - Reproduction of Forms - Office Reproduction Services.

Unit-III: Records Storage and Retrieval: 15periods

Nature of Files and Records - Storage - Purposes of Records Storage and Control - Filing systems, equipment and supplies - Records retention – ICT applications in Office Management.

References:

1. James, A.F. Stoner et. al: Management, Englewood Cliffs, N.J Prentice Hall
2. Mahajan, J.P.: Fundamentals of Office Management, Ane Books Pvt. Ltd.
3. Bhatia, R.C. Principles of Office Management, Lotus Press, New Delhi.
4. Terry, George R: Office Management and Control, R.D. Irwin.
5. Duggal, B: Office Management and Commercial Correspondence, Kitab Mahal.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	V	Cost Accounting	CBCA502	2017-18

SYLLABUS

Unit-1:

15periods

Introduction: -Types of accounting – cost accounting – objectives and functions of cost accounting – cost accounting and financial accounting –comparison- advantages of cost accounting-limitations.

Cost concept and classification:- concept of cost – cost center and cost unit –methods of costing –techniques of costing -classification of costs –special costs for management decision –making –elements of cost –cost sheet problems

Unit -2:

15periods

Elements of cost: – material cost - classification of materials –inventory or material control – ABC technique-methods of pricing material issues problems and solutions –problems on base stock methods ,FIFO method ,LIFO method , weighted average methods only (Excluding simple average method, material levels and E.O.Q).

UNIT -3:

15periods

Labour Cost: - direct and indirect labour –methods of wage payment (labour remuneration) - time rate system –piece rate system –incentive schemes (Halsey plan, rowan plan & Taylor plan –Problems.

UNIT -4 :

15periods

Overheads: - meaning and definition, classification of overheads accounting of overheads – allocation and apportionment (primary distribution) apportionment of service department costs (secondary distribution) – problems.

UNIT -5 :

15periods

Process costing: - meaning- Characteristics of process costs – process costing procedure – process losses and wastage –problems and solutions (Excluding by products and joint products problems).

Standard Costing: - introduction –meaning of standard cost and standard costing –variance analysis –material variances- labour variances. (problems on material variance and labour variance only)

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand & Sons.
5. S.N. Maheswari – Principles of Management Accounting.
6. I.M .Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	V	Indirect Taxes	CBIT504	2017-18

SYLLABUS

Unit 1: Introduction : 15 periods

Basic aspects of Indirect Taxes- Constitutional provisions of Taxation in India – Features of Indirect Taxes – Types or forms of Indirect Taxes – Advantages and Dis-advantages of Indirect Taxes

Unit- II: Customs Act : 15 periods

Customs Act – Nature of customs duty – Different types of duties – bill of entry – customs area – customs station – dutiable goods – exported goods – goods – import manifest – imported goods – importer – Indian customs water – land customs station– Different types of assessments

Unit – III Goods and Service Tax – I : 15 periods

Meaning of GST – Objectives and Challenges of GST – Features and benefits of GST

Unit – IV Goods and Service Tax – II : 15 periods

Taxes included under GST – Models of GST – Applicability of CGST and SGST – Impact of GST – Chargeability of tax under GST

Unit – V Goods and Service Tax – III : 15 periods

Levy and exemption from tax – Levy and collection of CGST and SGST – Composition levy – Taxable person – Power to grant exemptions from GST

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	V	Business Law	CBBL503	2017-18

SYLLABUS

Unit-I CONTRACT ACT: 15 periods

Introduction – Definition of Contract-Obligation- Nature of Contract-Essential Elements valid contract-Void and voidable Contracts-Indian Contract Act-1872.

OFFER & ACCEPTANCE

Definition of valid offer, Acceptance and Consideration- Essential elements of a valid-Offer, Acceptance and Consideration–Essential elements of Legality of Object and Consideration-

UNIT-II- Capacity of the Parties and Contingent Contract 15 periods

Introduction-Capacity to contract-who are competent to contract-Person not

Competent to Contract- Minor-Law relating to Minor

CONTINGENT CONTRACT: Definition-Collateral Events- Characteristics of Contingent Contract- Rules - Rules relating to Brach of Contract.

UNIT-III Sale of GOOD ACT**15 periods**

Introduction-Scope-Goods-Classification of Goods-Contract of Sale- Sales and agreement to Sell- Sales and Bailment-Caveat Emptor-Implied Conditions and Warranties-Rights of Unpaid Vendor.

Unit-IV CONSUMER PROTECTION ACT**15 periods**

Introduction –Objectives-Rights of Consumers- Definitions-District Forum- Restrictive trade Practice-Unfair Trade Practice-Redressal Machinery under the act- District – State Commission – National Commission -Consumer Protect Councils-Central-State- district-

Unit-V THE INFORMATION TECHNOLOGY ACT 2000 AND CYBER**LAW****15 periods**

Introduction- Objectives of the Act-Exceptions-Electronic Governance –Digital Signature-License Issue for Digital Signature- -Procedure-Digital signature certificate- Penalties and Adjudication.

REFERENCES:

Legal Aspects of Business – Bhagirathi Pillai

Business Law S.N Maheswari- Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	V	Corporate Accounting and Accounting for Service Organizations	CBCAAS505	2017-18

SYLLABUS**Unit I: Company Final accounts****15 periods**

Company final Accounts - Provisions relating to preparation of final Accounts -Profit and Loss A/c and Balance sheet

Unit II: Valuation of shares.**15 periods**

Valuation of shares – Need for valuation – methods of Valuation – Net assets Method, Yield basis Method, Fair value Method

Unit III: Accounts of Insurance Companies.**10 periods**

Life Insurance Companies – preparation of Revenue Account, profit and loss Account, Balance sheet and valuation Balance sheet.

Unit IV: Bank Accounts**15 periods**

Bank Accounts - Books and registers to be maintained by Banks - Slip system of posting - Rebate on Bills discounted - Schedule of advances - Nonperforming assets - Legal provisions relating to preparation of final Accounts.

UNIT V: Non-Profit organizations**15 periods**

Accounting of Non-Profit organizations – Non-Profit entities – Features of Non- Profit entities – Accounting Process- Preparation of Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations

Books Suggested:

1. Jain & Narang
2. A. Mukherjee and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	VI	Event Management	CBEM601	2017-18

SYLLABUS

Unit-I:

15 periods

Event Concept: Corporate Events and Customer's needs - Types of Events – Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets – Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events:

15 periods

Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events:

15 periods

Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

References:

1. Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga Sagar Singh - Har-and Publications Pvt. Ltd.
2. Event Management by Swarup K. Goyal - Adhyayan Publisher.
3. Event Management & Public Relations by Savita Mohan - Enkay Publishing House
4. Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
5. Special Event Production - Doug Matthews.
6. Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry. New Jersey: Pearson Prentice Hall.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	VI	Marketing	CBMR604	2015-16

SYLLABUS

Unit-I: Introduction:

15 periods

Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: Consumer Markets and Buyer Behaviour**15 periods**

Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management:**15 periods**

Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling and their relative merits demerits.

Unit-IV: Pricing Decision:**15 periods**

Factors influencing price determination, pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution:**15 periods**

Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	VI	Auditing	CBAU605	2017-18

SYLLABUS**Unit-I: Auditing:****15 periods**

Origin - Meaning – Objectives – Importance of Auditing – Advantages of Auditing - Disadvantages of auditing.

Unit-II: Types of Audit:**15 periods**

Continuous audit – Final audit – Periodical Audit – Balance sheet audit – Interim audit – Management audit

Unit-III: Planning of Audit:**15 periods**

Steps to be taken at the commencement of a new audit – Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Verification:**15 periods**

Vouching of cash and trading transactions – Verification of assets - Valuation Vs Verification

Unit-V:**15 periods**

Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Removal - Rights, duties, liabilities and disqualifications - Audit report: Contents

References:

1. S.Vengadamani, "Practical Auditing", Margham Publications, Chennai.
2. Ghatalia, "Principles of Auditing", Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, "Auditing Theory and Practice, Kalyani Publications, Ludhiana.
4. N.D. Kapoor, "Auditing", S. Chand, New Delhi.
5. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House.
6. Jagadesh Prakesh, "Principles and Practices of Auditing" Kalyani Publications, Ludhiana.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	VI	Management Accounting	CBMA602	2017-18

SYLLABUS**Unit-I:****Management Accounting:****15 periods**

Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit-II: Ratio Analysis:**15 periods**

Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit-III: Fund Flow Statement:**15 periods**

Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit-IV: Cash Flow Statement:**15 periods**

Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit-Marginal costing:**15 periods**

Calculation of Break-even point - Uses and limitations - Margin of safety –calculation of P.V. Ratio (including Problems).

References:

- S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing.
- I.M Pandey, "Management Accounting", Vikas Publishing House, New Delhi, Shashi K. Gupta & R.K. Sharma, "Management Accounting: Principles and Practice", Kalyani Publishers, Ludhiana.
- Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
- Charles T. Horngren, [et.al.](#), "Introduction to Management Accounting" Person

EducationIndia, New Delhi, 2002.

- Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
- Dr. Kulsreshtha & Gupta – Practical problems in Management Accounting.
- Bhattacharya, D., “Management Accounting”, Pearson Education India, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Com(Computers)	VI	Commercial Geography	CBCG603	2017-18

SYLLABUS

Unit - I:

THE EARTH:

15 periods

Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit - II:

15 periods

INDIA – AGRICULTURE:

Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit - III:

15 periods

INDIA – FORESTRY:

Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit - IV:

INDIA – MINERALS AND MINING:

15 periods

Minerals – Renewable and Non-Renewable – Use of Minerals – Mines – Coal, Barites etc. – Singareni Coal mines and Mangampeta Barites - District-wise Profile.

Unit - V:

INDIA – WATER RESOURCES – RIVERS:

15 periods

Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers – Inter-linking of Rivers - Experience of India and Andhra Pradesh.

References:

1. Shabiar Ahmad; Quazi, Natural Resource Consumption and Environment Management, APH Publishing Corporation.
2. Tarachand, Economic and Commercial Geography of India, Vikas Publishing House.
3. Dr. S. Sankaran, Commercial Geography, Margam Publications, Chennai.
4. C. B. Memoria, Commercial Geography, Lal Agarwal & Co.
5. C. B. Memoria, Economic and Commercial Geography, Lal Agarwal & Co.
6. Vinod N. Patel, Commercial Geography, Oxford Book Company

B.Com (Logistics)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	I	Business Economics	CBBE 101	2015-16

SYLLABUS

Unit-I-Introduction

Meaning and Definitions of Business Economics-Nature and scope of Business Economics- Micro and Macro Economics differences- Cardinal Utility & Ordinal Utility.

Unit-II-Demand Analysis

Meaning and Definition of Demand-Determinants of Demand—Demand function—Law of demand-Demand Curve-Exceptions.

Unit-III- Elasticity of Demand

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand Measurements of Price elasticity of demand– Total outlay Method–Point Method–Arc Method.

Unit-IV-Cost and Revenue Analysis

Classification of Costs –Total- Average–Marginal and Cost function–Long-run–Short-run.

Unit-V-Break-Even Analysis

Type of Costs– FixedCost – Semi –VariableCost–VariableCost–Costbehavior-Breakeven Analysis uses and limitations.

Reference Books

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics-Kalyani Publications.
3. BusinessEconomics–HimalayaPublishingHouse.
4. Aryasri and Murthy Business Economics, Tata Mc Graw Hill.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	I	Fundamentals of Accounting	CBICF101	2015-16

SYLLABUS

Unit-I

Introduction to Accounting Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II

Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III

Trail Balance and Rectification of Errors: Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV

Bank Reconciliation Statement: Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances Preparation of Bank Reconciliation Statement-Problems on both favorable and unfavourable balances.

Unit -V

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

- References:** 1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	I	Economics of Transport	CBEOT 101	2015-16

SYLLABUS

Unit I

Importance of Transportation – Evolution –Various modes of Transport

Unit II

Road Transport-Economics of Road Transport and Pricing (Goods Transport)-Insurance

Unit III

Rail Transport –Price Fixation in Rail Transport –Cost Components – insurance

Unit –IV

Water Transport –Importance –Price Fixation- Ocean Trade Routes –International Trade Routes –Insurance.

Unit-V

Air Transport –Importance –Price Fixation –Insurance

Reference Books:-

J.K. Jain

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	II	Financial Accounting - II	CBLFA 201	2015-16

UNIT I : Bank Reconciliation Statement

Bank Reconciliation Statement – Need – Reasons for difference between cash book and pass book balances – problems on favourable and over draft balances – Ascertainment of correct cash book balance. Preparation of bank reconciliation statement using computers.

UNIT-II : Bills of Exchange

Definition – Promisory note and Bills of exchange – recording of bills transactions in books – books of drawer and drawee – honour and dishonor of the bills – renewal of bills – retiring a bill under rebate – accommodation bills.

UNIT – III: Consignment and Joint Ventures :

Consignment– Features, Terms used- Proforma invoice – Account sale – Delcredere commission – Accounting treatment in the books of the consignor and the consignee – Valuation of consignment stock – Normal and abnormal Loss – Invoice of goods at a price higher than the cost price.

UNIT-IV

Joint ventures - features-difference between joint venture and consignment, Accounting Procedure – Methods of keeping records for Joint venture accounts-method of recording in co ventures books-separate set of books method

UNIT-V : Depreciation – Provisions and Reserves :

Depreciation-Causes-objects of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of providing depreciation – Straight line method – Diminishing Balance Method – Annuity Method – Sinking Fund Method.

Provisions and Reserves – Reserve Fund – Different Types of Provisions and Reserves.

References

1. Chandra prasanna: Financila Management, Tata McGraw Hill, Delhi
2. Financial Management: Shashi. K.Gupta and Anj Gupta

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	II	Logistic Management	CBLM 201	2015-16

SYLLABUS

Unit I

Introduction –evolution - concept of logistics —elements of logistics Importance of logistic management, SCM v/s Logistics, relationship between logistics and marketing, marketing logistics and logistics in marketing.

Unit II Physical Distribution system

Channels of distribution- Types-physical distribution channel-Physical nature of the product- Volume –to weight ratio, value –to- weight ratio.

Unit – III Strategic decisions

Strategy-Types-Logistics Decisions-Operational, tactical, strategic decisions-Logistics Strategic decisions-Customer service, Logistics Network design, Outsourcing v/s vertical integration. Logistics Philosophies: Lean logistics- Principle-Japanese philosophy, just-in Time philosophy, lean warehousing-Agile Logistics: Agile v/s lean, quick response-Benefits, Vendor Managed Inventory.

Unit –IV Logistics Parties ad Reverse Logistics Strategy

Third –Party Logistics –An overview-Definition, Emergence, activities, Types, Merits, demerits. Reverse Logistics: Concept- Forward v/s Reverse Logistics -RL v/s waste management, Green logistics v/s RL, RL process, IT for RL

Unit –VGlobal Logistics

Introduction-Logistics in global economy-Barriers in Global Logistics, Global Trade Perspectives-operating levels-interlinked global Economy-Logistics Information system-LIS benefits, DSS, KMS.

Reference Books:

Logistics Operations and Management: Concepts and Models –Reza Farahani,ShabnamRezapour, Laleh Kadar.

Logistics Management :Reji Ismail

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (LOG)	II	Marketing & Sales Management	CBMSM 201	2015-16

SYLLABUS

Unit: I

Introduction : Definition –Importance, Role in a developing economy-marketing Mix – marketing concept –production –product –selling –marketing –Societal. Need for marketing Concept in India –objectives of marketing management –integrated concept of Marketing.

Unit-II

Marketing Environment –Micro and Macro environment –Consumerism-laws relating to marketing –Rights of consumers, causes/Need for consumer protection in India.

Unit-III:-Product Concept:

Product –product classification –product mix –product line-product life cycle. Product Mix – Characteristic –Factors affecting to product Mix -New product Development – Stages – reasons for developing new products –product line characteristics

Unit-IV:-

Pricing –Price determination –Pricing objectives- Factors influencing pricing policy- of pricing determination: - Cost based, Demand, Cost –demand, Competition based.

Unit V

Marketing Segmentation :- Definition, Types – Geographic- Demographic, psychographic, socio, Economic Benefits of segmentation- Define – Target marketing - Define Positioning.

Books Recommended:-

1. R.S. Davar: Modern marketing Management (Progressive corporation : (Bombay)
2. Amarchand and Vandhrajani : An introduction to Marketing (VIKAS Publishing house Pvt ltd: NEW DELHI)

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	III	Advance Accounting - II	CBA 301	2016-17

SYLLABUS:

UNIT – I (Accounts from Incomplete Records Hire Purchase and Installment Purchase system) :

Single Entry Features – Journal and Ledger – Recording of transactions – Ascertainment of Profit (Statement of Affairs method)

UNIT – II : Hire purchase system Features – Accounting treatment in the Books of Hire Purchases and Hire Vendor – Default and Repossession – Installment purchase system

UNIT – III : (Branch and Departmental Accounts) :

Features – Books of Accounts – method of Accounting – Debtors system stock and debtors system only.

UNIT – IV : Departmental Accounts : Need, Features, Basis for Allocation of Expenses, treatment of Inter – Departmental Transfer at cost or setting Price – Preparation of Departmental Profit and loss.

UNIT – V : Accounting of Non-Profit organizations – Non-Profit entities – Features of Non-Profit entities – Accounting Process- Preparation of summaries Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations.

REFERENCES:

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	III	Business Statistics	CBLBS 301	2016-17

SYLLABUS:

Unit – I : Introduction to Statistics

Meaning – definition, importance and limitations of Statistics, collection of data – primary and secondary data – (sampling – Random – Non Random – Census) – schedule and questionnaire – frequency distribution – Tabulation – Diagrammatic and graphic presentation of data using Computer's (excel)

Unit – II : Measures of Central Tendency

Definition, objectives and Characteristics of Measures of central Tendency – Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles , percentiles, properties of Averages and their applications. Calculation of average using computers.

Unit : III: Measures of Dispersion and Skewness

Meaning, definition, properties of Dispersion – Range – quartile Deviation – Mean Deviation - Standard Deviation – coefficient of variation – skewness – definition – Karl Pearson's and Bowley's Measures of Skewness – Normal Distribution. Calculation of Dispersion and skewness using computer.

Unit – IV : Measures of Relation

Meaning, definition and uses of correlation – Types of correlation – Karl pearson's correlation coefficient – spearman's Rank correlation – Probable error – calculation of correlation by using computers.

Unit – V : Meaning and utility of Regression analysis – Comparison between correlation and Regression – Regression equation – Interpretation of Regression coefficient.

REFERENCES:

- | | |
|---|-------------------------------|
| ❖ Business Statistics | Reddy, C.R Deep Publications. |
| ❖ Statistics Problems and Solutions | Kapoor V.K. |
| ❖ Fundamentals of Statistics | Elhance.D.N |
| ❖ Statistical Methods | Gupta S.P |
| ❖ Statistics | Gupta B.N. |
| ❖ Fundamentals of Statistics | Gupta S.C |
| ❖ Statistics Theory, Methods and Applications | Sancheti,D.C. &Kapoor V.K |
| ❖ Business Statistics | J.K.Sharma |
| ❖ Business Statistics | Bharat Jhunjhunwala |
| ❖ Business Statistics | R.S.Bharadwaj |

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	III	Material Management	CBMTM 301	2016-17

SYLLABUS:

UNIT- I Introduction to material management

Introduction- meaning- definitions of material management- functions- phases of materials management- difference between material management and logistics management and supply chain management.

UNIT – II Materials planning and control

Meaning and definition of material planning- importance of material planning flowchart for materials planning- importance of material control, material control cycle.

UNIT- III Material handling

Introduction- planning principles- operating principles- operating principles related with equipment, types of material handling equipment.

UNIT-IV Material classification

Material classification- need for classification- types of material classification- identification of material.

UNIT-V Material codification

Nature of material codification- process of codification merits and demerits of codification systems brisch system- kdak system.

REFERENCES:

- ❖ Shiridhra bhat (Himalaya publishers)
- ❖ A.K.Chitale, R.C.Gvpt(phi)

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	III	Promotion Management	CBPM 301	2016-17

SYLLABUS:

UNIT-I Introduction

Promotion- meaning- evolution- nature- scope- objectives-advantages-limitations-elements-promotional scene in India.

UNIT-II Planning- Strategy

Promotional planning- planning frame work of promotional process- decision sequence analysis in promotional planning, strategy- evolution- tactics.

UNIT-III Integrated market communication

Market communication process- concept- developing effective communication- elements of communication.

UNIT-IV Advertising

Advertising- merit- demerits- role of advertising- advertising planning and decision making.

UNIT-V Advertising campaign

Advertising campaign- planning- appraisal of advertising opportunities- setting advertising campaign objectives message design- media types- media selection-media scheduling.

REFERENCES:

- ❖ Julain Cummine- sales promotion, Unviversity book stall, new delhi
- ❖ Jayasankar- sales promotion and distribution management Mangham publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	IV	Advanced Accounting	CBAA 401	2016-17

Syllabus

Partnership Accounts :

UNIT – I

Legal provisions in the absence of partnership deed - fixed and fluctuating capitals - preparation of final accounts - Accounting Treatment of Goodwill and admission of a partner.

UNIT-II Accounting Treatment of Retirement and Death of a partner.

UNIT – III Dissolution of Firm –Legal rules in Garnel Vs Murray case.

UNIT – IV Issue of shares at par, premium and at Discount forfeiture and Re- issued of shares – Recording of transactions relating to issue of shares using computers.

UNIT – V Issue and Redemption of Debentures – Redemption out of profits – sinking fund method.

Books Suggested :

1. SP Jain and K L Narang
2. A Mukherjee and M.Hanif
3. V. Subba Rayudu.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	IV	Business Statistics	CBLBS 401	2016-17

SYLLABUS

Unit : I

Meaning, definition and use of correlation – Types of correlation – Karl Pearson's correlation co-efficient – spearman's Rank correlation – Probable error – Calculation of correlation by using computers.

Unit : II

Meaning and utility of Regression analysis – comparison between correlations and Regression – Regression Equations – Interpretation of Regression co-efficient .

Unit : III

Meaning and utility of time series analysis – components of Time series – Measurement of trend and seasonal variations – utility of Decomposition of time series – Decentralization of Data – Calculation of trend and seasonal variations using computers.

Unit-IV

Meaning, Definition and Importance of Index numbers – Methods of construction of Index numbers .

Unit-V

price Index numbers – Quantity Index numbers – Tests of adequacy of Index Numbers – Deflating index numbers – cost of living index Numbers – Limitation of Index Numbers.

Reference Books :1. Kalyani publishers : K. Raghuvver , S.L. Bharadwaj
2. Technical Series : Varma Agarwal

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	IV	Distribution Management	CBDM 401	2016-17

Syllabus

UNIT-1:

Definition, scope, nature, object, significance, role of distribution management and logistics, components of physical distribution

UNIT-2:

Channels of distribution: meaning, evolution of marketing channel, process of designing market channels, types of channel intermediaries at each channel

UNIT-3:

Channel flow- channels cost- effective channel management – process of recruiting channel member – role of channel members – functions of channel members

UNIT-4:

Channel integration :Importance of channel integration, vertical marketing systems and horizontal marketing systems ,types of designing channel system-managing channel system.

UNIT-5:

Channel conflicts-introduction, source of conflicts, types of conflicts, types of conflict management techniques.

REFERENCES:

Aman deep,poonam agarwal-sales and distribution of management

Class	Semester	Title of The Paper	Paper Code	W.E.F
II.B.COM (LOG)	IV	Storage and Ware house Management	CBSWM	2016-17

UNIT-1:

Introduction to stores – functions, responsibilities management of stores – locations – different types of stores – objectives of stores – factors effecting material handling stores issues.

UNIT-2:

Introduction to warehouse – functions – types of warehouses – private – public – contract warehousing – benefit warehouse layout and design

UNIT-3:

Warehousing cost total cost approach - containerization: CFS and inland container deports, dryports multi model transportation and concor: problems and prospectus

UNIT-4:

Health and safety risk at warehouse – assessment of risk – management of health and safety risk – barcode scanners wireless LAN, mobile computers radio frequency identification

UNIT-5:

FCI,CWC reliance, walmart, KFC, applications in warehousing

REFERENCES:

Sunil Chopra-Supply Chain Management – Person

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	Office Management	CBOFM 501	2017-18

SYLLABUS

Unit-I: Office and Functions:

Features of Modern Office - Layout Planning - Interior, Security of the Office, Knowledge of Stationery Items and Maintenance - Office Manager - Duties and Responsibilities - Scientific Office Management - Work Simplification.

Unit-II: Office Systems:

Office procedures - Guides and Common charts of Office work simplification - Planning for improving office procedures - Forms Design, Design of Forms - Reproduction of Forms - Office Reproduction Services.

Unit-III: Records Storage and Retrieval: Nature of Files and Records - Storage - Purposes of Records Storage and Control - Filing systems, equipment and supplies - Records retention – ICT applications in Office Management.

References:

1. James, A.F. Stoner et. al: Management, Englewood Cliffs, N.J Prentice Hall
2. Mahajan, J.P.: Fundamentals of Office Management, Ane Books Pvt. Ltd.
3. Bhatia, R.C. Principles of Office Management, Lotus Press, New Delhi.
4. Terry, George R: Office Management and Control, R.D. Irwin.
5. Duggal, B: Office Management and Commercial Correspondence, Kitab Mahal.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM(LOG)	V	Cost Accounting	CBCA 502	2017-18

SYLLABUS

Unit I : Accounting Standards

Accounting Standards – Need and Importance – Overview of Indian Accounting Standards.

Unit II: Valuation of Goodwill

Valuation of goodwill – Need and Methods – Normal profit method, super Profits method – capitalization method.

Unit III: Valuation of shares.

Valuation of shares – Need for valuation – methods of Valuation – Net assets Method, Yield basis Method, Fair value Method.

Unit IV: Issue of Bonus shares

Issue of Bonus shares – provisions of Company’s Act and SEBI Guidelines – Accounts treatment. .

Unit V: Accounts of Insurance Companies.

Life Insurance Companies – preparation of Revenue Account, profit and loss Account, Balance sheet and valuation Balance sheet.

General Insurance preparation of final Accounts – with Special Reference to fire and marine insurance only.

Reference books :

- Corporate Accounting – Sp Jain & K.L. Navrang
- Advanced Accountancy - ... Shukla & Ts Grewal
- Corporate Accounting - S. Vasudeva –Himalaya Publications
- Corporate Accounting – Dr. P.C. Tulasian – S. Chand & Co.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	Business Law	CBCA 503	2017-18

SYLLABUS

Unit-I-CONTRACT ACT

Introduction – Definition of Contract-Obligation- Nature of Contract-Essential Elements valid contract-Void and voidable Contracts-Indian Contract Act-1872.

OFFER & ACCEPTANCE

Definition of valid offer, Acceptance and Consideration- Essential elements of a valid-Offer, Acceptance and Consideration–Essential elements of Legality of Object and Consideration.

UNIT-II- CAPACITY OF THE PARTIES AND CONTINGENT CONTRACT

Introduction-Capacity to contract-who are competent to contract-Person not Competent to Contract- Minor-Law relating to Minor

CONTINGENT CONTRACT

Definition-Collateral Events- Characteristics of Contingent Contract- Rules - Rules relating to Breach of Contract.

UNIT-III Sale of GOODS ACT

Introduction-Scope-Goods-Classification of Goods-Contract of Sale- Sales and Agreement to Sell-Sales and Bailment-Caveat Emptor-Implied Conditions and Warranties-Rights of Unpaid Vendor.

Unit-IV CONSUMER PROTECTION ACT

Introduction –Objectives-Rights of Consumers- Definitions-District Forum- Restrictive trade Practice-Unfair Trade Practice-Redressal Machinery under the act- District – State Commission – National Commission -Consumer Protect Councils-Central-State- district-

Unit-V THE INFORMATION TECHNOLOGY ACT 2000 AND CYBER LAW

Introduction- Objectives of the Act-Exceptions-Electronic Governance –Digital Signature-Licence Issue for Digital Signature- -Procedure-Digital signature certificate- Penalties and Adjudication.

REFERENCES:

Legal Aspects of Business – Bhagavathi Pillai

Business Law S.N Maheshwari- Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	International Trade	CBITR 504	2017-18

SYLLABUS

UNIT-I:

THEORY OF INTERNATIONAL TRADE:

Meaning and Importance of International Trade – Salient Features of International Trade – The Pure Theory of International Trade – Theories of Absolute Advantage - Comparative Advantage and Relatively Costs - Hecksher – Ohlin Theory of International Trade.

UNIT-II:

MEASUREMENT OF GAINS AND THEORY OF INTERVENTIONS:

Measurement of Gains from Trade and Distribution - Concepts of Terms of Trade - Uses and Limitations of Terms of Trade.

UNIT-III:

BALANCE OF PAYMENTS:

Meaning and Components of Balance of Payments – Equilibrium Disequilibrium in Balance of Payments – The Process of Adjustment of Balance of Payments.

UNIT-IV:

WTO:

Brief outline of GATT – WTO and Basic Objectives of WTO - Trade Related Aspects of Intellectual Property Rights (TRIPS) – Trade Related Investment Measures (TRIMS).

UNIT – V:

INTERNATIONAL FINANCIAL INSTITUTIONS:

International Monetary Fund (IMF) – The World Bank (IBRD) – International Finance Corporation (IFC) – International Development Association (IDA).

References:

1. International Business – Himalaya Publishing House – P.SubbaRao.
2. International Trade and Export Management – Himalaya Publishing House – Francis Cherunilam.
3. International Business,(4th Edition) PHI publication - Francis Cherunilam (2007).

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	Corporate Accounting	CBCRA 505	2017-18

SYLLABUS

Unit I : Accounting Standards

Accounting Standards – Need and Importance – Overview of Indian Accounting Standards.

Unit II: Valuation of Goodwill

Valuation of goodwill – Need and Methods – Normal profit method, super Profits method – capitalization method.

Unit III: Valuation of shares.

Valuation of shares – Need for valuation – methods of Valuation – Net assets Method, Yield basis Method, Fair value Method.

Unit IV: Issue of Bonus shares

Issue of Bonus shares – provisions of Company’s Act and SEBI Guidelines – Accounts treatment.

Unit V: Accounts of Insurance Companies.

Life Insurance Companies – preparation of Revenue Account, profit and loss Account, Balance sheet and valuation Balance sheet.

General Insurance preparation of final Accounts – with Special Reference to fire and marine insurance only.

Reference books :

Corporate Accounting – Sp Jain & K.L. Navrang

Advanced Accountancy - Shukla&TsGrewal

Corporate Accounting - S. Vasudeva –Himalaya Publications

Corporate Accounting – Dr. P.C. Tulasian – S. Chand & Co.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	Production Management	CBTM 506	2017-18

SYLLABUS**UNIT-I PRODUCTIONMANAGEMENTINTRODUCTION**

Production system, introduction production and productivity, objectives, functions and scope of production management, relationship of production management with other functional areas.

UNIT-II- PRODUCT DEVELOPMENT & DESIGN

Meaning of product, Product Development Introduction, methods of development, element, advantages, stages of new product development, definition of product design, steps in product design, requirements of good Product Design.

UNIT-III MAINTENANCE

What is maintenance – Objectives, scope & importance of maintenance – areas of maintenance, types of maintenance- Break Down, Preventive, Routine, Planned maintenance.

UNIT-IV RESOURCE REQUIREMENT AND PLANNING

Introduction to Resource Requirement and Planning system, material requirement Planning (MRP or MRP-I) - Objectives of MRP, Advantages and Disadvantages of MRP, material requirement Planning (MRP –II), ERP- Definition, Functioning, Features, Scope, benefits and Application.

UNIT-V FACILITY LOCATION

Plant location, Introduction, need for selecting suitable location, plant location problems, Advantages of urban, semi urban and rural location.

REFERENCES:

- Production & Operations management By k. AswathappaBhat- HPH
Production & Materials management By P. Saravanavel, S.Sumathi-Margham
Production & Operations management By Prof.L.C.Jhamb –Everest Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	V	Supply Chain Management	CBSCM 507	2017-18

SYLLABUS

UNIT-I: SUPPLY CHAIN MANAGEMENT – INTRODUCTION

Introduction - Concept Of Supply Chain Management - Objectives-Nature-Scope-Importance Of Supply Chain Management - Focus Areas In Supply Chain.

UNIT-II: DEVELOPMENT OF SUPPLY CHAIN MANAGEMENT

Stages In Supply Chain – Components Of Supply Chain – Types Of Supply Chain – Supply Chain Decisions –Strategic And Operational Decisions–Key Issues In Supply Chain – Benefits Of Supply Chain

UNIT-III: SUPPLY CHAIN PLANNING

Introduction - Planning In Supply Chain – Role Of Aggregate Planning In Supply Chain – Implementation – Issues In Aggregate Planning - Aggregate Planning Strategies

UNIT-IV-SUPPLY CHAIN STRATEGIES

Supply Chain Strategies – Strategic Classifications-Collaborative –Demand Flow-Customer Service –Role of Information Technology in Supply Chain - Supply Chain Relations

UNIT-V: SUPPLY CHAIN PERFORMANCE MEASURES

Performance Measure – Definition – Dimensions Of Performance Measure –Benefits Of Performance Measure –Performance Measure Methods In Supply Chain – Supply Chain Operations Reference Model- Balance Score Card Approach.

Reference Books

1. Supply Chain Management - Er.Sachinsrivastava - Kalyani Publications
2. Supply Chain Management - K. Sridhar Bhat - Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Event Management	CBEM 601	2017-18

SYLLABUS:

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events – Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets – Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

REFERENCES:

- ❖ Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga
- ❖ Sagar Singh - Har-and Publications Pvt. Ltd.
- ❖ Event Management by Swarup K. Goyal - Adhyayan Publisher.
- ❖ Event Management & Public Relations by Savita Mohan - Enkay Publishing House
- ❖ Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
- ❖ Special Event Production - Doug Matthews.
- ❖ Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Management Accounting	CBMA 602	2017-18

SYLLABUS

Unit-I: Management Accounting: Interface with Financial Accounting and Cost Accounting- Financial Statement analysis and interpretation: Comparative analysis– Common size analysis and trend analysis (including problems).

Unit-II: Ratio Analysis: Classification, Importance and limitations-Analysis and interpretation of Account integrations-Liquidity, profitability, activity and solvency ratios(including problems).

Unit-III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit-IV: Cash Flow Statement: Concept of cash flow–Preparation of cash flow statement–Uses and limitations of cash flow analysis (including problems).

Unit-V: Marginal costing : Calculation of Break-even point–Uses and limitations–Margin of safety–calculation of P.V. Ratio (including Problems).

References:

- S.N. Maheswari, A Text book of Accounting for Management, S.ChandPublishing,.
- I.M Pandey,“Management Accounting”,Vikas Publishing House, NewDelhi,
- Shashi K. Gupta&R.K. Sharma, “Management Accounting: Principles and Practice”, Kalyani Publishers, Ludhiana.
- Jawaharlal, Accounting for Management, Himalaya Publishing House, New Delhi.
- Charles T.Horngren,[et.al](#),“Introduction to Management Accounting”Person Education India, New Delhi, 2002.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Transport Management	CBTMA 603	2017-18

SYLLABUS

Unit -I:

Transportation Management

Introduction-History of transport-Role of Transport in economic development-Economic Importance of Transportation-Inter model and Multi modal transportation-Challenges in transportation sector in India

Unit-II:

TRANSPORT MANAGEMENT SYSTEM

Introduction- Objectives and significance of Transportation system-elements of transportation cost-transportation and distribution Environmental issues and impact on transportation.

Unit-III:

TRANSPORTATION NET WORK

Introduction- Transportation network in India-transportation strategies of India- Objectives of Transportation policies-Transportation problems – Issues and constraints

Unit-IV:

SHIPMENT

Introduction –Terms - Shipment of Export cargo by sea, by air and by post – Procedure and Documents required for shipment of cargo –EPCG scheme – Duty drawback- Central excise and Sales Tax exemption –Documents required for export incentives

Unit-V:

Export Documentation

Export Documentation- Framework- Standardized Pre-shipment. Export Documents – Commercial and Regulatory Documents- Export credit instruments and procedure –Letters of Credit and Types of Documents required for export credit.

REFERENCE BOOKS

- Transportation Management with SAP TM 9: By Jayant Daithankar, Tejkumar Pandit
- Transportation Management by Subrata Chattopadhyay- Everest Pub
- Logistics Management by Shagufta Praveen kalyani Pub
- Export management- DC Kapoor Vikas Pub

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	International Trade	CBITR 604	2017-18

SYLLABUS

UNIT – I:

INTERNATIONAL TRADE: POLICIES & RELATIONS

Introduction – Tariffs – Subsidies - Import Quotas - Voluntary Exports - Restraints - Administrative Policies - Government Intervention in Formulating Trade Policies – International Trade Relations - International Law & Business Firm.

UNIT – II:

INTERNATIONAL PRODUCT & PROMOTION:

Introduction – Product - Globalization of Markets and Brands – Pricing - Place/Distribution – Promotion - International Marketing Strategies in Different Stages of Product Life Cycle.

UNIT – III:

RECENT TRENDS IN INTERNATIONAL TRADE:

International Market Intelligence - International Marketing Information System - Generic Strategies of International Business - Acquisition of Resources – Location Decisions – International logistics Management.

UNIT – IV:

FOREIGN TRADE POLICY & REGULATION:

Foreign Trade Policy - Strategy for Building Exports – The Foreign Trade (Development and Regulation) Act, 1992 - Export Promotion – Special Economic Zones.

UNIT – V:

E – BUSINESS VIS –A –VIS INTERNATIONAL BUSINESS:

Introduction - New Trends in Information Technology – Re-Engineering, the International Business Process – E. Business – Features of E. Business - Advantages & Disadvantages of E- Commerce’.

References:

- ❖ International Business – Himalaya Publishing House – P. Subba Rao.
- ❖ International Trade and Export Management – Himalaya Publishing House – Francis Cherunilam.
- ❖ International Business, (4th Edition) PHI publication - Francis Cherunilam (2007).
- ❖ International Trade - J.N Bhagwati. J, (ed.)

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Corporate Accounting	CBCRA 605	2017-18

SYLLABUS

Unit I:

Company final Accounts - Provisions relating to preparation of final Accounts - Profit and Loss A/c and Balance sheet

Unit II:

Profits prior to incorporation - Nature - ascertainment - treatment or profit /loss.

Unit III:

Bank Accounts - Books and registers to be maintained by Banks - Slip system of posting - Rebate on Bills discounted - Schedule of advances - Non performing assets - Legal provisions relating to preparation of final Accounts.

Unit IV:

Internal Reconstruction - Accounting treatment - Preparation of Final statements after Reconstruction.

Unit V:

Amalgamation - In the nature of Merger and Purchase - Calculation of Purchase Consideration - Treatment in the books of transferor and Transferee (as per Accounting standard 14, excluding intercompany holdings).

Reference books: -

Corporate Accounting - Sp. Jain & K.L. Narayan., Kalyan publications

Corporate Accounting - Dr. P.C. Tulsian - S. Chand & Co.

Corporate Accounting - S .Vasudeva Himalaya Publications

Advance Accounting - Mc shukla &T.S Grewal S .Chand & Co. Publication

Corporate Accounting - T.S.Reddy A.Murthy Margham publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Production Management	CBPM 606	2017-18

SYLLABUS**UNIT-I: PRODUCTION SYSTEMS & METHODS**

Introduction types of production. Manufacturing systems – continuous production system – characteristics – types-mass production – process production -assembly production. Advantages & disadvantages of production intermittent production system – job production. Batch production –merits & demerits. Difference between job product, batch & continuous production.

UNIT-II:- PROCESS PLANNING & DESIGN

Introduction meaning of process planning, Overall development of process plans, re-designing, review of process planning. Factors influencing process design – process analysis, process study process charts & diagrams. process assembly line balancing.

UNIT-III: PRODUCTION -ROUTING AND SCHEDULING

Production routing-definition- importance of routing- procedure for the preparation of route sheet-Scheduling-definition-objective-problems-forms of schedules

UNIT-IV: TOTAL QUALITY MANAGEMENT

Introduction need for excellence – TQM as key to excellence- factors of excellence- meaning & definition of TQM. Concept of quality – definition & dimensions of quality, elements of TQM. Steps in implementing TQM.

UNIT –V: TOOLS FOR PERFORMANCE IMPROVEMENT

Introduction, Strategic tools for radical performance improvement, implementation six sigma & implementation, JIT, TQM – merits & demerits.

REFERENCE BOOKS:-

Production & materials management – P. Saravanavel & S. Sumathi

Production & operations management – K. Aswathappa & K. Shridhara bhar

Class	Semester	Title of The Paper	Paper Code	W.E.F
III.B.COM (LOG)	VI	Supply Chain Management	CBSCM 607	2017-18

SYLLABUS

Unit-I: PURCHASING IN SUPPLY CHAIN

Introduction - objectives-purchase decisions-types of purchase decisions-significance of purchasing-factors affecting purchasing-purchasing procedure-Centralized VS Decentralized purchasing

Unit-II: INVENTORY MANAGEMENT

Introduction – Need for inventory management – Inventory Cost associated with supply chain – Inventory control techniques- ABC classification – Factors affecting Inventory control – Economic Ordering quantity – (EOQ)

Unit-III: JUST-IN-TIME & BENCHMARKING

Evolution of JIT – Benefits of JIT –Limitation of JIT-Objectives of JIT-application of JIT - Benchmarking-Types of Benchmarking-Steps in Implementing Benchmarking

Unit-IV- OUTSOURCING

Introduction-Benefits of Outsourcing-Reasons of companies' outsourcing-types of Outsourcing- Outsourcing procedure – Strategic Outsourcing- Outsourcing opportunities in India

Unit-V: IT IN SUPPLY CHAIN MANAGEMENT

Introduction –Evolution of IT in Supply Chain Management -Role of IT supply chain-Electronic Customer Relationship Management – Major application clusters in customer relationship management-Customer relationship management Key Business Process Areas

Reference Books

1. Supply Chain Management - Er.Sachin Srivastava - Kalyani Publications
2. Supply Chain Management - K. Sridhar Bhat - Himalaya Publishing House
3. Supply Chain Management –Sunil Chopra - Pearson publications

B.Com (T.P)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	I	Principals of Economics	CBPE101	2015-16

SYLLABUS**Unit-I-Introduction** **15 Hrs**

Meaning and Definitions of Business Economics-Nature and scope of Business Economics-Micro and Macro Economics differences- Cardinal Utility & Ordinal Utility.

Unit-II-Demand Analysis **15 Hrs**

Meaning and Definition of Demand- Determinants of Demand—Demand function—Law of demand-Demand Curve-Exceptions.

Unit-III- Elasticity of Demand **15 Hrs**

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand Measurements of Price elasticity of demand– Total outlay Method–Point Method– Arc Method.

Unit-IV-Cost and Revenue Analysis **15 Hrs**

Classification of Costs –Total- Average–Marginal and Cost function–Long-run–Short-run.

Unit-V-Break-Even Analysis **15Hrs**

Type of Costs–Fixed Cost–Semi-variable Cost–Variable Cost–Cost behavior-Break even Analysis uses and limitations.

Reference Books

1. S. Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics-Kalyani Publications.
3. Business Economics–Himalaya Publishing House.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	I	Central Sales Tax	CBCST101	2015-16

SYLLABUS**Unit-I: Introduction to the Central Sales Tax Act, 1956:** **15 Hrs**

Historical Background - Concept of CST - Significance of CST - Objectives of CST - Features of CST.

Unit-II: Important Terms & Definitions: **10 Hrs**

Appropriate State, Business, Dealer, Deemed Dealer, Registered Dealer, Goods, Declared Goods, Export Sale, Penultimate Sale, Place of Business, Sale, Deemed sale, Sale price, Turnover, Inter State Trade or Commerce, Subsequent Sale, Branch Transfer, Consignment Transfer.

Unit-III: Registration of Dealer: **15 Hrs**

Procedure for Registration of Dealer –Certificate of Registration - Amendment of Certificate - Cancellation of Certificate – Issue of Duplicate Certificate.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	I	Fundamentals Of Accounting	CBFA101	2015-16

SYLLABUS

Unit-I

Introduction to Accounting Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II

Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III:

Trail Balance and Rectification of Errors: Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV

Bank Reconciliation Statement: Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavorable balances.

Unit -V:

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

References:

1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjyothi, Fundamentals of Accounting; Maruthi Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	I	Incometax-1	CBCIT101A	2015-16

SYLLABUS

Unit 1. : Indian Tax System

Meaning of Tax, Central and State powers of Taxation – Distribution of revenues between Central and State – Direct and Indirect taxes – advantages and disadvantages- distinguish between direct taxes and indirect taxes.

Unit 2 : Direct Taxes of Central Government

Income tax – Wealth Tax – Gift Tax -Interest tax Act, 1974 with effect from 1.4.1993 - Expenditure Tax Act, 1987. (Introduction only)

Unit 3 : Indirect Taxes of Central Government

Central Excise – Customs duty – Central Sales Tax (Introduction only)

Unit 4: Taxes of the State Government

Taxes on sale and purchase of goods - Taxes on land and buildings – octroi duty – tax on profession - business toll tax – tax on motor vehicles – transportation tax on ads –tax on luxuries –entertainment and amusements –tax on betting and gambling –tax on electricity –tax on animal –stamp duty – agricultural income –income tax – land revenue (briefly).

Unit 5: Income tax law

Extent and application - definitions – assessee – year – previous year - exceptions to previous year - previous year in case of deemed incomes – residential status - incomes which do not form part of total income - computation of total income – heads of income- income from salaries – income from house property (including problems)

REFERENCES:

Everett, R.E., Lows, R.L., and Johnson, D.R. (1996).Financial and Managerial Accounting

Gauthier, Stephen J. (2001). Governmental Accounting, Authority and Financial Reporting.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	II	A.P. Value Added Tax	CBAPVT201	2015-16

SYLLABUS**Unit-I :****Introduction to VAT - AP Value Added Tax 2005:**

Historical Background – concept of VAT –Significance of VAT Objectives of VAT-Features of VAT.

Unit-II

Important terms & definitions: Business, Casual Trader, Dealer, Exempt sale, Exempted turnover, Goods, Input Tax, Output Tax, Place of Business, Tax invoice, taxable turn over, Total turnover, Turnover tax(TOT), Turn over Tax Dealer(TOT Dealer), VAT, VAT Dealer.

Unit-III: Registration of Dealer and Assessment

Procedure for Registration of dealer- TIN Number- TOT Number – cancellation and Amendment of registration – Returns & self –assessments – Assessments – Role of VAT.

Unit-IV: Offences & Penalties:

Penalty for: failure to register, failure to file a return, failure to pay tax when due, assessment – issued for failure to file a return, failure to use or misuse of TIN & GEN, failure to issue of tax invoice and for use tax invoices, failure to maintain records, unauthorised excess collection of tax – prosecutions for offences.

20 HRS**Unit-V Computation of VAT:**

Calculation of Input tax –Output Tax – setoff – calculation of VAT liability- and Net tax payable- (Problems)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	II	Business Organization	CBBO201	2015-16

SYLLABUS

UNIT-I Introduction

Concepts of business, Trade, Industry and Commerce- Business –Features of Business-Trade- Classification – Aids to Trade- Industry- Classification- Relationship of Trade, Industry and Commerce.

Unit –II Business Factors & Entrepreneurship

Functions of Business-Factors Influencing the Choice of Suitable form of organization- Meaning of Entrepreneurship- Types – Functions of Entrepreneurship.

Unity-III Forms of Organisation

Sole Proprietorship- Meaning- characteristics –Advantages and Disadvantages- Partnership- Meaning- Characteristics- Kinds of Partners- Advantages and Disadvantages- Partnership Deed –Hindu Undivided Family.

Unit-IV Company

Company-Meaning-Characteristics- Advantages –Kinds of Companies – Differences between Private Ltd. And Public Ltd. Companies.

Unit –V Company Incorporation

Preparation of Important Documents for Incorporation of Company- Memorandum of Association- Articles of Association- Differences Between Memorandum of Association and Articles of Association Contents of Prospectus- Statement in Lieu of Prospectus

References:

1. Chottorjee S.K. Business Organisation
2. .JagdishPrakash Business Organistaton and Management

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	II	Quantitative Techniques – II	CBQT201	2015-16

SYLLABUS

UNIT-I: DISPERSION

Meaning-definition-objectives of dispersion-range, quartile deviation- mean deviation-standard deviation and coefficient of variation.

UNIT – II : MEASURES OF SKEWNESS

Definition and objectives of Karl-Pearson's and Bowley's coefficient of skewness-problems related to Karl-Pearson's and Bowley's coefficient of Skewness individual-discrete-continuous series.

UNIT – III : MEASURES OF RELATION

Meaning-definition-uses of correlation-types of correlation-Karl person's correlation coefficient-Spearman's rank correlation, probable error and standard error-meaning and utility of regression analysis, comparison between correlation and regression equations, interpretation of regression co-efficient.

UNIT – IV : SET THEORY :- Set-subset-types of sets-operations on sets-ven diagram-de-morgan laws-application of set theory-laws of indices-arithmetic progression-geometric progression-harmonic progression.

UNIT – V : VARIOUS STATISTICAL ORGANIZATIONS IN INDIA :- Meaning-types-Indian statistical organization-statistical organization at the center-Central Statistical Organisation (CSO), National Sample Survey Organisation (NSSO)-ministry of planning-ministry of agriculture and cooperation-ministry of commerce-ministry of labour-ministry of industrial development-ministry of home affairs and ministry of defence-statistical organization in the states, non-governmental statistical organization-Indian Statistical Institute (Calcutta), Institute of Agriculture Research Statistics (IARS), Department of statistics (Reserve Bank of India).

REFERENCE BOOKS :

1. Statistical Methods -- Gupta, S.C
2. Quantitative Techniques-I -- Chikkodi, Obul Reddy, Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	II	Fundamentals of Accounting – II	CBFA201	2015-16

SYLLABUS

UNIT I : Bank Reconciliation Statement

Bank Reconciliation Statement – Need – Reasons for difference between cash book and pass book balances – problems on favourable and over draft balances – Ascertainment of correct cash book balance. Preparation of bank reconciliation statement using computers.

UNIT-II : Bills of Exchange

Definition – Promisory note and Bills of exchange – recording of bills transactions in books – books of drawer and drawee – honour and dishonor of the bills – renewal of bills – retiring a bill under rebate – accommodation bills.

UNIT – III: Consignment and Joint Ventures :

Consignment– Features, Terms used- Proforma invoice – Account sale – Delcredere commission – Accounting treatment in the books of the consignor and the consignee – Valuation of consignment stock – Normal and abnormal Loss – Invoice of goods at a price higher than the cost price.

UNIT-IV

Joint ventures - features-difference between joint venture and consignment, Accounting Procedure – Methods of keeping records for Joint venture accounts-method of recording in co ventures books-separate set of books method.

UNIT-V : Depreciation – Provisions and Reserves :

Depreciation-Causes-objects of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of providing depreciation – Straight line method – Diminishing Balance Method – Annuity Method – Sinking Fund Method. Provisions and Reserves – Reserve Fund – Different Types of Provisions and Reserves.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com (T.P)	II	Income Tax -II	CBIT201	2015-16

SYLLABUS

UNIT – I : Profits and gains from Business or Profession

Basis of charge – methods of accounting – specific deductions allowed u/s 30 – deemed profits computation of business income – computation of professional income of a medical practitioner, advocate and a chartered accountant – Depreciation – Conditions for charge of depreciation – Block of assets – Rates of depreciation – New method of charging depreciation.

UNIT – 2 : Capital gains

Basis of charge – capital asset – types of capital assets – transfer of capital assets – computation of short term and long capital gain – exemptions from capital gain.

UNIT – 3: Other sources

Basis of charge – chargeable incomes – dividend income – interest on securities – casual incomes – deductions from other Sources. – interest exempt from tax

UNIT – 4 : Miscellaneous topics

Income of other persons including assesses total income (aggregation of incomes) – set off and carry forward of losses – deductions from Gross Total income – rebate of income tax under section 88.

Reference Books :

- 1). Income tax law and practice : V.P. Gaur and D.B. Narang, Kalyan Publications.
- 2) Students Guide to income tax :Vinod K. Singhania, Taxmam publication.Systematic approach to Income tax – Ahuja&Gupta Bharat Publication.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	III	Advanced Accounting	CBAA301	2016-17

SYLLABUS:

UNIT – I (Accounts from Incomplete Records Hire Purchase and Installment Purchase system) :

Single Entry Features – Journal and Ledger – Recording of transactions – Ascertainment of Profit (Statement of Affairs method)

UNIT – II :

Hire purchase system Features – Accounting treatment in the Books of Hire Purchases and Hire Vendor – Default and Repossession – Installment purchase system

UNIT – III : (Branch and Departmental Accounts) :

Features – Books of Accounts – method of Accounting – Debtors system stock and debtors system only.

UNIT – IV : Departmental Accounts : Need, Features, Basis for Allocation of Expenses, treatment of Inter – Departmental Transfer at cost or setting Price – Preparation of Departmental Profit and loss

UNIT – V : Accounting of Non-Profit organizations – Non-Profit entities – Features of Non-Profit entities – Accounting Process- Preparation of summaries Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations.

REFERENCES:

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	III	Banking And Financial Services	CBBFS301	2016-17

SYLLABUS:**UNIT – I****INTRODUCTION TO FINANCIAL SERVICES :**

Meaning Of Financial services, S structure of Indian Financial system, importance of financial system for the Economic development Definition of Bank, functions of commercial banks and reserve bank of India.

UNIT – II**BANKING SYSTEMS AND ITS REGULATION**

Banking Systems – Branch banking, unit banking, group banking, Mixed banking, Investment banking. Banking sector reforms classification of assets and NPA's

UNIT – III

INNOVATIONS IN BANKING: ATM's, E-Banking, credit cards on line & off shore banking etc .

UNIT – IV

OTHER BANKING SYSTEMS : Regional rural banks, co-operative banks , Micro Finance, priority sector lending : Indigenous banking : Role of NABARD and s development

References:

- ❖ Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
- ❖ Banking Theory, Law and Practice : B. Santhanam; Margam Publications
- ❖ Banking and Financial Systems : Aryasri
- ❖ Introduction to Banking : Vijaya Raghavan
- ❖ Indian Financial System : M.Y.Khan
- ❖ Indian Financial System : Murthy & Venugopal

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	III	Income Tax Procedures And Practices-I	CBITPP301	2016-17

SYLLABUS:**UNIT-I**

Deductions from gross total income- gross total income- definition- deductions in respect of certain payments U/S 80c to 80gga- deductions in respect of certain incomes U/S 80ia to 80 U/A

UNIT-II

Schedule of rates of tax- methods of taxation step system, slab system- rebates, U/S 86,87A, 88E and relief U/S 89(1) for arrears of salary. Agricultural income- definition- tests, types-partly agricultural and partly business- calculation of tax and integration

UNIT-III

Assessment of individual- treatment of income received from certain other institution computation of total income and tax liability

UNIT-IV

Assessment of Hindu undivided family- schools of Hindu law- residence status of HUF- assessment of HUF- partition of HUF- impartible estate- income not to be treated as family income

UNIT-V

Income tax authorities- administration of income tax act- CBDD- powers of director general, chief commissioner, assisting officer power relates to search and seizure.

REFERENCES:

- ❖ V P Gaur DB Narang Pooja Ghai: income tax law and practice Kalyani publications.
- ❖ Vinod K Sighamia. Direct taxes tax man publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	III	Business Mathematics	CBBM301	2016-17

SYLLABUS:

Unit -I Analysis of Time Series-

Meaning and Definitions – characteristics of time series – utility of time series Analysis. Components of time series- measurement of trend –free hand graphic method semi average method moving average method.

Unit-II Analysis of Time Series-II

Measurement of trend by straight line method of least square- seasonal variations meaning objectives seasonal indices- computation of seasonal indices by simple average method.

Unit-III Differentiation –I

Differential co-efficient meaning, definition- different models of differentiation, model of the derivation of a constant with any function- model for the derivation of constant model for a derivation of an exponential function- model for the derivative of an exponential function- model of the derivative of the logarithmic function- model of the derivative of a sum of two or more functions- product rule- quotient of the two functions- chain rule (simple problems).

Unit-IV Differentiation-II

Differentiation of implicit functions- differentiation of higher order- maxima & minima. Integration- meaning- definition- indefinite integration- integration by substitution- integration by parts- elementary knowledge and simple problems.

Unit – V Linear programming

Meaning and definition- types of linear programming problems- formulation of linear programming problem and importance of linear programming- graphic method (maximization and minimization) and simplex method (maximization problems) of linear programming.

REFERENCES:

- ❖ Quantitative Techniques- DIGAMBAR PATRA
- ❖ Business Statistics- AGGARVALBHARDWAJ

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	III	Wealth Tax	CBWT 201	2016-17

SYLLABUS

Unit – I : PRELIMINARY AND BASIC CONCEPTS

Introduction, definition – assessee, assessing officer, assessing year, assets, company, co-operative society, Net wealth, Principal officer, valuation Date, valuation officer, charge of Tax- Persons liable to wealth tax.

Unit – II ASSETS, DEEMED ASSETS AND EXEMPTED ASSETS

Introduction, concepts of Asset, nature of assets, Guesthouse, Residential House, Farm House, jewellery, Yatches, Boats and aircrafts, urban land and cash in hand, location of assets and Debts – Deemed assets, exempted assets.

Unit – III VALUATION OF ASSETS

Introduction, valuation of self-occupied residential house, valuation of building, valuation of assets of business, valuation of interest in firm or association of Persons, valuation of life interest, valuation of jewellery.

Unit – IV COMPUTATION OF WEALTH TAX LIABILITY

Introduction, incidence of Tax, computation of Net wealth, debts owed, debts deductible and debts not deductible, Rounding off net wealth, basic exemption, tax rate, Steps in computing Wealth Tax.

Unit – V ADMINISTRATION OF WEALTH TAX

Introduction, Wealth Tax authorities, assessment procedure of Wealth Tax, filing of returns, liability of assessment in special cases Penalties and prosecution under wealth tax act.

REFERENCE BOOKS :

Wealth tax & Central Sales tax Act : V.P. GAUR
D.B. NARANG
S,K, NAYYAR.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	IV	Advanced Accounting	CAA 401	2016-17

SYLLABUS

Partnership Accounts:

UNIT – I

Legal provisions in the absence of partnership deed - fixed and fluctuating capitals - preparation of final accounts - Accounting Treatment of Goodwill and admission of a partner.

UNIT-II

Accounting Treatment of Retirement and Death of a partner.

UNIT – III

Dissolution of Firm –Legal rules in Garnel Vs Murray case.

Company Accounts :

UNIT – IV

Issue of shares at par, premium and at Discount forfeiture and Re- issued of shares – Recording of transactions relating to issue of shares using computers.

UNIT – V

Issue and Redemption of Debentures – Redemption out of profits – sinking fund method.

Books Suggested :

1. SP Jain and K L Narang
2. A Mukherjee and M.Hanif
3. V. Subba Rayudu.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	IV	Business Mathematics-II	CBBM401	2016-17

SYLLABUS

UNIT-1

Meaning, definition, characteristics-importance of index numbers-cost of living index numbers-methods of construction of cost of index numbers-aggregate expenditure method, family budget method.

UNIT-2

Different methods in computing an index numbers-simple aggregate method-simple relative method-weighted aggregate method-weighted relative method- construction of quantity index numbers-various tests of consistency of methods of index number.

UNIT-3

Different methods in computing the series of index numbers-fixed base index numbers-chain base index numbers-base shifting.

UNIT-4

Meaning and definition of probability-concept of certain terms related to probability-types of event-rules of probability (or) theorems of probability-rule of multiplication-rule of summation.

UNIT-5

Meaning and importance of theoretical distribution-types –binomial distribution-poisson distribution and normal distribution.

Reference

Quantitative techniques – DIGAMBAR PATRI

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	IV	Income tax Procedures and Practice-II	CBITPP401	2016-17

SYLLABUS

UNIT – I

Assessment of firms:

Meaning of partnership- meaning and features of LLP which fulfills conditions u/s 184-remuneration u/s 40 (b)-computation of total income of a firm.

UNIT – II

Assessment of Firm II:

Assessment of five heads U/S 185-computation of total income u/s 185

UNIT – III

Assessment of association of partners

Meaning of AOP /BOI- computation of total income of AOP/BOI – rates of tax for AOP/BOI-

Treatment of share of income from AOP / BOI (problem only)

UNIT – IV

Return of income – types of income tax returns - forms of return of income –PAN –situations where PAN quoted (theory only)

UNIT – V

Assessment procedure:

Assessment –types of assessment –self assessment – provisional assessment –regular assessment

–best judgment assessment –rectification of mistakes .

Recommended Books :

1. V P Gaur DB Narang Puja Ghai : Income tax law and practice Kalyani publication.
2. Vinod. K Sighania . Direct taxes taxman & publications.
3. Ahuja Gupta : Direct taxes Bharat publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	IV	Insurance and Services	CBIS401	2016-17

SYLLABUS

UNIT-1:

Definition of banker and customer and their relationship, types of customer and modes of operations, procedure and precautions for opening an account, passbook and it's features, rights and duties and obligations of the banker.

UNIT-2:

Promissory note, bill of exchange and cheques, difference between them, types of crossing the cheque, payment of cheque and consequences of wrongful dishonor of cheque.

UNIT-3:

Indian money market: characteristics, structure, problems and reforms in Indian money market
Indian capital market: composition and growth of primary and secondary markets, difference between money market and capital market, stock exchange, NSE, OTCEL, SEBI.

UNIT-4

Life insurance: Meaning, definition of insurance, brief history, principles of insurance, characteristics, advantages, procedure for issuing of life insurance policy, issue of duplicate policy, nomination, surrender value, policy loans, assignment, revivals and claim settlement.

Non life insurance: fire insurance, marine insurance, social insurance, vehicle insurance and rural insurance.

UNIT-5

Regulation of insurance in India, insurance act 1938,IRDA 1999.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Com (T.P)	IV	Service Tax	CBST401	2016-17

SYLLABUS:

UNIT-I Preliminary

Extent and commencement and applications, definitions, charge of service tax.

UNIT-II Taxable services

Meaning of all taxable services liable for taxing services, valuation of taxable services for charging service tax, payment of service tax

UNIT-III Registration producer of service tax

Forms required for registration, exception available to small service providers.

UNIT-IV Assessment procedure

Functioning of returns, assessment, best judgement assessment, value of taxable services, escaping assessment, rectification of mistakes. Administrative setup.

UNIT-V Offences and penalties

Interest on delayed payment of service tax, penality for failure to pay service tax, penalty for failure to furnish prescribed returns, penalty for suppressing value of taxable services, offences by companies.

REFERENCES:

- ❖ Bharat's law practice and procedure of service tax
- ❖ Mittal JK Bharat law house private limited

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Office Management	CBOFM501	2017-18

SYLLABUS

Unit-I: Office and Functions:

Features of Modern Office - Layout Planning - Interior, Security of the Office, Knowledge of Stationery Items and Maintenance - Office Manager - Duties and Responsibilities - Scientific Office Management - Work Simplification.

Unit-II: Office Systems:

Office procedures - Guides and Common charts of Office work simplification - Planning for improving office procedures - Forms Design, Design of Forms - Reproduction of Forms - Office Reproduction Services.

Unit-III: Records Storage and Retrieval:

Nature of Files and Records - Storage - Purposes of Records Storage and Control - Filing systems, equipment and supplies - Records retention – ICT applications in Office Management.

References:

1. James, A.F. Stoner et. al: Management, Englewood Cliffs, N.J Prentice Hall
2. Mahajan, J.P.: Fundamentals of Office Management, Ane Books Pvt. Ltd.
3. Bhatia, R.C. Principles of Office Management, Lotus Press, New Delhi.
4. Terry, George R: Office Management and Control, R.D. Irwin.
5. Duggal, B: Office Management and Commercial Correspondence, Kitab Mahal.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Cost Accounting	CBCA502	2017-18

SYLLABUS

Unit-1: Introduction :

Types of accounting – cost accounting – objectives and functions of cost accounting – cost accounting and financial accounting –comparison- advantages of cost accounting-limitations.

Cost concept and classification:- concept of cost – cost centre and cost unit –methods of costing –techniques of costing -classification of costs –special costs for management decision –making – elements of cost –cost sheet. problems

Unit -2: Elements of cost:

Material cost - classification of materials –inventory or material control –ABC technique-methods of pricing material issues problems and solutions –problems on base stock methods, FIFO method ,LIFO method , weighted average methods only - (Excluding simple average method, material levels and E.O.Q).

UNIT -3 : Labour Cost

Direct and indirect labour –methods of wage payment (labour remuneration)- time rate system – piece rate system –incentive schemes (Halsey plan ,rowan plan &Taylor plan –Problems .

UNIT -4 : Overheads

Meaning and definition , classification of overheads accounting of overheads – allocation and apportionment (primary distribution) apportionment of service department costs (secondary distribution) – problems .

UNIT -5_: Process costing

Meaning- Characteristics of process costing – process costing procedure – process losses and wastage –problems and solutions (Excluding by products and joint products problems).

Standard Costing :- introduction –meaning of standard cost and standard costing –variance analysis –material variances- labour variances .(problems on material variance and labour variance only)

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand & Sons.
5. S.N .Maheswari – Principles of Management Accounting.
6. I.M .Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Indirect Taxes	CBIT504	2017-18

SYLLABUS

Unit 1: Introduction

Basic aspects of Indirect Taxes- Constitutional provisions of Taxation in India – Features of Indirect Taxes – Types or forms of Indirect Taxes – Advantages and Dis-advantages of Indirect Taxes

Unit- II: Customs Act

Customs Act – Nature of customs duty – Different types of duties – bill of entry – customs area – customs station – dutiable goods – exported goods – goods – import manifest – imported goods – importer – Indian customs water – land customs station– Different types of assessments

Unit – III Goods and Service Tax – I

Meaning of GST – Objectives and Challenges of GST – Features and benefits of GST

Unit – IV Goods and Service Tax – II

Taxes included under GST – Models of GST – Applicability of CGST and SGST – Impact of GST – Chargeability of tax under GST

Unit – V Goods and Service Tax – III

Levy and exemption from tax – Levy and collection of CGST and SGST – Composition levy – Taxable person – Power to grant exemptions from GST

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Business Law	CBBL503	2017-18

SYLLABUS

Unit-I CONTRACT ACT

Introduction – Definition of Contract-Obligation- Nature of Contract-Essential Elements valid contract-Void and voidable Contracts-Indian Contract Act-1872.

OFFER & ACCEPTANCE

Definition of valid offer, Acceptance and Consideration- Essential elements of a valid-Offer, Acceptance and Consideration–Essential elements of Legality of Object and Consideration

UNIT-II- CAPACITY OF THE PARTIES AND CONTINGENT CONTRACT

Introduction-Capacity to contract-who are competent to contract-Person not Competent to Contract- Minor-Law relating to Minor

CONTINGENT CONTRACT

Definition-Collateral Events- Characteristics of Contingent Contract- Rules - Rules relating to Brach of Contract.

UNIT-III Sale of GOOD ACT

Introduction-Scope-Goods-Classification of Goods-Contract of Sale- Sales and Agreement to Sell-Sales and Bailment-Caveat Emptor-Implied Conditions and Warranties-Rights of Unpaid Vendor.

Unit-IV CONSUMER PROTECTION ACT

Introduction –Objectives-Rights of Consumers- Definitions-District Forum- Restrictive trade Practice-Unfair Trade Practice-Redressal Machinery under the act- District – State Commission – National Commission -Consumer Protect Councils-Central-State- district-

Unit-V THE INFORMATION TECHNOLOGY ACT 2000 AND CYBER LAW

Introduction- Objectives of the Act-Exceptions-Electronic Governance –Digital Signature-License Issue for Digital Signature- -Procedure-Digital signature certificate- Penalties and Adjudication.

REFERENCES:

Legal Aspects of Business – Bhagavathi Pillai

Business Law S.N Maheshwari- Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Corporate Accounting and Accounting for Service Organizations	CBCAAS505	2017-18

SYLLABUS

Unit I: Company Final accounts

Company final Accounts - Provisions relating to preparation of final Accounts -Profit and Loss A/c and Balance sheet

Unit II: Valuation of shares.

Valuation of shares – Need for valuation – methods of Valuation – Net assets Method, Yield basis Method, Fair value Method

Unit III: Accounts of Insurance Companies.

Life Insurance Companies – preparation of Revenue Account, profit and loss Account, Balance sheet and valuation Balance sheet.

Unit IV: Bank Accounts

Bank Accounts - Books and registers to be maintained by Banks - Slip system of posting - Rebate on Bills discounted - Schedule of advances - Nonperforming assets - Legal provisions relating to preparation of final Accounts.

UNIT – V : Non-Profit organisations

Accounting of Non-Profit organizations – Non-Profit entities – Features of Non-Profit entities – Accounting Process- Preparation of Receipts and Payments Account meaning and Special Features – Procedure for Preparation – uses and Limitations

Books Suggested :

1. Jain & Narang
2. A. Mukherji and M. Hanif
3. V. Subba Rayudu

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Customs Act	CBCU506	2017-18

SYLLABUS**Unit I: Introduction**

Customs Act – Nature of customs duty – Different types of duties – constitutional authority – – bill of entry – customs area – customs station – dutiable goods – exported goods – goods – import manifest – imported goods – importer – Indian customs water – land customs station – person in-charge – proper officer – shipping bill – WTO – WCO – GATT - Procedure for assessment – Different types of assessments

Unit II: Levy Of Customs Duty

Levy of customs duty – Mechanism and Organisation – Appeals and Penalties – Improper imports – Improper exports – Power of customs officers –

Unit III: Pricing

Different methods of providing for determination of price of imported goods – Inclusions in customs value – Exclusions from customs value

Unit IV: Import And Export Procedure

Export procedure – Import procedure - Exemptions from customs duty - Baggage provisions – Exempted baggage – Import and Export procedure through Courier - Import and Export procedure through Post

UNIT V: DUTY DRAWBACK

Provisions regarding duty drawback – Procedure for claiming duty drawback – Duty drawback rates – Notified goods – Specified goods – Customs house agent – Stores – Prohibited goods under customs act -

References:

INDIRECT TAXES: V.S.Datey

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	V	Corporate Taxation	CBCRT507	2017-18

SYLLABUS

Unit-I: Tax Provisions of Companies:

Income from Business or Profession, Tax Provisions for certain types of businesses.

Unit-II: Tax Provisions of Companies: Capital Gains, Income from Other Sources - Tax Provisions for Off shore and Special Tax Zones.

Unit-III: Computation of Taxable Income: Computation of Gross Total Income - Deductions - Carry-forward and set-off of losses - Minimum Alternative Tax (MAT).

Unit-IV: Filing of Return and Assessment: Procedure for Filing Returns, e-Filing, Assessment, Reassessment and Settlement of Cases, Special Procedure for Assessment of Search Cases.

Unit-V: Tax Authorities and Administration: Powers and Duties – Appeals and Revisions – Tax Administration - Collection of Tax at Source – Advance payment of Tax – Recovery and Refund of Tax – Penalties, Offences and Prosecution.

References:

1. T.S.Reddy & Y.Hari Prasad Reddy, Income Tax Theory, Law and Practice, Margham Publications, Chennai.
2. Vinod K Singhanian, Students' Guide to Income Tax, Taxman Publication.
3. R. Bupathy, A study on Income Tax & CST, Prime Knowledge Series, Chennai.
4. Mehrotra & Sr. Goyal, Income tax Law and Accounts, Sahitya Bhavan Publication
5. Vinod. K. Singhanian; Direct Taxes – Law and Practice, Taxman Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Event Management	CBEM601	2017-18

SYLLABUS

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events – Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets – Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

References:

1. Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga Sagar Singh - Har-and Publications Pvt. Ltd.
2. Event Management by Swarup K. Goyal - Adhyayan Publisher.
3. Event Management & Public Relations by Savita Mohan - Enkay Publishing House
4. Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
5. Special Event Production - Doug Matthews.
6. Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry. New Jersey: Pearson Prentice Hall.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Marketing	CBMR604	2017-18

SYLLABUS

Unit-I: Introduction: Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: Consumer Markets and Buyer Behaviour: Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling and the their relative merits demertis.

Unit-IV: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Auditing	CBAU605	2017-18

SYLLABUS

Unit-I: Auditing: Origin - Meaning – Objectives – Importance of Auditing – Advantages of Auditing - Disadvantages of auditing.

Unit-II: Types of Audit: Continuous audit – Final audit – Periodical Audit – Balance sheet audit – Interim audit – Management audit

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit – Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Verification : Vouching of cash and trading transactions – Verification of assets -

Valuation Vs Verification

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Removal - Rights, duties, liabilities and disqualifications - Audit report: Contents

References:

1. S. Vengadamani, “Practical Auditing”, Margham Publications, Chennai.
2. Ghatalia, “Principles of Auditing”, Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, “Auditing Theory and Practice, Kalyani Publications, Ludhiana.
4. N.D. Kapoor, “Auditing”, S. Chand, New Delhi.
5. R.G. Saxena, “Principles and Practice of Auditing”, Himalaya Publishing House.
6. Jagadesh Prakesh, “Principles and Practices of Auditing” Kalyani Publications, Ludhiana.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Management Accounting	CBMA602	2017-18

SYLLABUS

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II: Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV: Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V:Marginal costing : Calculation of Break-even point - Uses and limitations - Margin of safety –calculation of P.V. Ratio (including Problems).

References:

1. S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing,.
2. I.M Pandey, “Management Accounting”, Vikas Publishing House, New Delhi,
3. Shashi K. Gupta & R.K. Sharma, “Management Accounting: Principles and Practice”,
4. Kalyani Publishers, Ludhiana.
5. Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
6. Charles T. Horngren, [et.al](#), “Introduction to Management Accounting” Person
7. EducationIndia, New Delhi, 2002.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Commercial Geography	CBCG603	2017-18

SYLLABUS

Unit - I:

THE EARTH:

Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit - II:**INDIA – AGRICULTURE:**

Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit - III:**INDIA – FORESTRY:**

Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit - IV:**INDIA – MINERALS AND MINING:**

Minerals – Renewable and Non-Renewable – Use of Minerals – Mines – Coal, Barites etc. – Singareni Coal mines and Mangampeta Barites - District-wise Profile.

Unit - V:**INDIA – WATER RESOURCES – RIVERS:**

Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers – Inter-linking of Rivers - Experience of India and Andhra Pradesh.

References:

1. Shabiar Ahmad; Quazi ,Natural Resource Consumption and Environment Management, APH Publishing Corporation.
2. Tarachand, Economic and Commercial Geography of India, Vikas Publishing House.
3. Dr. S. Sankaran, Commercial Geography, Margam Publications, Chennai.
4. C. B. Memoria, Commercial Geography, Lal Agarwal & Co.
5. C. B. Memoria, Economic and Commercial Geography, Lal Agarwal & Co.
6. Vinod N. Patel, Commercial Geography, Oxford Book Company

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Goods and Services Tax	CBGST606	2017-18

SYLLABUS**Unit I: Introduction**

Overview of GST - Concepts – Need for Tax Reforms - Justification for introduction of GST - Shortcomings and advantages at the Central Level and State Level on introduction of GST- Process of Introduction of GST - Constitutional Amendments.

Unit II: GST Principles

Comprehensive structure of GST model in India: Single, Dual GST– Transactions covered under GST.

Unit-III: Taxes and Duties:

Taxes and Duties subsumed under GST - Taxes and Duties outside the purview of GST- Persons liable for registration under the Act - Persons exempted from registration under the Act Tax - Procedure for registration under the Act

Unit-IV: Inter-State Goods and Services Tax:

Major advantages of IGST Model – Interstate Goods and Service Tax: Transactions within a State under GST – Interstate Transactions under GST -

Unit-V: Time of Supply of Goods & Services:

Value of Supply - Input Tax Credit – Distribution of Credit -Matching of Input Tax Credit - Availability of credit in special circumstances- Cross utilization of ITC between the Central GST and the State GST.

References:

1. Goods and Services Tax in India – Notifications on different dates.
2. GST Bill 2012.
3. Background Material on Model GST Law, Sahitya Bhawan Publications, Hospital Road, Agra - 282 003.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com (T.P)	VI	Tax Planning and Management	CBTPM 607	2015-16

SYLLABUS

Unit-I: Tax Planning: Difference between tax planning, tax avoidance, tax evasion and tax management - Tax planning with reference to setting up a New Business - Form and Size – Tax Holiday, etc.

Unit-II: Tax Planning of Financial Decisions: Absorption, Mergers, De-mergers and Takeovers - Reorganization or Restructuring of Capital - Decisions such as Borrowing or Investment Decisions.

Unit-III: Tax Planning on Managerial decisions: Own or lease - Make or buy decisions - Repair, replace, renewal or renovation of assets - Shut down or Continue decision.

Unit-IV: Tax planning on Foreign income: Selling in domestic or foreign market - Avoidance of double taxation agreement - Foreign collaborations and joint ventures.

Unit-V: Foreign Collaborations: Incidence of tax on Domestic companies - Provisions for relief in respect of Double taxation - Double Taxation Avoidance Agreements.

References:

1. E.A. Srinivas, Corporate Tax Planning, Tata McGraw Hill.
2. Vinod K. Singhanian, Taxman's Direct Taxes Planning and Management.
3. Taxman, The Tax and Corporate Law Weekly.
4. Bhagawati Prasad, Direct Taxes Laws Practice, Wishwa Prakashan.
5. Ahuja, Girish & Ravi Gupta. Corporate Tax Planning and Management, Bharat Law House.
6. Acharya, Shuklendra and M.G. Gurha, Tax Planning under Direct Taxes. Modern LawPublication,
Allahabad.

BBA

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
 (Sponsored by S.K.P.V.V.Hindu High Schools' Committee)
 Kothapeta, Vijayawada
 (An Autonomous College in the Jurisdiction of Krishna University)

ISO-9001-2008 CERTIFIED INSTITUTION

NAAC "A" Grade

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	I	Managerial Economics	CBME 101	2015-16

SYLLABUS**Unit-I-Introduction**

15 Hours

Meaning and Definitions of Business Economics-Nature and scope of Business Economics-Micro and Macro Economics differences- Cardinal Utility & Ordinal Utility.

Unit-II-Demand Analysis

15 Hours

Meaning and Definition of Demand- Determinants of Demand—Demand function– Law of demand-Demand Curve-Exceptions.

Unit-III- Elasticity of Demand

20 Hours

Meaning and Definition of Price Elasticity of Demand – Types of Price Elasticity of Demand Measurements of Price elasticity of demand– Total outlay Method–Point Method– Arc Method.

Unit-IV-Cost and Revenue Analysis

10 Hours

Classification of Costs –Total- Average–Marginal and Cost function–Long-run–Short-run.

Unit-V-Break-Even Analysis

10 Hours

Type of Costs–Fixed Cost–Semi-variable Cost–Variable Cost–Cost behavior-Breakeven Analysis uses and limitations.

ReferenceBooks

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics-Kalyani Publications.
3. Business Economics–Himalaya Publishing House.
4. Aryasriand Murthy Business Economics,Tata Mc Graw Hill.
5. Business Economics, Maruthi Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	I	Management Process	CBMP 101	2015-16

SYLLABUS**Unit-I:**

15 hrs

Meaning

of Management and its importance-Roles and Responsibility of 3 levels of Management. And their importance-Functions of management and its importance Challenges of Management and how to solve a case study

Unit -II:

10 Hours

Planning Concept, process and principles-Planning significance techniques and problems

Unit-III:

15 Hours

Organizing Concept Process and principles, techniques-Types of organization-Formal and Informal Organizational design- Departmentation Types, advantage and disadvantage Span of control-Delegation of authority and responsibility, decentralization vs centralization, Line and staff .

Unit-IV:

10 Hours

Staffing meaning, process and importance-Leading meaning, leadership styles and skills-Motivating meaning, importance of motivation and theories-Communication:Meaning ,importance process problems and importance, Barriers.

Unit-V:

20 Hours

Controlling; Meaning, importance, Control techniques.

References:

1. Koontz, H and Wihrich.H, Management,McGraw, New York.
2. Stoner, J.etc., Management, Pearson Education.
3. Maital Seshadri, Innovation Management, Sage Publications.
4. Stonner, Freeman, Gilbert, Management, Prentice Hall of India.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	I	Accounting for managers	CBAM 101	2015-16

SYLLABUS**Unit-I :**

Introduction to Accounting Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

Unit –II:

Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-III:

Trail Balance and Rectification of Errors: Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-IV:

Bank Reconciliation Statement: Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances Preparation of Bank Reconciliation Statement- Problems on both favorable and unfavorable balances.

Unit -V:

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

References:

1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjyothi, Fundamentals of Accounting; Maruthi Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	I	Quantitative Methods	CBQM 101/CBQT101	2015-16

SYLLABUS

Unit – I

15 Hrs

Meaning – definition – functions – importance – limitations and distrust of Statistics– collection of data – primary and secondary data - direct personal Investigation – indirect personal investigation – information through correspondents, questionnaire method and schedule method.

Unit – II

10 Hrs

Collection of data – types of classification – frequency distribution – tabulation of data objects characteristics and preparation of the table-graphic representation of data-frequency graphs-simple, multiple, percentage bar, pie diagram, histograms, frequency polygons-frequency and give curves.

Unit – III

15 Hrs

Definition, objectives, and characteristics of mathematical measures-Arithmetic Mean, Geometric Mean and Harmonic Mean-individuals series, discrete series and continuous series. Definition, objectives and characteristics of positional measures-Median-Quartiles, deciles, percentiles and mode-individual series, discrete series and continuous series.

Unit – IV

20 Hrs

Meaning-types of matrices-square matrix-rectangular matrix-row matrix-column matrix-non-singular matrix-scalar matrix-diagonal matrix-unit matrix and null matrix-transpose of matrix-symmetric and skew symmetric matrices.

Unit-V

Hrs

Matrix operations-algebra-addition, subtraction and multiplication of matrices-Inverse matrix-determinants-minors and co-factors-solutions of simultaneous equation by inverse method.

References:

1. Statistics Methods Gupta, S.C
2. Quantitative Techniques – I 1. Chikkodi 2. Obul Reddy 3. Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	II	Business Organization	CBBO 201	2015-16

SYLLABUS

UNIT-I Introduction

10 HOURS

Concepts of business, Trade, Industry and Commerce- Business –Features of Business-Trade-Classification – Aids to Trade- Industry- Classification- Relationship of Trade, Industry and Commerce.

Unit –II Business Functions & Entrepreneurship 15 HOURS
 Functions of Business-Factors Influencing the Choice of Suitable form of organization- Meaning of Entrepreneurship- Types – Functions of Entrepreneurship.

Unity-III Forms of Organisation 15 HOURS
 Sole Proprietorship- Meaning- characteristics –Advantages and Disadvantages- Partnership- Meaning- Characteristics- Kinds of Partners- Advantages and Disadvantages- Partnership Deed – Hindu Undivided Family.

Unit-IV Company 20 HOURS
 Company-Meaning-Characteristics- Advantages –Kinds of Companies – Differences between Private Ltd.And Public Ltd. Companies.

Unit –V Company Incorporation 15 HOURS
 Preparation of Important Documents for Incorporation of Company- Memorandum of Association- Articles of Association- Differences Between Memorandum of Association and Articles of Association Contents of Prospectus- Statement in Lieu of Prospectus

References:

Chottorjee S.K. Business Organisation

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	II	Business Environment	CBBEN 201	2015-16

SYLLABUS

UNIT-1: Framework of Business Environment
 Concept, Significance and Nature of Business Environment, Elements of Environment, Internal Environment and External Environment 15 HOURS

UNIT-II Economic Environment of business
 Elements of economic environment , Economic systems , Economic planning in India ,Industrial Policy , Fiscal policy, Economic Reforms, Economic Liberalizations 10 HOURS

UNIT- III Political and Legal Environment of business
 Elements of political Environment , Government and Business ,Legal Environment and Business Competition Act, FEMA, Licensing Policy; Consumerism and Consumer Protection Act 15 HOURS

UNIT- IV : Socio-Cultural and Technological Environment of Business Elements of Socio-cultural environment, Elements of Technological environment, social audit, Research and Development; Patent Laws, Technology Transfer 15 HOURS

UNIT-V: International Environment of Business Elements of International Environment ,Multinational Corporations (MNCs),Non- Resident Indians (NRLs) and Corporate Sector, International Economic Institutions, WTO, World Bank and IMF, Foreign Trade Policy 20 HOURS

Recommended Books:

1. K. V. Sivaiah & V.B.M.Das ,Industrial Economy ,S. Chand &Company , New Delhi.
2. Frrancis Cherunilam ,Business Environment ,Himalaya Publictions.
3. Suresh Bedi ,Business Environment , Excel Books, New Delhi

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	II	Quantitative Methods - II	CBQM 201	2015-16

SYLLABUS**UNIT-I: DISPERSION:-**

Meaning-definition-objectives of dispersion-range, quartile deviation- mean deviation-standard deviation and coefficient of variation.

UNIT – II : MEASURES OF SKEWNESS :-

Definition and objectives of Karl-Pearson's and Bowley's coefficient of skewness-problems related to Karl-Pearson's and Bowley's coefficient of skewness individual-discrete-continuous series.

UNIT – III : MEASURES OF RELATION :-

Meaning-definition-uses of correlation-types of correlation-Karl person's correlation coefficient-Spearman's rank correlation, probable error and standard error-meaning and utility of regression analysis, comparison between correlation and regression equations, interpretation of regression coefficient.

UNIT – IV : SET THEORY :-

Set-subset-types of sets-operations on sets-venn diagram-de-morgan laws-application of set theory-laws of indices-arithmetic progression-geometric progression-harmonic progression.

UNIT – V : VARIOUS STATISTICAL ORGANIZATIONS IN INDIA :-

Meaning-types-Indian statistical organization-statistical organization at the center-Central Statistical Organisation (CSO), National Sample Survey Organisation (NSSO)-ministry of planning- ministry of agriculture and cooperation-ministry of commerce-ministry of labour-ministry of industrial development-ministry of home affairs and ministry of defence-statistical organization in the states, non-governmental statistical organization-Indian Statistical Institute (Calcutta), Institute of Agriculture Research Statistics (IARS), Department of statistics (Reserve Bank of India).

REFERENCE BOOKS :

1. Statistical Methods -- Gupta, S.C
2. Quantitative Techniques-I -- Chikkodi, Obul Reddy, Satyaprasad

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	II	Accounting for Managers – II	CBAM 201	2016-17

SYLLABUS

Partnership Accounts :

UNIT – I Legal provisions in the absence of partnership deed - fixed and fluctuating capitals - Accounting Treatment of Goodwill admission of a partner.

UNIT-II Accounting Treatment of Retirement and Death of a partner.

UNIT – III Dissolution of Firm –Legal rules in Garner Vs Murray case.

Company Accounts :

UNIT – IV Issue of shares at par, premium and at Discount forfeiture and Re- issue of shares – Recording of transactions relating to issue of shares.

UNIT – V Issue and Redemption of Debentures – Redemption out of profits – sinking fund method only.

Books Suggested :

1. SP Jain and K L Narang
2. A Mukherjee and M.Hanif
3. V. Subba Rayudu.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	III	Business Communication	CBBC 301	2016-17

SYLLABUS:

Unit I: Introduction 20 periods

Introduction to communication – definition – significance and importance of communication to management – Functions of communication –types or forms of communication- levels of Communication- communication process.

Unit-II 15 periods

Barriers to communication-semantic barriers- physical barriers-organizational barriers- psychological barriers- objectives of communication-information- advise suggestion- order motivation-warning- negotiation.

Unit-III 20 periods

Communication- Media – verbal communication – oral communication – merits, demerits – Nonverbal communication – merits – demerits – Types of non verbal communication - Importance - functions.

Unit-IV 20 periods

Essentials and principles of Effective Communication, 7C's communication- candid- clear- complete- concise- concrete- correct- courteous and other principles- communication network- upward communication- downward communication- lateral communication.

UNIT-V

Listening - Importance of Listening - Types of Listening - Barriers of Effective

Listening - How to make Listening effective- self development- objectives of self development- how self development improves communication.

Recommended Books: -

1. Business Correspondence& Report Writing - V. Bala Mohan Das and Satya Devi - Kalyani Publishers
2. Business Communication - Roy & Roy - Himalaya Publishers
3. Business Correspondence& Report Writing - Veerendhra kumar and Bodh Raj

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	III	Marketing Management	CBMKM 301	2016-17

SYLLABUS:

Unit : I Introduction to marketing

Introduction - market - market - market features - types of market – classification of goods; marketing mix-product mix – price mix – promotion mix – place mix

Unit: 2

Evolution of marketing concepts – features of marketing – importance of marketing to the society - importance of marketing individual business firms – scope of marketing – marketing functions

Unit:3

Marketing environment – micro and macro environment consumerism laws relating top marketing - importance of consumerism – rights of consumer against unfair trade practices

Unit:4

Consumer behavior – stages in buying process – factors influencing purchase and repeat purchase

Unit:5

Marketing segmentation – methods – target marketing .

Reference books

- 1 . R.S. Davar modern management
- 2 . Shrekar's marketing management

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	III	Financial Management – I	CBFM 301	2016-17

SYLLABUS:

Unit- I Financial Management – Meaning nature scope – scope of finance – financial goals – profit maximization –wealth maximization –finance functions – investment – financing and dividend decisions

Unit-II Sources of Finance - Various sources of raising short term and long term funds –kinds of ownership securities – kinds of creditor ship securities (debentures)

Unit-III Sources of finance- Internal financing – retained earnings – ploughing of profits – features influencing the back of profits and merits and limitations loan financing short term loans and credits only.

Unit-IV Cost of capital

Meaning – significance of cost of capital – calculation of cost of debt – preference capital and retained earnings -

Unit-V Capital Structure

Capital Structure theories – Traditional and MM hypothesis – Factors determining capital structure – operations and financial leverages – measurements of leverages – significance – importance of operations and financial leverages.

REFERENCES:

- ❖ Chandra, Prasanna: Financial Management; Tata McGraw Hill, Delhi.
- ❖ Pandey, I.M.: Financial Management, Prentice Hall of India, New Delhi.
- ❖ Khan M.Y. and Jain P.K.: Financial Management; Tata McGraw Hill, Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	III	Human Resource Management	CBHRM 301	2016-17

SYLLABUS:

UNIT – 1

Human Resource Management – Definitions – importance – Objectives - Evolution, Functions. Role and qualities of Human Resource Manager. 15 Periods

UNIT – 2

Human Resource (or) Manpower planning - Definition – Characteristics – Objectives – need and importance - problems – process .

Unit – 3

Recruitment - meaning –process– sources of Recruitment - channels (or) Tech niques. Selection – Meaning – process – selection tests 30 periods

UNIT – 4

Training – Meaning - importance – Methods. Performance appraisal –definition – objectives - methods 10 periods

UNIT – 5

Job evaluation – Meaning – Advantages – limitations – Methods Wage and salary administration – Components – factors affecting wages – Principles – Essentials of a good wage plan - Fringe benefits - objectives- Classification 20 periods

Recommended Books

- i). C B Gupta : Human Resource Management “ Sultan chand & sons
- ii). Shashi K. Gupta Rosy joshi : Human Resource Management. Kalyani Publications.
- iii). P. Subba Rao, V.S.P Rao Personnel Human Resource Management. Himalaya Publications
- iv). Jayasankar: Human Resource Management. Morgham Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	IV	Organizational behavior	CBOB 401	2016-17

UNIT-1:

Industrial revolution – scientific management – the human relations movement- learning objectives – opening case – personal factors – environmental factors – organizational systems and resources – models of individual behavior 15 hrs

UNIT-2:

Nature of personality – theories of personality – type theories, trait theory, psycho analytic theory, social learning theory, the humanistic approach, maslows self – actualization theory.

Learning objectives – opening case – perception: meaning and definition – perception and semantics, factor influencing perception – perpetual process 15 hrs

UNIT-3:

Nature of attitudes – components of attitudes – the ABC models – formation of attitudes – functions of attitudes – changing attitudes – ways of changing – work related attitudes – job satisfaction, model of job satisfaction, causes of job satisfaction, consequence of job satisfaction, measuring job satisfaction 15 hrs

UNIT-4:

Nature of motivation – importance – challenges – theories – early theories – content theories – maslow theory – herzberg theory – alderfer theory 15 hrs

UNIT-5:

Introduction – meaning – nature – decision making groups – why group decisions are more qualitative than individual decisions? Decision making process – step in decision making – decision making styles – when to use a group – merits and demerits of group decision making – techniques of group decision making – group size and decision making – the risky shift 15 hrs

References:

Organisational behaviour

1. Shashi k. gupta
2. Rosy joshi

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	IV	Business Ethics and Corporate Governance	CBECG 401	2016-17

UNIT-1: Business ethics: meaning, principles of business ethics, characteristics of ethical organization, ethics of corporate governance ,globalization and business ethics, stake holders protection, corporate governance and business ethics. 15 hrs

UNIT-2:

Conceptual frame work of corporate governance: meaning, governance vs. good corporate governance, corporate governance. corporate excellence ,insider trading, rating agencies, benefits of good corporate governance, corporate governance reforms, initiatives in India. 15 hrs

UNIT-3:

15hrs

Major corporate governance failures: junk bond scam(USA),bank of credit and commerce international(UK),Maxwell communication corporation and mirror group newspapers(UK), enron(USA),world com(USA), Anderson worldwide(USA)and Satyam computers services limited(INDIA); common governance problems in various corporate failures

UNIT-4

Regulatory frame work of corporate governance in india,SEBI norms base on km Birla committee, clause 49 of listing agreement,corporate governance in public sector undertakings.

UNIT-5:

15hrs

Corporate social responsibility :meaning, CSR & corporate substaniability, CSR& business ethics, CSR & corporate governace, environmental aspect of CSR, CSR models.

References:

1.J.P.sarma –corporate governance, business ethics & csr

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	IV	Logistics and Supply Chain Management	SBLSCM 401	2016-17

SYLLABUS**UNIT-I:**

15 hrs

INTRODUCTION TO LOGISTICS MANAGEMENT

Intoduction – Nature – Concepts – Functions of logistics – logistics management objectives – logistics in India – importance of logistics management.

UNIT – II:

10 hrs

Types of logistics – Advantages of Business – logistics and market logistics – Differences between SCM & logistics –warehouse management.

UNIT – III:

10 hrs

SUPPLY CHAIN MANAGEMENT – INTRODUCTION : Meaning – process of supply chain – importance – Decision phases in supply chain elements – value chain. Participants in supply chain management.

UNIT – IV :

10 hrs

PLANNING IN SUPPLY CHAIN

Demand forecasting – characteristics managing supply – managing demand aggregate planning in supply chain and problems.

UNIT – V :

15 hrs

NETWORK DESIGNING IN THE SUPPLY CHAIN

Role of network design in the supply chain – factors influencing network design decisions – framework for network design decisions – models for facility location and capacity allocation.

References :

1. D K AGARWAL – Macmillan.
2. Chaudary Elliot – New Delhi publication.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I.B.COM (GENERAL)	V	Office Management	CBOFM501	2017-18

SYLLABUS

Unit-I: Office and Functions:

Features of Modern Office - Layout Planning - Interior, Security of the Office, Knowledge of Stationery Items and Maintenance - Office Manager - Duties and Responsibilities - Scientific Office Management - Work Simplification.

Unit-II: Office Systems:

Office procedures - Guides and Common charts of Office work simplification - Planning for improving office procedures - Forms Design, Design of Forms - Reproduction of Forms - Office Reproduction Services.

Unit-III: Records Storage and Retrieval: Nature of Files and Records - Storage - Purposes of Records Storage and Control - Filing systems, equipment and supplies - Records retention – ICT applications in Office Management.

References:

1. James, A.F. Stoner et. al: Management, Englewood Cliffs, N.J Prentice Hall
2. Mahajan, J.P.: Fundamentals of Office Management, Ane Books Pvt. Ltd.
3. Bhatia, R.C. Principles of Office Management, Lotus Press, New Delhi.
4. Terry, George R: Office Management and Control, R.D. Irwin.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	Business Law	CBBL 502	2017-18

SYLLABUS

Unit-I CONTRACT ACT

Introduction – Definition of Contract-Obligation- Nature of Contract-Essential Elements valid contract-Void and voidable Contracts-Indian Contract Act-1872.

OFFER & ACCEPTANCE

Definition of valid offer, Acceptance and Consideration- Essential elements of a valid-Offer, Acceptance and Consideration–Essential elements of Legality of Object and Consideration-

UNIT-II- CAPACITY OF THE PARTIES AND CONTINGENT CONTRACT

Introduction-Capacity to contract-who are competent to contract-Person not Competent to Contract- Minor-Law relating to Minor

CONTINGENT CONTRACT

Definition-Collateral Events- Characteristics of Contingent Contract- Rules - Rules relating to Breach of Contract.

UNIT-III Sale of GOOD ACT

Introduction-Scope-Goods-Classification of Goods-Contract of Sale- Sales and Agreement to Sell-Sales and Bailment-Caveat Emptor-Implied Conditions and Warranties-Rights of Unpaid Vendor.

Unit-IV CONSUMER PROTECTION ACT

Introduction –Objectives-Rights of Consumers- Definitions-District Forum- Restrictive trade Practice-Unfair Trade Practice-Redressal Machinery under the act- District – State Commission – National Commission –Consumer Protect Councils-Central-State- district-

Unit-V THE INFORMATION TECHNOLOGY ACT 2000 AND CYBER LAW

Introduction- Objectives of the Act-Exceptions-Electronic Governance –Digital Signature- Licence Issue for Digital Signature- -Procedure-Digital signature certificate-Penalties and Adjudication.

REFERENCES:

Legal Aspects of Business – Bhagavathi Pillai

Business Law S.N Maheshwari- Himalaya Publishing House

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	Cost Accounting	CBCA503	2017-18

SYLLABUS

Unit-1: Introduction : -types of accounting – cost accounting – objectives and functions of cost accounting – cost accounting and financial accounting –comparison- advantages of cost accounting-limitations.

Cost concept and classification:- concept of cost – cost centre and cost unit –methods of costing – techniques of costing -classification of costs –special costs for management decision –making – elements of cost –cost sheet. problems

Unit -2: Elements of cost: – material cost - classification of materials –inventory or material control –ABC technique-methods of pricing material issues problems and solutions –problems on base stock methods ,FIFO method ,LIFO method , weighted average methods only - (Excluding simple average method, material levels and E.O.Q).

UNIT -3 :Labour Cost :- direct and indirect labour –methods of wage payment (labour remuneration)- time rate system –piece rate system –incentive schemes (Halsey plan ,rowan plan &Taylor plan –Problems .

UNIT -4 : Overheads :- meaning and definition , classification of overheads accounting of overheads – allocation and apportionment (primary distribution) apportionment of service department costs (secondary distribution) – problems .

UNIT -5 : Process costing :- meaning- Characteristics of process costing – process costing procedure – process losses and wastage –problems and solutions (Excluding by products and joint products problems).

Standard Costing :- introduction –meaning of standard cost and standard costing –variance analysis –material variances- labour variances .(problems on material variance and labour variance only)

References:

1. S.P.Jain and K.L.Narang–Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora–A Textbook of Cost Accounting, Vikas Publishing House Pvt.Ltd.
3. S.P.Iyengar–Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma–Cost Accounting Principles and Applications, S .Chand & Sons.
5. S.N.Maheswari–Principles of Management Accounting.
6. I.M.Pandey–Management Accounting, Vikas Publishing House Pvt.Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	E-Commerce	CBEC 504	2017-18

SYLLABUS

Unit-I: Electronic Commerce: Definition, types, advantages and disadvantages, E-Commerce transaction on World Wide Web. Electronic Market-Online shopping, Three models of Electronic Market - E-Business.

Unit-II: Supply Chain Management: Definition, Benefits, goals, functions, characteristics, Strategies of SCM, Electronic Logistics and its implementation in business houses Electronic Data Interchange (EDI): Definition, benefits of EDI, applications, advantages and limitations, EDI Model.

Unit-III: Electronic Payment Systems: Types of EPS- traditional payment system and modern payment system, electronic cash, steps for electronic payment, payment security – E-security cryptography, hacker, secure electronic transaction, secure-socket layer.

Unit-IV: Customer Relationship Management: Definition, Components of CRM, CRM Architecture, architectural components of a CRM solution, Electronic CRM, Need for Electronic CRM, E-CRM applications

Unit-V: HTML- Navigating the World Wide Web, Preparing to Publish on the Web, HTML and XHTML, Learning the Basics of HTML, structure of HTML, Creating simple web pages, formatting text with HTML, adding images, color and background, table creation, designing forms.

References:

1. CSV Murthy, E-Commerce: Concepts, Models, Strategies, Himalaya Publishing House.
2. Laura Lemay; Rafe Colburn, Teach Yourself Web with HTML in 24 Hours, Sams Publishing
3. Steven Holzner, HTML Black Book, Dream Tech Press.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	Taxation	CBTXN 505	2017-18

SYLLABUS**Unit-I:**

Basic concept: Income - agricultural income – Person – Assesses - assessment year - previous year - gross total income - total income - maximum marginal rate of tax -Residential status - Scope of total income on the basis of residential status - Exempted income under section.

Unit-II:

Computation of income under different heads: Salaries – Allowances – Perquisites – Profit in lieu of salary – Gratuity – Pension - Income from house property: Annual Value of House property – Computation under different circumstances – Deduction from annual value.

Unit-III:

Profits and gains of business or profession: Computation – Allowable expenses and not allowable expenses – General deductions - Provisions relating to Depreciation.

Unit-IV:

Capital gains: Capital Assets – Long term and Short term – Transfers – Cost of acquisition – Cost of improvement – Exempted Capital gains. Income from other sources: Definition - Computation – Grossing up – Deductions and other relevant provision.

Unit-V:

Total income and tax computation: Income of other persons included in Assesse's total income - Aggregation of income and set-off and carry forward of losses - Deductions from gross total income - Rebates and reliefs - Computation of total income of individuals and firms - Tax liability of an individual and firm.

References:

1. Vinod K. Singhania : Direct Taxes - Law and Practice, Taxman Publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) Ltd.
3. BhagwatiPrasad : Direct Taxes – Law and Practice, WishwaPrakashan.
4. Dr. Mehrotra and Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
5. DinakarPagare: Law and Practice of Income Tax, Sultan Chand and sons. 6. Gaur & Narang: Income Tax.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	Talent Management	CNTM 506	2017-18

SYLLABUS**Unit-I:**

Talent Management: Meaning and significance of talent management - attracting talent, retaining talent, right sizing the workforce, work life balance initiatives, providing HR leadership to business.

Unit-II:

Competency Mapping: Features of competency methods, approaches to mapping and case studies in competency mapping - Competency mapping procedures and steps- business strategies - methods of data collection for mapping - Developing competency models from raw data- data recording, analyzing the data, content analysis of verbal expression, validating the competency models.

Unit-III:

Performance management and employee development: Personal Development plans, 360 degree feed back as a developmental tool, performance management & reward systems: performance linked remuneration system, performance linked career planning & promotion policy.

Unit-IV:

Employee engagement- meaning and significance, constituents of engagement, conceptual framework of engagement, behaviors associated with engaged employees, engaged, not engaged, actively disengaged, parameters to measure employee engagement, Q 12 model of Gallup, employee satisfaction survey .

Unit-V:

Succession planning: Identifying managerial positions which are critical for the business - Identifying second line of leaders and developing their capabilities to occupy the critical positions in the event of the exit of current incumbents – Taking-up lateral hiring when there is discontinuity in the succession plans.

References:

1. Competence at work - Lyle M. Spencer, Signe M. Spencer. John Wiley 1993
2. Competency mapping, Assessment and Growth - Naik G.P, IHRM, 2010.
3. Performance Management - Herman Aguinis, Pearson Education, 2007.
4. Talent Management Hand Book - Lance A. Berger R. Berger, Tata McGraw Hill.
5. Appraising and Developing Managerial Performance- Rao T. V, Excel Books
6. Performance Management - Dixit Varsha, 1/e, Vrinda Publications Ltd

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	V	Industrial Relations	CBIR 507	2017-18

SYLLABUS**UNIT-I:**

Meaning, Importance & Scope of Industrial Relations, Content And Objectives Of Industrial Relations, Industrial Relation Programs, Functional Relations Of Successful Industrial Relations.

UNIT-II

Industrial Disputes, Types Of Disputes, Causes, Procedure For The Settlement Of Industrial Disputes, Government And Industrial Relations, Organs Of Industrial Peace, Tripartite machinery, Code Of Discipline, Voluntary Arbitration, Grievance Redressal Procedure.

UNIT-III

Trade Unions: Principals Of Trade Unionism, Objectives and Functions Of Trade Unions, growth of trade union movement in India Factors affecting growth of Trade unions Features Of Weakness Of Trade Unions, Essentials Of Successful Trade Union

UNIT-IV

Participative Management: Forms Of Participation, Objectives Of Workers Participation In Management, Levels Of Participation, Forms Of Participation In India, Causes Of the Failure Of The Joint Management Council

UNIT-V

Collective Bargaining: Meaning, Features Of Collective Bargaining, necessity and importance of collective bargaining principles of collective Bargaining Process Of Negotiations, Contract administrations

Reference Books:

1. P.Subba Rao Industrial Relationship, Himalaya Publications
2. Labour And Industrial Laws – Central Law Publications, Allahabad
3. Industrial Relations – Arun Monappa
4. Management And Industrial Relations – Pramod Verma
5. Mamoria C B: Industrial Relations

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBM	VI	Event Management	CBEM 601	2017-18

SYLLABUS:

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets – Corporate event packages - Menu Selection - Customization.
(12 HOURS)

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment. 12 hrs

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments. 11 HRS

REFERENCES:

- ❖ Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga
- ❖ Sagar Singh - Har-and Publications Pvt. Ltd.
- ❖ Event Management by Swarup K. Goyal - Adhyayan Publisher.
- ❖ Event Management & Public Relations by Savita Mohan - Enkay Publishing House
- ❖ Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
- ❖ Special Event Production - Doug Matthews.
- ❖ Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Management Accounting	CBMA 602	2017-18

SYLLABUS

Unit-I: Management Accounting: Interface with Financial Accounting and Cost Accounting- Financial Statement analysis and interpretation :Comparative analysis– Common size analysis and trend analysis (including problems). 15 HRS

Unit-II: Ratio Analysis: Classification, Importance and limitations-Analysis and interpretation of Account ingratos-Liquidity ,profitability, activity and solvency ratios (including problems). 15 HRS

Unit-III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems) 15 HRS

Unit-IV: Cash Flow Statement: Concept of cashflow –Preparation of cashflow statement-Uses limitations of cashflow analysis(including problems). 15 HRS

Unit-V: Marginal costing :Calculation of Break-even point-Uses and limitations- Margin of safety– calculation of P.V. Ratio (including Problems). (15 HRS)

References:

- S.N.Maheswari, A Textbook of Accounting for Management, S.Chand Publishing,.
- I.M.Pandey, “Management Accounting”, Vikas Publishing House, New Delhi,
- Shashi K.Gupta & R.K. Sharma, “Management Accounting: Principles and Practice”, Kalyani Publishers, Ludhiana.
- Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
- Charles T.Horngren, [et.al](#), “Introduction to Management Accounting” Person Education India, New Delhi, 2002.
- Murthy & Guruswamy– Management Accounting, Tata McGraw Hill, New Delhi.
- Dr.Kulsreshtha & Gupta– Practical problems in Management Accounting.
- Bhattacharya, D., “Management Accounting”, Pearson Education India, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Business Starategy	CBBSTR 603	2017-18

SYLLABUS

Unit-I: Introduction to Business Strategy: Concept of Business Strategy, Need for Business Strategy, Essentials of Effective Strategy, Effects of Inadequate Strategies, Functions of Business Strategies

Unit-II: Strategic Analysis: Strategic Analysis – definition, Need for Strategic Analysis & Environmental Scanning, Understanding environment of business for strategic analysis, Strategic thinkers & their contributions, Role of Strategic Analysis in Policy making

Unit-III: Strategy Formulation: Types of Strategies, Steps in Strategy Formulation, Core Competencies and their Importance in Strategy Formulation.

Unit-IV: Strategic Planning and Implementation: Strategic Planning Process, Types of Strategies, Stability, Expansion or Growth, Mergers and Acquisitions, Activating Strategy, Issues in Strategy Implementation, Integrating the Functional Plan and Policies.

Unit-V: Strategic Management Process: Strategic Management Process, Strategic Vision and the role of a Strategist, Criteria for Effective strategy, Role of Strategic Management in Policy Making

References:

1. NitinBalwani, Strategic Management & Business Policy, Excel Books, New Delhi.
2. UpendraKachru, Strategic Management: Concepts & Cases, Excel Books, New Delhi.
3. Porter, M.E., Competitive Strategy, The Free Press, New York, 1980.
4. Kazmi, Azhar, “Business Policy and Strategic Management”, TM Hill, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Medium and small enterprise management	CBMSMM 604	2017-18

SYLLABUS

Unit -I: Small and Medium Enterprises: Significance in Indian Economy - Problems - Steps taken up by the Government to tackle their Problems - Role of Government in Promoting Small and Medium Enterprises - Incentives provided to Backward Area Development.

Unit-II:

Project Formulation: Project Identification and Formulation - Feasibility Study - Project Report Preparation - Location of Units - Industrial Estates and the Role of KIABD, TEKSOC and Registration with DIC.

Unit-III:

Management Functions in Small and Medium Enterprises: Finance Function - Capital Estimation - Sources of Finance - Subsidies and Incentives - Venture Capital - Marketing and Human Resource Management Functions.

Unit-IV:

Sickness in Small and Medium enterprises: Causes of Sickness - Prevention of Sickness and Remedial Measures for Sickness - Role of Board for Industrial & Financial Reconstruction (BIFR).

Unit-V:

Ancillary Industries, Rural Industries and Artisans: Role of SIDO, SSIDC, SISI, DIC - Prospects for Small-Scale Industries.

Reference Books :-

1. C.S.V. Murthy, Small Scale Industries and Entrepreneurial Development, Himalaya Publishing House.
2. Vasant Desai, Management of SSI, Himalaya publishing House, Delhi, 1998.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Project Evaluation and Management	CBPEM 605	2017-18

SYLLABUS

Unit-I: Introduction: Meaning, Scope and Objectives, Types of Projects, Generation and Screening of Ideas, Generation of Ideas, Monitoring the Environment, Corporate Appraisal, Preliminary Screening - Problems of Project management.

Unit-II: Analysis of Project Proposal: Markets and Demand Analysis, Technical Analysis, Material Input, Manufacturing Process, Technology-Product Mix- Estimation of Sales and Production. Machinery and Equipment Selection.

Unit-III: Project evaluation for Selection:- Methods of evaluation, Pay Back Period, ARR, Net present value method. PERT and CPM techniques, Time estimations, slack time and critical path and post Project Review.

Unit-IV: Human Aspects of Project Management – Manpower Planning - Human Ergonomics - Estimation - Pre requisites for Successful Project Implementation.

Unit-V: Closing of the Project:- Types of project termination, Termination procedure and evaluation of Termination possibilities.

References:

1. Prasanna Chandra, Project: Planning, Analysis, Selection, Implementation and Review. 'Tata McGraw Hill Publishing Co.
2. V.A. Avadhani, Indian Capital Market, Himalaya Publishing House.
3. James P Lewis, Fundamentals of Project Management, 2006
4. Pinto, Jeffrey K., Project Management, Achieving Competitive Advantage, Prentice Hall 2009.
5. Project Management Institute, A Project Management Body of Knowledge.
6. Mantel, Samuel J., Jack R. Meredith, Scott M. Shafer, Margaret M. Sutton, Project Management in Practice, Wiley 2010.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Global HRM	CBGHRM 606	2017-18

SYLLABUS

Unit-I: Concept of IHRM: Reasons for emergence of IHRM, Difference between IHRM and Domestic HRM, Organizational dynamics and IHRM: Role of culture in IHRM, Challenges of International Human Resource Management.

Unit-II: Recruitment, Selection in International context: International Managers- Parent country nationals, third country nationals, host country nationals, Recruitment methods using headhunters, cross-national advertising, e-recruitment; Selection criteria and techniques, Selection tests, interviews for international selection..

Unit-III: Performance Management: A conceptual background, performance management cycle, models, Appraisal of expatriate, Third and host country employees, issues and challenges in international performance management, country specific performance management practices.

Unit-IV: Training and development in international context: Training and development of international staff, types of expatriate training, HCN training, Career Development, repatriate training, developing international staff and multinational teams, knowledge transfer in multinational companies.

Unit-V: International Compensation: Forms of compensation and factors that influence compensation policy, Key components of international compensation, compensation practices across the countries, social security systems across the countries, global compensation: emerging issues.

References:

1. Monir H. Tayeb, International Human Resource Management, Oxford University Press, 2005.
2. Peter J. Dowling, Denise E. Welch, International Human Resource Management, Cengage Learning.
3. Aswathappa K, Sadhna Das, International Human Resource Management, Mc Graw Hill.
4. Evans, Pucik, Barsoux, The Global Challenge: Framework for International Human Resource Management - Tata McGraw-Hill Irwin.
5. Tony Edwards, Chris Rees, International Human Resource Management, Person Education.
6. Rao P. L., International Human resource Management, Excel Books.
7. Chris Brewster, International Human resource Management, University Press.

Class	Semester	Title of The Paper	Paper Code	W.E.F
BBA	VI	Training and Development	CBTD 607	2017-18

SYLLABUS

UNIT-I:

Meaning – Need for Training - Importance Of Training, Objectives Of Training – Responsibility for Training

UNIT-II

Steps In Training Programs – Training Policy – Training Courses – Support Material For Training – Training Period, Training For Different Employees

UNIT-III

Training Methods: on The Job – Vestibule Training, Training By Experience Workman, Training by Supervisors, Demonstrations And Examples, Simulation, Apprenticeship. off The Job – Lectures, Conference Methods, Seminar (or) Team Discussion, Case Studies, Role Playing, Programmed Instructions, T- Group Training, Audio – Visual Aids, Retraining.

UNIT-IV

Development: Importance of Development – Management Development – Purpose And Objectives Of Development – Stages In Development Programs – Components Of Development Programs – Factors Inhibiting Development

UNIT-V

Coaching and Counseling: Methods, Management syndicate, Incident Process - In Basket – Sensitivity Counseling – Special Projects – Committee Assignments Conferences – Management Games.

REFERENCE BOOKS:

1. P.Subba Rao, Vsp, Rao, Human Resource Management; Konark Publishing House
2. SubasGurg&S C Jain Managing Human Resource Management, Arahant Publications, Jaipur
3. Bearddwell&Lenholdmen, Human Resource Management, Macmillan Publishers
4. Linton R Preek.U “Training For Development”, Vistaar, New Delhi
5. P.L.Rao, “Training & Development” Excel Books New Delhi
6. Satish Pai, S Ravi Shankar, Management Development Skills For Excellence Publishing House

Class	Semester	Title of The Paper	Paper Cod:	W.E.F
I BCA	I	Introduction to Computers	CBBCA101	2015-16

UNIT – I

Introduction to Computers, Characteristics of Computers, Computer Block Diagram, Types of computers, Input and Output Devices, Types of printers, Applications of Computers.

Unit – II

Computer Memory, Types of memory devices, Processors.

Number Systems, Binary Number system, Decimal Number System, Octal number system, hexa-decimal number system. Decimal to binary, binary to decimal, decimal to octal conversions. Computer Codes: BCD, EBCDIC.

Unit – III

Computer Software, Types of software. Operating System, Functions of operating System, and Types of operating System.

Logic gates: And gate, OR gate, NOT gate, NAND Gate, NOR Gate, XOR Gate, Universal Gates: NAND, NOR

UNIT – IV

Computer Software, Types of software. Introduction to algorithms and programming languages, Types of programming languages. LAN, MAN, WAN, Internet, e-mail account creation, components in e-mail, sending mail, receiving mail.

TEXT BOOK:

“Fundamentals of Computers” by REEMA THAREJA from OXFORD UNIVERSITY PRESS.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	I	‘C’ Programming	CBBCA102	2015-16

Unit I

Introduction to Algorithms and Programming Languages. Compiling Programs, Language Interpreters. Compiling your first program. Running your program .understanding your first program, comments, variables, Data types, and Arithmetic Expressions: working with variables. Understanding Data types and constants, working with Arithmetic Expressions. The Assignment operators. The printf function. The scanf function.

Unit II

Decision making: The if statement, if else, Nested if statements, else if. The switch statement. The conditional operator program looping: for statement. Relational operators. Nested for loops, while statement, do statement. The break statement. The continue statement.

Working with Functions: Defining a Function-Arguments and Local variables. Returning Function Results. Function calling. Declaring Return Types and Argument types. Top Down

programming. Functions and Arrays. The global variables. Automatic and static variables. Recursive Functions.

Unit III

Working with Arrays: Defining an array. Initializing Arrays. Character Arrays. Multidimensional arrays- variable length Arrays.

Strings: Creating string variable, string functions.

Unit – IV

Working with structures :Defining structure . Functions and structures . Initializing structures. Array of structures structures containing structures .structures containing Arrays. Structure variants . Character strings : Array of characters. variable length character strings . Escape characters .character strings, structures and arrays - character operations.

Pointers: Defining a pointer variable. Using pointers in Expressions. Pointers and structures (Exclude Linked List). Pointers and Functions. Pointers and Arrays. Operations on pointers. Pointers and Memory address.

Unit – V

Files: file manipulating functions, file opening modes, file creating.

TEXT BOOK:

1. “Computer Fundamentals and Programming in C” by REEMA THAREJA from OXFORD UNIVERSITY PRESS

REFERENCE BOOK:

1. E Balagurusamy: COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw- Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
2. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
3. Henry Mullish & Huubert L.Cooper: The Sprit of C, Jaico Pub. House,1996.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	II	MS Office	CBBCA201	2015-16

UNIT-I

Word Basics: Starting word, Creating a new document, Opening preexisting document, P a r t s of a word window, Typing text, Selecting text, Deleting text, Undo, Redo, Repeat, Inserting text, Replacing text, Formatting text, Cut, Copy, Paste – Printing.

Formatting Your Text and Documents: Auto format, Line spacing, Margins, Borders and Shading. **Working with Headers and Footers:** Definition of headers and footers, creating basic headers and footers, creating different headers and footers for odd and even pages.

Tables: Creating a simple table, Creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width. **Graphics:** Importing graphics, Clipart, Insert picture, Clip Art Gallery, using word’s drawing features, drawing objects, text in drawing.

Unit II:

MS Power Point: Introduction, Building a presentation, Outlining the presentation, Creating text and chart slides, Formatting charts, Customizing presentation, Drawing on slides, Creating slide shows. **Creating Presentations:** Using auto content wizard, Blank presentation option, Design template option, Adding slides, Deleting a slide, Importing Images from the outside world, Drawing in power point, Transition and build effects, Deleting a slide, Numbering a Slide, Saving presentation, Closing presentation, Printing presentation elements.

Unit III:

MS Excel: Excel Features, Getting started, Creating New worksheet, Selecting cells, Entering and editing text, Entering and editing Numbers, entering and editing Formulas, Referencing cells, Moving cells, Copying cells, Sorting cells, Data inserting rows, Inserting columns, Inserting cells, Deleting parts of worksheet, clearing parts of worksheet. **Formatting:** Page set-up, changing Column widths and Row heights, auto format, changing font sizes and attributes, centering text across columns, using border buttons and Commands, changing colors and shading, hiding rows and columns.

Unit IV:

Introduction to Functions: Parts of Functions, Functions requiring Add-ins, Function Wizard - Functions by category: Date and time functions, Engineering functions, Math and Trig functions, Statistical functions, Text functions. **Excel Charts:** Chart parts and terminology, Instant charts with chart wizard, creation of different types of charts, printing charts, deleting charts – Linking in Excel

Unit V:

MS Access: Creating a Simple Database and Tables: Creating contacts Databases with Wiz, Access Table Wizard, Creating Database Tables without wizard, Field Names, Data Types and Properties, Adding, deleting, renaming the fields in a table. **Forms:** Form Wizard, Saving Forms, Modifying Forms. **Entering and Editing Data:** Adding Records, Duplicating previous entries without Retyping, Undo, Correcting Entries, Global Replacements, Moving from Record to Record in a table. **Finding, Sorting and Displaying Data:** Queries and Dynasets, Creating and using select queries, Returning to the Query Design, Multilevel Sorts, Finding incomplete matches, Showing all Records after a Query, Saving Queries, Crosstab Queries. **Relational Databases:** Flat vs. Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships. **Reports:** Introduction to Reports.

Text books:

1. Baja K K , Office Automation , MacMillan India Ltd, 1996.
2. Steve Sagman, Microsoft Office XP for Windows, Pearson Education Asia, 2002.
3. Jennifer Fulton, Microsoft Office 2000, Prentice-Hall of India, 1999.
4. Reema Thareja , Fundamentals Of Computers, Oxford University Press

Reference books:

1. Windows XP Home Edition Complete, BPB Publications, 2001.
2. Raghav Bahl , Exploring Microsoft Office XP, Cyber Tech, 2001 .
3. Sanjay Saxena , MS Office 2000 for Everyone, Vikas Publishing , 2001.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	II	Data structures	CBBCA202A	2016-17

Unit I

Overview: Introduction, basic terminology, elementary data organization, data structures, data structures operations, algorithms: complexity, time-space tradeoff, algorithmic notations,

Searching: linear search, binary search, multi-dimensional arrays.

Sorting: Bubble Sort – Selection Sort – Insertion Sort.

Unit II

Linked List: introduction, linked list, traversing a linked list, searching a linked list, memory allocations and garbage collection, insertion and deletion in a linked list, two-way list

Stacks, Queues: introduction, Stacks, arrays representation of stacks, arithmetic expression: polish notation.

UNIT III

Recursion: recursion, tower of Hanoi, implementation of recursive procedure of stacks Arithmetic Notation.

Linked representation & Advance sorting: Linked representation of stacks and queues, Quick Sort – merge sort.

Unit IV

Trees : Tree Terminology, searching, deleting and inserting in binary search trees, heap sort, general trees.

Graphs: introduction, terminology, Traversing a graph BFS, DFS.

Prescribed Text Book:

1. Data Structures by Lipschutz- Shaum’s Outline Series

Reference:

1. Data Structures and Algorithms in Java- Robert Laford.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	III	OOPS with JAVA	CBBCA301	2016-17

Unit – I: Java Fundamentals**Fundamentals of Object Oriented programming:**

Java Features – How Java differs from C and C++ , Simple Java Program – Java Program Structure – Java Tokens, Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants, Variables and Data types: Constants – Variables – Data types – Scope of Variables, Type Casting.

Operators and Expressions: Arithmetic Operators – Relational Operators -Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional

Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Operator Precedence and Associativity.

Unit-II

Decision Making and looping: Decision Making with If statement – Simple If Statement- If else Statement- Nesting If Else Statement- the Else If Ladder,-The switch Statement – The ?: operator. The while statement – The do statement – The for statement

Classes : Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control.

Arrays, Strings and Vectors: One dimensional Arrays, creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types.

Unit – III: Packages and Interfaces in Java

Interfaces: Multiple Inheritance : Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

Packages: Java API Packages – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package

Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority

Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax of Exception Handling Code – Multiple Catch Statements – Using Finally Statement – Throwing our own Exceptions

Unit- IV

Applet Programming: 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 – Passing parameters to Applets – Aligning the display – Displaying Numerical Values – Getting Input from the user.

Prescribed text books:

1. E. Balaguruswamy, Programming with Java, A primer, 3e, TATA Mc Graw Hill Company (2008).

References:

1. John R. Hubbard, Programming with Java, Second Edition, Schaum' soutline Series, Tata Mc Grawhill (2007).
2. Timothy Budd, Understanding Object Oriented Programming with Java, Pearson Education (2007).

Class	Semester	Title of The Paper:	Paper Code	W.E.F
II BCA	III	RDBMS	CBBCA302	2016-17

UNIT I:

Database Systems: Data vs Information, Introducing the database and the DBMS: role and advantages of the DBMS, types of Databases, File systems, problems with file system, Data Independence, DB system environment, DBMS functions.

Data Models: Hierarchical model, Network Model, Relational model, the entity relational model, object-oriented model, Degrees of data abstraction.

UNIT II:

Entity relationship (ER) modeling: The ER Model- Entities, Attributes, Relationships, connectivity and cardinality, existence dependency, relationship strength, weak entities, relationship degree, recursive relationship, Developing ER Diagram. Advanced Data Modeling: Entity super types and subtypes, specialization hierarchy, specialization and generalization, entity integrity

UNIT III:

Normalization of Data Modeling: the need for normalization, normalization process, basic normal forms, higher level normal forms, Denormalization,

UNIT IV:

Introduction to Structured Query Language: introduction to SQL, Data Types in SQL, Operators, DDL, DML, DCL, TCL, Constraints, SQL Functions

UNIT V:

Advanced SQL: Sub Queries, Joins, Views, Sequences, Synonyms. SQL * Plus Commands. PL/SQL: Program Structure, Triggers, PL/SQL processing with cursors, stored Procedures and functions.

Prescribed TEXT BOOKS:

Data base Systems design, Implementation, and Management, Peter Rob & Carlos Coronel 7th Edition.

REFERENCES :

1. Data base Management Systems, Raghu rama Krishnan, Johannes Gehrke, TATA McGrawHill, 3rd Edition
2. Data base System Concepts, Silberschatz, Korth, McGraw hill, V edition.
3. Fundamentals of Database Systems, Elmasri Navrate Pearson Education

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	IV	Python	CBBCA401A	2017-18

Unit-I

Introduction to Python: Python, Features of Python, Python virtual Machine (PVM), Memory Management in Python, Comparisons between C and Python, Comparison between Java and Python

Writing Our First Python Program: Installing Python for Windows, Writing our First Python Program, Executing a Python Program, Using Command line window, using IDLE Graphics Window, Running Directly from System Prompt.

Unit-II

Datatypes in Python: Comments in Python, Built-in datatypes, none type, numeric type, bool Data type, Sequences, Sets, Literals. User-Defined Data types, Constraints in python, Identifiers and reserved words, Naming Conventions in python, Arithmetic Operators, Assignment operators, unary Minus, Relational operators, Logical Operators, Boolean Operators, Bitwise Operators, Membership Operators, Identity Operators, mathematical functions, using IDLE window, Using command line window.

Unit-III

Input and Output: Output Statements, Input Statements , Command line arguments, Parsing command line arguments, Control statements, The If statement, if-else statement, is elif else statement , while loop, for loop, infinite loop, nested Loop, else Suite, break, continue statements. Pass statements.

Unit-IV

Arrays in Python: Array, Advantages of array, Creating array, importing the array module, types of arrays, Creating arrays using array(), Creating Arrays using line space, creating arrays using zeros() and ones() Functions, Mathematical operations in array, Viewing and copying arrays, Dimensions of arrays, Working with multidimensional arrays, matrices ,creating strings, Length of a string.

Unit-V

Lists and Tuples: Defining a function, calling a function, Returning Results from a function, pass by object References, Recursive Functions, anonymous functions or Lambdas, Lists, Creating Lists using range() Function, Updating the elements of a lists, Concatenation of two Lists.

Prescribed Book:

“Core Python Programming” by Dr. R. Nageswara Rao, Dream Tech Press, 2017 Edition.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	IV	Software Engineering	CBBCA402	2017-18

UNIT-1: (Introduction to Software Engineering)

Software – Definition, Role, Characteristics, Software Applications. Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMi). Process Models: The Waterfall Models – Prototyping Model - The RAD Model - Evolutionary Process Models: Incremental Model, The Spiral Model, Component Assembly Model, The Concurrent Development Model.

Unit-2: (Management & Metrics)

The Management Spectrum – People – The Problem – the Process – The Project Measures, Metrics and indicators – Software Measurement – Size Oriented Metrics, Function Point Metrics, Extended Function Point Metrics, Metrics for Software Quality: Measuring Quality, DRE

Unit-3: (Project Planning Risk Management)

Software Scope – Resources – Decomposition Techniques: Software Sizing, Empirical Estimation Models: COCOMO
Software Risks – Risk Identification – Risk Projection - RMMM

Unit-4: (Analysis & Design)

Analysis Modelling: Elements of Analysis Model, Data Modelling

Software Design – Design Principles – Design concepts – Effective Modular Design: Cohesion and Coupling, Sample UML Designing

Unit-5 (SQA & Software Testing)

Quality concepts, SQA Activities, SQA Plan

Software Testing Fundamentals: Testing Objectives, Principles, Testability

Prescribed Text Book:

Software Engineering – A Practitioner’s Approach, Fourth Edition - Roger S Pressman, TATA McGrawHill, 1997

Class	Semester	Title of The Paper	Paper Code	W.E.F
IIIBCA	V	Advanced Java	CBBCA501	2017-18

UNIT – I

Servlets: Introduction to Servlets, Advantages of Servlets, Life Cycle Methods, **Servlet API:** javax.servlet, javax. servlet.http, classes, interfaces, methods, Http Servlet class http Servlet Request Interface, Http Servlet Response Interface

UNIT – II

Simple servlet program, Handling HTTP GET Requests, Handling HTTP POST Requests, Cookies ,cookie class and its methods, sample program on cookies, Session Tracking, HttpSession Interface and its Methods, sample program on session, Servlet chaining

UNIT – III

JSP: Introduction to JSP, Advantages of JSP, Sample JSP Program,

Components of JSP: Directives, Declarations, Scriptlets, Expressions, standard actions.

JSP Implicit objects, retrieving the data posted from HTML file to a JSP file, JSP sessions.

UNIT – IV

JDBC: Stages in a JDBC Program, Registering the Driver (**Type-I**), Connecting to a database, Preparing SQL Statements.

UNIT – V

Sample program to retrieve data from database, sample program to insert values into database, Stored Procedures and Callable Statements PreparedStatements, ResultSets and Types of ResultSets, Storing and retrieving images, Storing and retrieving files.

Reference Books:

Web Technology-A Developer's Perspective by **N.P. GOPALAN** through PHI Learning

Core-JAVA – an Integrated Approach by **Dr. R. Nageswara Rao**

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Web Application Development	CBBCA502	2017-18

UNIT-I :

HTML: Overview of HTML, Formatting text, Web Page Design Guidelines, Adding Graphics, Creating Tables, Setting Body and background attributes, Frame-set

UNIT-II :

Advanced HTML: Creating Sample Web pages

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information

UNIT-III :

Java Script: Data Types, Functions, Operators, Control Flow Statements, DOM (Document Object Model), Events and Event Handling.

UNIT-IV :

Dynamic HTML with Javascript : Datavalidation, Opening a new window, Messages and Confirmations, Status bar, Writing to a different frame, Rollover Buttons, Moving Images

UNIT-V :

JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Reference Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Operating System	CBBCA503	2017-18

UNIT – I

Introduction: What is operating system, Process management, Memory management, Storage management, Operating system services, System calls, Types of system calls.

UNIT – II

Process Concepts: Process states, Process Control block, Inter process communication.

Process Scheduling: CPU Scheduler, Preemptive Scheduling, Scheduling criteria, Scheduling algorithms.

UNIT – III

Synchronization: The critical section problem, Peterson's solution, Semaphores, Readers-Writers problem, Dining-philosophers problem.

Deadlocks: Deadlock characterization, Methods for handling deadlocks, Deadlock prevention, Deadlock avoidance, Deadlock detection.

UNIT – IV

Memory management: logical vs. physical address space, Swapping, contiguous memory allocation, Fragmentation, paging, Segmentation.

Virtual Memory Management: Demand paging, Copy on Write, Page replacement, Trashing.

UNIT – V

Secondary Storage Structure: Magnetic disk, Magnetic tapes, Disk structure, Disk attachment, Disk scheduling, Disk management.

Reference Book:

Operating System Principles, 7th Edition, ABRAHAM SILBERSCHATZ, PEATER BAER GALVIN

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Computer Organization	CBBCA504	2017-18

UNIT –I Data representation: (12 Hours)

Number Systems: Binary Number System, Octal Number System, Decimal Number System, and Hexa-Decimal Number System.

Conversions: Decimal Number System to Binary Number System, Decimal Number System to Octal Number System, Decimal Number System to Hexa-Decimal Number System, Binary Number System to Decimal Number System, Octal Number System to Decimal Number System, Hexa-decimal Number System to Decimal Number System.

Complements: (r-1)'s Complement, (r's) Complement

Fixed point representation: Integer Representation, Arithmetic addition, Arithmetic subtraction, Float point representation

UNIT-II (12 Hours)

Logic gates: AND Gate, OR Gate, INVERTER Gate, BUFFER Gate, NAND Gate, NOR Gate, EXCLUSIVE-OR (XOR) Gate, EXCLUSIVE-NOR Gate.

Boolean algebra, Map simplification

UNIT-III (Flip-Flops) (10 Hours)

Flip-flops: SR flip-flop, D flip-flop, JK flip-flop, T flip-flop

UNIT-IV (12 Hours)

Combinational Circuits: Half adder, full adder

Digital Components: Integrated Circuits, decoder, encoder, multiplexers.

UNIT-V(Memory Organization) (14 Hours)

Memory hierarchy, main memory: RAM and ROM, Auxiliary memory, Associative Memory, Cache memory.

Prescribed Text Book: Computer System Architecture

Third Edition, Author: M. Morris Mano. PHI publisher

Reference Book: Computer Organization and Architecture

Authors: V. Rajaraman, T.Radhakrishnan. PHI publisher

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Software Testing	CBBCA505	2017-18

Unit – I (Introduction to Software Testing)

Introduction, Evolution, Myths and Facts, Goals.

Definitions of Testing, Model for Software Testing, Effective & Exhaustive Testing. Software Testing as a Process, Schools of Testing. Error, Defect, Bug, Bug Life Cycle & rates. Bug Classification: based on Criticality and based on SDLC, Testing: Principles, Life Cycle

UNIT – II (Testing Methodology)

Testing Methodology: Definition, Strategy Development. V & V Model: Activities. Verification: activities, requirements, objectives. Verification of Designing & Code. Validation: activities includes test plan, and execution

UNIT – III (Black Box Testing)

Black Box Testing: BVA, BVC, Robustness Testing Method,, Worst-Case Testing, Equivalence Class Testing. Error Guessing.

UNIT – IV (White Box Testing)

White Box Testing: Need, Logic Coverage Criteria, Basic Path, Control-Flow Graph, Cyclomatic Complexity. Data Flow Testing.

UNIT- V (Test Management Quality Management)

Test Management: Organization, Structure of Testing Group, Test Planning and Test Design and Specifications (includes Test Case). Software Quality: Product/Process Quality, Quality Cost, Quality factors

Prescribed Book:

1) “Software Testing Principles and Practices” by NareshChauhan, published in Oxford University Press

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	.Net Programming	<u>CBBCA601</u>	2017-18

Unit I:

Introducing Windows Forms: Introduction, Common Operations on Windows Form, Creating message Box, Handling Events.

Working With Windows Form Controls: Label, TextBox, Button, RadioButton, CheckBox, ComboBox, ListBox, GroupBox, Panel control, PictureBox, Timer Control, ProgressBar.

Unit II:

Working with Tool Strips, Menus and Dialog Boxes in Windows Forms: Tool Strips and Menus in C# 2008, Using the ToolStrip Control, Using the MenuStripControl, Dialog Boxes in Visual C# 2008.

Unit III:

Working With ADO.Net: Introduction to ADO.Net, New Features of ADO.net, Components of ADO.net, Basic Operations in ADO.net, Creating a Connection to a Data

Base, Executing Commands by using Command object, Adding and configuring a DataAdapter, Creating a Data Set, Using Data Adapter to retrieve data in a Data Set.

Implementing Data Binding: Introduction, Types of Data Binding in Windows Forms.

UNIT-IV (Chapter-9,10)

Introducing Language-Integrated Query: Introduction, LINQ Queries, Executing a simple LINQ query, The Standard Query Operators, The Sorting operators, The Set Operators, Filtering Operators, The projection and Partition Operator, The Join Operators, The Grouping Operators, LINQ to ADO.NET

Unit V:

Introduction to ASP.Net: Features, Understanding Web Server Requests and Responses, Understanding ASP.NET, Creating Web application with ASP.Net.

Understanding Web Forms Validation Controls: Comparing Server and Client Validation, Validation data at the Web Server, Implementing Client Validation.

Prescribed Book:

1. Comdex .Net Programming course kit... Covering .Net Framework..2008 C#.2008, By Vikas Gupta, Dreamtech Press.[C#.2008— Ch3, CD-Ch1,Ch2, Ch6, Ch7]
2. Ms.Visual C# 2008 Step By Step By John Sharp, Microsoft press Book. [Ch27,28]

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	PHP	CBBCA602	2017-18

Unit I: (Creating PHP Pages Using PHP6)

Overview of PHP Structure and Syntax: How PHP Fits with HTML – The Rules of PHP Syntax – The Importance of Coding Practices, **Creating Your First Program:**

Using HTML to Spice up Your Pages: Integrating HTML with PHP – Considerations with HTML inside PHP.

Using Constants and Variables to Add Functionality: Overview of Constants – Overview of Variables

Passing Variables between Pages: Passing Variables through a URL – Passing Variables with Sessions – Passing Variable with Cookies – Passing Information with Forms

Unit II :

Using if/else Arguments: Using if Statements – Using if and else Together Using Includes for Efficient Code, Using Functions for Efficient Code

All about Arrays: Array Syntax – Sorting Arrays – for each Constructs, While You're Here...

Alternate Syntax for PHP: Alternates to the echo Command – Alternates to Logical Operators – Alternates to Double Quotes: Using heredoc – Alternates to Incrementing/Decrementing Values

OOP Dreams: Classes – Properties and Methods – Why use OOP

Unit III: (Using PHP with MySQL)

Overview of MySQL Structure and Syntax: MySQL Structure – MySQL Syntax and Commands, How PHP Fits with MySQL, Connecting to the MySQL Server, Looking at a Ready – Made Database

Querying the Database: WHERE, oh WHERE – Working with PHP and Arrays of Data: foreach – a Tale of Two Tables

Helpful Tips and Suggestions: Documentation – Using MySQL Query Browser

Using Tables to Display Data: Creating a Table, Wait a Minute, Who’s the Master? A Lasting Relationship

Unit IV: (Form Elements: Letting the User Work with Data)

Your First Form: FORM Element – INPUT Element – Processing the Form

Driving the User Input: One Form, Multiple Processing – Radio INPUT Element – Multiple Submit Buttons – Basic Input Testing – Ternary Operator

Letting the User Edit the Database: Preparing the Battlefield, Inserting a Record in a Relational Database, Deleting a Record, Editing Data in a Record

Unit V: (Manipulating and Creating Images with PHP)

Working with the GD Library: What File Types Can I Use with GD & PHP? - Enabling GD in PHP, Allowing Users to Upload Images, Converting Images File Types, Special Effects, Adding Captions, Adding Watermarks and Merging Images, Creating Thumbnails

Validating User Input: Users Are Users Are Users ..., Incorporating Validation into the Movie Site, Forgot Something? , checking for Format Errors. **Sending e-Mail**

Prescribed Text Book:

1. Beginning PHP 6, Apache, My SQL, Web Development, WROX, Wiley Publishers.

Reference Books: Beginning PHP 5.3: Matt Doyle, WROX, Wiley India Publishers.

Class	Semester	Title of The Paper	Paper Cod:	W.E.F
III BCA	VI	Data Communications	CBBCA603	2015-16

UNIT – I

INTRODUCTION: Data Communications: Components, Data Representation, Data Flow, Networks: Distributed Processing, Network Criteria, Physical Structures, Network Models, Categories of Networks. The Internet. Protocols And Standards: Protocols, Standards, Standards Organizations, Internet Standards.

NETWORK MODELS: Layered Tasks: Sender, Receiver, and Carrier, Hierarchy.

The OSI Model: Layered Architecture, Peer-to-Peer Processes. TCP/IP Protocol Suite. Addressing.

UNIT - II

Data and Signals: Analog And Digital: Analog and Digital Data, Analog and Digital Signals, Periodic and Non-periodic Signals, Periodic Analog Signals: Sine Wave, Phase, Wavelength, Time and Frequency Domains, Composite Signals, Bandwidth. Digital signals: Bit Rate, Bit Length, Digital Signal as a Composite Analog Signal, Transmission of Digital Signals. Transmission Impairment. Performance: Bandwidth, Throughput, Latency (Delay), Bandwidth-Delay Product, Jitter.

UNIT-III

DIGITAL TRANSMISSION: Digital-To-Digital Conversion: Line Coding, Line Coding Schemes, Block Coding. Analog-To-Digital Conversion: Pulse Code Modulation, Delta Modulation. Transmission Modes: Parallel Transmission, Serial Transmission.

UNIT – IV

ANALOG TRANSMISSION: DIGITAL-TO-ANALOG CONVERSION: Aspects of Digital-to-Analog Conversion, Quadrature Amplitude Modulation. Analog-to-analog Conversion.

BANDWIDTH UTILIZATION: MULTIPLEXING AND SPREADING:
MULTIPLEXING: Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Synchronous Time-Division Multiplexing, Statistical Time-Division Multiplexing, **SPREAD SPECTRUM:** Frequency Hopping Spread Spectrum (FHSS), Direct Sequence Spread Spectrum.

UNIT – V

TRANSMISSION MEDIA: Guided Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Unguided Media: Wireless: Radio Waves, Microwaves, Infrared.

SWITCHING: Circuit-Switched Networks: Three Phases, Efficiency, Delay. Datagram networks: Routing Table, Efficiency, Delay, Virtual-Circuit Networks: Addressing, Three Phases, Efficiency, Delay in Virtual-Circuit Networks

**Prescribed Textbook: Data Communications and Networking, Fourth Edition
by Behrouz A. Forouzan. Chapters: 1-8**

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Business Intelligence	CBBCA604 <u>Electives-A</u>	2017-18

UNIT-I

Business intelligence : Effective and timely decisions, data, information and knowledge , the role of mathematical models. Business intelligence architectures, ethics and business intelligence

UNIT –II

Decision support system: Definition of system, representation of decision making process, Evolution of information systems, Definition of information systems, development of decision support system

UNIT-III

Data warehousing: Definition of data warehouse, data warehouse architecture, cubes and multidimensional analysis.

UNIT-IV

Data mining: Definition of data mining, representation of input data, data mining process, Analysis methodologies

UNIT-V

Data preparation: Data validation incomplete data data affected by noise, data transformation standardization feature extraction ,data reduction

Prescribed Book:

Business Intelligence, Data mining and Optimization for Decision Making by “Carlo Vercellis”, Wiley Publication

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Mobile App Development	CBBCAB604 Electives-B	2017-18

UNIT - I

INTRODUCTION: History of Android, Introduction to Android Operating Systems, Android Development Tools, Android Architecture.

UNIT - II

DEVELOPMENT TOOLS: Installing and using Eclipse with ADT plug-in, Installing Virtual machine for Android sandwich/Jelly bean (Emulator), configuring the installed tools, creating a android project – Hello Word, run on emulator, Deploy it on USB-connected Android device.

UNIT - III

USER INTERFACE ARCHITECTURE: Application context, intents, Activity life cycle, multiple screen sizes.

UNIT - IV

USER INTERFACE DESIGN: Form widgets, Text Fields, Layouts, Button control, toggle buttons, Spinners (Combo boxes), Images, Menu, and Dialog.

UNIT - V

DATABASE: Understanding of SQLite database, connecting with the database.

Reference Books:

1. Android application development for java programmers. By James C. Sheusi. Publisher: Cengage Learning, 2013.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Cryptography and Network Security	CBBCAC604	2017-18

Unit-I

Introduction: Security trends, OSI Security Architecture, Security Attacks: passive attacks and active attacks, Security Services, Security Mechanisms, A model for Network Security

Unit-II

Symmetric cipher Model, substitution techniques: Caesar Cipher, Playfair Cipher, Hill Cipher, Transposition Techniques, Rotor Machines, Steganography

Unit-III

Principles of Public-key cryptosystems: Public-key cryptosystems, Applications for Public-key cryptosystems, Requirements Public-key cryptography, public-key Cryptanalysis, the RSA Algorithm.

Unit-IV

Authentication Requirements, Authentication Functions, Message Authentication codes, Hash Functions, Security of Hash Functions and MACS

Unit-V

Digital signature, Authentication Protocols, Digital Signature Standards

Prescribed Book:

Cryptography and Network Security by William Stallings 4th Edition, PHI Learning.

Reference books:

Cryptography and Network Security by Prakash C. Gupta 6th Edition

B.Sc (CBZ) - BOTANY

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	I	Microbial Diversity, Algae & Fungi	CBBOT 101	2015-16

Syllabus
MICROBIAL DIVERSITY, ALGAE & FUNGI

UNIT- I: Origin and Evolution of Life, Microbial diversity (12 hrs)

1. Origin of life –theories
2. Geological time scale
3. Microbial diversity-Mycoplasma – Chlamydia -Archaeobacteria –Actinomycetes

UNIT- II: Viruses And Bacteria (12 hrs)

1. Viruses: General account of Viruses, structure, replication and transmission of plant diseases caused by Viruses.
2. Bacteria: Structure, nutrition, reproduction and economic importance. Outlines of plant diseases of important crop plants caused by Bacteria and their control.

UNIT III: Cyanobacteria And Lichens (12 hrs)

1. Cyanobacteria: General account of cell structure, thallus organization and their uses as Biofertilizers
2. Structure, reproduction and life history of Nostoc and Scytonema
3. Lichens – Morphology –Anatomy –Reproduction –Economic importance

UNIT –IV Algae (12 hrs)

1. General account, economic importance of Algae.
2. Structure, reproduction, life history of Oedogonium, Ectocarpus and Polysiphonia

UNIT V: Fungi (12 hrs)

1. General characters, and economic importance
2. Structure, reproduction and life history of Albugo, Penicillium, Puccinia
3. General account of plant diseases caused by Fungi and their control

Suggested Readings:

Alexopolous, J. and W.M Charles.1988 introduction to mycology.Wiley Eastern, New Delhi.

Ananthanarayan&Panikers ; Microbiology 9th edition.

Pandey, B.P 2001. College Botany Vol. I: Algae, Fungai, Lichens, Bacteria, Viruses, Plant pathology, Industrial Microbiology and Bryophyta. S. Chand & company Ltd, New Delhi

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	II	Diversity Of Archaeogoniatae & Plant Anatomy	CBBOT 201	2015-16

Syllabus

UNIT- I: BRYOPHYTA

- 1. Bryophyta:** General characters.
- 2. Structure, reproduction** and Life history of *Marchantia* , and *Funaria*
3. Evolution of Sporophyte in Bryophytes.

UNIT- II: PTERIDOPHYTA

- 1. Pteridophyta:** General characters.
- 2. Structure,** reproduction and life history of *Lycopodium*, and *Marsilea*
2. Heterospory and seed habit
4. Stelar Evolution in Pteridophytes

UNIT III: GYMNOSPERMS

- 1. Gymnosperms:** General characters.
- 2. Morphology,** Anatomy, reproduction and life history of *Pinus*, *Gnetum*

UNIT –IV: Tissues And Tissue systems

- 1. Tissues** – meristematic and permanent tissues (simple and complex)
- 2.** Shoot apical meristem and its histological organisation
- 3.** Root apical meristem and its histological organization

UNIT V: Secondary growth

- 1.** Anomalous secondary growth in *Dracaena* and *Bignonia*
- 2.** Wood structure – general account. Study of local timbers Teak, Rosewood, Red sanders and *Terminalia tomentosa*

Reference

- Sambamurthy, A. V. S. S. 2006. A Textbook of Plant Pathology. I. K. International Pvt. Ltd., New Delhi.
- Sambamurthy, A. V. S. S. 2006. A Textbook of Algae. I. K. International Pvt. Ltd., New Delhi.
- Sharma, O. P. 1992. Textbook of Thallophyta. McGraw Hill Publishing Co., New Delhi.
- Sporne, K. R. 1965. Morphology of Gymnosperms. Hutchinson Co., Ltd., London.
- Thakur, A. K. and S. K. Bassi. 2008. A Textbook of Botany: Diversity of Microbes and Cryptogams. S. Chand & Company Ltd, New Delhi.
- Vashishta, P. C., A. K. Sinha and Anil Kumar. 2006. Botany – Pteridophyta (Vascular Cryptogams). S. Chand & Company Ltd, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	II	Plant Taxonomy And Embryology	CBBOT 301	2016-17

Syllabus

1. Introduction to Plant Taxonomy

- i. Fundamental components of taxonomy (identification, nomenclature, classification)
- ii. Taxonomic resources: Herbarium functions & important herbaria, Botanical gardens, Flora,
- iii. Botanical Nomenclature – Principles and rules of ICBN (ranks and names, principle of priority, binomial system; type method, author citation, valid publication).

II. Classification

- i. Types of classification Artificial, Natural and Phylogenetic.
- ii. Bentham & Hooker's system of classification merits and demerits.
- iii. Engler & Prantle's system of classification merits and demerits.
- iv. Phylogeny – origin and evolution of Angiosperms

III. Systematic Taxonomy – I

1. Systematic study and economic importance of the following families:
Annonaceae, Rutaceae, Curcubitaceae, and Apiaceae.

IV. Systematic Taxonomy-II

1. Systematic study and economic importance of plants belonging to the following families:
Asteraceae, Asclepiadaceae, Lamiaceae, and Poaceae.

V. Embryology

1. Anther structure, microsporogenesis and development of male gametophyte.
2. Ovule structure and types; Megasporogenesis, development of Monosporic, Bisporic and Tetrasporic types (Peperomia, Drusa, Adoxa) of embryos, Polyembryony – Brief account.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	II	Plant Physiology and Metabolism	CBBOT 401	2016-17

Syllabus

I. Plant – Water relations:

- i. Physical properties of water, importance of water to plant life.
- ii. Diffusion, imbibition and osmosis, concept & Components of Water potential
- iii. Absorption and transport of water and ascent of sap.
- iv. Transpiration Definition, types of transpiration, structure and opening and closing

II. Mineral nutrition & Enzymes

- i. Mineral Nutrition: Essential elements (macro and micro nutrients) and their role in plant metabolism, deficiency symptoms.
- ii. Nitrogen metabolism biological nitrogen fixation in Rhizobium, outlines of protein synthesis (transcription and translation).
- iii. Enzymes: General characteristics mechanism of enzyme action and factors.

III. Photosynthesis

1. Photosynthesis Photosynthetic pigments, photosynthetic light reactions, photo phosphorylation, carbon assimilation pathways C3 C4 and CAM (brief account)
2. Photorespiration and its significance

IV. Plant Metabolism

- i. Growth and development definition, phases and kinetics of growth (Cell Division, Cell elongation, Cell differentiation & Morphogenesis)
- ii. Physiological effects of phytohormones – Auxins Gibberellins, Cytokinins, ABA, Ethylene and Brassinosteroids.
- iii. Physiology of flowering photoperiodism, brief account of Vernalization.

Books for Reference:

- i. Steward F. C(1964) Plant at Work (A summary of Plant Physiology) Addition Wesley publishing Co., inc., Reading Massachusetts, Palo alto, Londo.
- ii. Devlin, R.M. (1969) Plant Physiology, Holt rinchart & Winston & Affiliated East West Press (p)b Ltd., New Delhi.
- iii. Noggle, R&Fritz (1989) Introductory Plant Physilogy Prentice Hall of India.
- iv. Lawlor D.W (1989) Photosynthesis, metabolism Control & Physiology ELBS/ Lognmans – London.
- v. Mayer, Anderson & Bonning (1965): Introduction to Plant Physiology
- vi. Mukherjess, A.A.K Ghosh (1998) Plant Physilogy, Tata Mc Grwa Hill Publishers(P) Ltd. New Delhi.
- vii. Satisbury, F.B. & C.W. Ross (1999) Plant Physiology CBS Publishers and Printers, New Delhi.
- viii. Plummer, D(1989) Biochemistry the Chemistry of life,MC Graw hill Book Co., London, N.Y. New Delhi, Paris, Singapore, Tokyo.
- ix. Day, P.M. & Harborne, J.B. (Eds.,) (2000) Plant Biochemistry Harcourt Asia (P) Ltd., India & Acadmic Press, Singapore.

Class	Semester	Title of The Paper	Paper Cod	W.E.F
III B.Sc. CBZ	V	Cell Biology, Genetics And Plant Breeding	CBBOT 501	2017-18

Syllabus

UNIT – I Cell Biology:

(12hrs)

1. Cell, the unit of life- Cell theory, Prokaryotic and eukaryotic cells; Eukaryotic cell components.
2. Ultra structure and functions of cell wall and cell membranes.
3. Chromosomes: morphology, organization of DNA in a chromosome (nucleosome model), Euchromatin and heterochromatin.

UNIT – II Genetic Material:

(12hrs)

1. DNA as the genetic material: Griffith's and Avery's transformation experiment.
2. DNA structure (Watson & Crick model) and replication of DNA (semi-conservative)

- Types of RNA (mRNA, tRNA, rRNA), their structure and function.

UNIT – III Mendelian Inheritance: (12 hrs)

- Mendel's laws of Inheritance (Mono- and Di- hybrid crosses); backcross and test cross.
- Chromosome theory of Inheritance.
- Linkage: concept, complete and incomplete linkage, coupling and repulsion; linkage maps based on two and three factor crosses.
- Crossing Over: concept & significance.

UNIT – IV Plant Breeding: (12 hrs)

- Introduction and Objectives of plant breeding.
- Methods of crop improvement: Procedure, advantages and limitations of Introduction, Selection, and Hybridization (outlines only).

UNIT – V Breeding, Crop Improvement and Biotechnology: (12 hrs)

- Role of mutations in crop improvement.
- Role of somaclonal variations in crop improvement.
- Molecular breeding – use of DNA markers in plant breeding and crop improvement (RAPD, RFLP).

Suggested activity: Seminar, Debate, Quiz, observation of live cells and nucleus in Onion peels, observation of Meiotic nuclei in Maize pollen. Solving Genetics problems.

- Old, R.W. and Primrose S.B. 1994, Principles of Gene Manipulation Blackwell Science, 19
- Watson, J.D. (1977): Molecular Biology of the Gene, W.A. Benjamin, Inc., Menlo Park-California, Reading-Massachusetts, London, Amsterdam, Don Mills, Ontario, Sydney.
- Gardner, E.J & Snusted, D.P. (1984): Principles of Genetics (7th edition) John Wiley & Sons, N.Y. Chichester, Brisbane, Toronto, Singapore
- Lewin, B. (1985) Genes VII Wiley Eastern Ltd., New Delhi, Bombay, Calcutta, Madras, Hyderabad.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	V	Plant Ecology & Phytogeography	CBBOT 502	2017-18

SYLLABUS

III B. Sc. - SEMESTER- V: BOTANY THEORY SYLLABUS PAPER-VI: PLANT ECOLOGY & PHYTOGEOGRAPHY

UNIT – I. Elements of Ecology (12 hrs.)

- Ecology: definition, branches and significance of ecology.
- Climatic Factors: Light, Temperature.
- Edaphic Factor: Origin, formation, composition and soil profile.
- Biotic Factor: Interactions between plants and animals.

UNIT– II. Ecosystem Ecology (12 hrs.)

1. Ecosystem: Concept and components, energy flow, Food chain, Food web, Ecological pyramids.
2. Productivity of ecosystem-Primary, Secondary and Net productivity.
3. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.

UNIT – III Population & Community Ecology (12 hrs)

1. Population -definition, characteristics and importance, outlines –ecotypes.
2. Plant communities- characters of a community, outlines – Frequency, density.
3. Interaction between plants growing in a community.

UNIT – IV Phytogeography (12 hrs)

1. Principles of Phytogeography.
2. Phytogeographic regions of India.
3. Phytogeographic regions of World.
4. Endemism – types and causes

UNIT- V: Plant Biodiversity and its importance (12 hrs.)

1. Definition, levels of biodiversity-genetic, species and ecosystem.
2. Biodiversity hotspots- Biodiversity hotspots of India.
3. Loss of biodiversity – causes and conservation (*In-situ* and *ex-situ* methods).
4. Seed banks - conservation of genetic resources and their importance.

Suggested activity :Collection of different soils, studying their texture, observing polluted water bodies, student study projects, debates on man’s activity on ecosystem and biodiversity conservation methods, visiting a nearest natural vegetation area. Visit to NGO, working in the field of biodiversity and report writing.

Books for Reference

1. Daubenmire, R.F. (): Plants & Environment (2nd Edn.,) John Wiley & Sons., New York
2. Puri, .G.S. (1960): Indian Forest Ecology (Vol.I & II) Oxford Book Co., New Delhi & Calcutta.
3. Billings, W.B. (1965): Plants and the Ecosystem Wadsworth Publishing Co., Inc., Belmont
4. Misra, R. (1968): The Ecology work Book Oxford & INH Publishing Co., Calcutta
5. Odum E.P. (1971): Fundamentals of Ecology (2nd Edn.,) Saunders & Co., Philadelphia & Natraj Publishers, Dehradun.
6. Odum E.P. (1975): Ecology By Holt, Rinert & Winston

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Organic Farming & Sustainable Agriculture	CBBOTA 601	2017-18

SYLLABUS

Unit - I: Concept of organic farming: (12hrs)

1. Introduction: Farming, organic farming, concept and development of organic farming.
2. Principles of organic farming, types of organic farming, biodynamic farming.
3. Benefits of organic farming, need for organic farming, conventional farming v/sorganic farming
4. Scope of organic farming; Andhra Pradesh, National and International status.

5. Agencies and institutions related to organic agriculture.
6. Requirements for organic farming, farm components for an organic farm

Unit - II: Organic plant nutrient management: (12hrs)

1. Organic farming systems, soil tillage, land preparation and mulching.
2. Choice of varieties.
3. Propagation-seed, planting materials and seed treatments, water management
4. Green manuring, composting- principles, stages, types and factors, composting methods, Vermi composting
5. Bulky organic manures, concentrated organic manures, organic preparations, organic amendments and sludges.
6. Bio-fertilizers- types, methods of application, advantages and disadvantages, standards for organic inputs- fertilizers

Unit-III: Organic plant protection: (12hrs)

1. Plant protection- cultural, mechanical, botanical pesticides, control agents
2. Weed management
3. Standards for organic inputs- plant protection.

Unit- IV: Organic crop production practices: (12hrs)

1. Organic crop production methods- rice, coconut.
2. Organic crop production methods- vegetables- okra, amaranthus, cucurbits.
3. Livestock component in organic farming.
4. Sustainable Agriculture-Apiculture, Mushroom cultivation.

Unit- V: Organic Certification (12hrs)

1. Farm economy: Basic concept of economics- demand & supply, economic viability of a farm.
2. Basic production principles, reducing expenses, ways to increase returns, cost of production system. Benefit/ cost ratio, marketing, imports and exports.
3. Policies and incentives of organic production.
4. Farm inspection and certification.
5. Terrace farming.

Books for Reference:

1. Palaniappan SP & Anandurai K. 1999. Organic Farming—Theory and Practice Scientific Publishers, Jodhpur
2. Joshi, M. 2014. New Vistas of Organic Farming 2nd Ed. Scientific Publishers, Jodhpur.
3. Farming system : Theory and Practice - S.A.Solaimalai
4. Organic Farming: Theory and Practice- S.P.Palaniappan and K.A. Annadurai
5. A hand book of Organic Farming by A.K.Sharma

Suggested Activities: Preparation of Vermicompost in small scale, observing sewage sludge disposal mechanisms in urban/semi urban areas, studying the usage, of green manures, neem oil, neem cake, pongamia oil in organic farming, livestock component in various farming methods, visiting an Apiculture center, drawing various terrace farming models

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Nursery, Gardening And Floriculture	CBBOTB 601	2017-18

Syllabus

Unit I: Nursery: (12 hrs.)

1. Definition, objectives, scope and building up of infrastructure for nursery.
2. Planning and seasonal activities - Planting - direct seeding and transplants.
3. Nursery Management and Routine Garden Operations.

Unit II: Gardening (12 hrs.)

1. Definition, objectives and scope - different types of gardening.
2. Landscape and home gardening - parks and its components, plant materials and design .
3. Computer applications in landscaping.
4. Gardening operations: soil laying, manuring, watering.
5. Landscaping Places of Public Importance: Landscaping highways and Educational Institutions)
6. Some Famous gardens of India.

Unit III: Propagation methods (12 hrs.)

- 1 Sowing/raising of seeds and seedlings, transplanting of seedlings.
2. Air- layering, cutting, selection of cutting ,propagule collecting season, treatment of cutting rooting medium and planting of cuttings - Hardening of plants.
3. Propagation of ornamental plants by rhizomes, corms tubers, bulbs.

Unit IV: Floriculture: (12 hrs.)

1. Ornamental Plants: Flowering annuals; herbaceous, perennials and ornamental trees.
2. Ornamental bulbous and foliage plants; Cacti and succulents.
3. Ornamentals-palms.
4. Cultivation of plants in pots; Indoor gardening; Bonsai.

Unit V: Commercial Floriculture (12 hrs.)

1. Factors affecting flower production; Production and packaging of cut flowers; Flower arrangements; Methods to prolong vase life of flowers
2. Cultivation of Important cut flowers (Carnation, Aster, Dahlia, Gerbera, Anthuriums, Gladiolous, Marigold, Rose, Liliium)
3. Management of pests, diseases and harvesting.

Books for Reference:

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil. institution)
4. Randhawa, G.S. and Mukhopadhyay, A. 1986. Floriculture in India. Allied Publishers.

Suggested Activities: Raising a nursery, managing it, studying and drawing various land scaping designs, practicing layering methods, using shade nets to protect horticultural crops, practicing indoor gardening techniques, visiting florists and recording their methods of prolonging vase life of commercial cut flowers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Plant Tissue Culture And Its Biotechnological Applications	CBBOTC 601	2017-18

Syllabus

PLANT TISSUE CULTURE AND ITS BIOTECHNOLOGICAL APPLICATIONS

Unit I: PLANT TISSUE CULTURE – 1 (12hrs)

- History of plant tissue culture research - basic principles of plant tissue callus culture, meristem culture, organ culture, Totipotency of cells, differentiation and dedifferentiation.
- Methodology - sterilization (physical and chemical methods), culture media, Murashige and Skoog's (MS medium), phytohormones, medium for micro-propagation/clonal propagation of ornamental and horticulturally important plants.
- Callus subculture maintenance, growth measurements, morphogenesis in callus culture – organogenesis, somatic embryogenesis.

UNIT-II: Plant Tissue culture -2 (12hrs)

- Endosperm culture – Embryo culture -culture requirements – applications, embryo rescue technique.
- Production of secondary metabolites.
- Cryopreservation; Germ plasm conservation

Unit III: Recombinant DNA technology (12hrs)

- Restriction Endonucleases (history, types I-IV, biological role and application); concepts of restriction mapping.
- Cloning Vectors: Prokaryotic(pUC 18, pBR322,Ti plasmid and Lambda phage, Eukaryotic Vectors (YAC and briefly PAC)
- Gene cloning (Bacterial Transformation and selection of recombinant clones, PCR mediated gene cloning)
- Construction of genomic and cDNA libraries, screening DNA libraries to obtain gene of interest by complementation technique, colony hybridization.

Unit IV: Methods of gene transfer (12hrs)

- Methods of gene transfer- Agrobacterium-mediated, direct gene transfer by Electroporation, Microinjection, Micro projectile bombardment.
- Selection of transgenics– selectable marker and reporter genes (Luciferase, GUS, GFP).

Unit V: Applications of Biotechnology (12 hrs)

- Applications of Plant Genetic Engineering – crop improvement, herbicide resistance, insect resistance, virus resistance.

2. Genetic modification – transgenic plants for pest resistant (Bt-cotton); herbicide resistance (Round Up Ready soybean); improved agronomic traits - flavrSavr tomato, Golden rice); Improved horticultural varieties (Moon dustcarnations)

Books for Reference:

1. Pullaiah. T. and M.V.Subba Rao. 2009. Plant Tissue culture. Scientific Publishers, New Delhi.
2. Bhojwani, S.S. and Razdan, M.K., (1996). Plant Tissue Culture: Theory and Practice. Elsevier Science Amsterdam. The Netherlands.
3. Glick, B.R., Pasternak, J.J. (2003). Molecular Biotechnology- Principles and Applications of recombinant DNA. ASM Press, Washington.
4. Bhojwani, S.S. and Bhatnagar, S.P. (2011). The Embryology of Angiosperms VikasPublicationHouse Pvt. Ltd., New Delhi. 5th edition.
5. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics. John Wiley and Sons, U.K. 5th edition.
6. Stewart, C.N. Jr. (2008). Plant Biotechnology & Genetics: Principles, Techniques and Applications. John Wiley & Sons Inc. U.S.A

Suggested Activities: In vitro initiation of callus on artificial medium, seminars on utilization of r DNA technology, debates on applications of Biotechnology (whether it is a boon or bane to the society) studying growth patterns, vegetative characteristics of Bt.cotton and identifying the features of its pest resistance

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Plant Diversity And Human Welfare	CBBOTA 602	2017-18

Syllabus - CBBOTA 602

PLANT DIVERSITY AND HUMAN WELFARE

Unit- I: Plant diversity and its scope: (12hrs)

- i. Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agro biodiversity and cultivated plant taxa, wild taxa.
- ii. Values and uses of biodiversity: Ethical and aesthetic values,
- iii. Methodologies for valuation, Uses of plants.

Unit -II: Loss of biodiversity: (12hrs)

- i. Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agro biodiversity, projected scenario for biodiversity loss
- ii. Management of plant biodiversity: Organizations associated with biodiversity management- Methodology for execution-IUCN, UNEP, WWF, NBPGR; Biodiversity legislation and conservations, Biodiversity information management and communication

Unit-III: Contemporary practices in resource management: (12hrs)

- i. Environmental Impact Assessment (EIA), Geographical Information System GIS, Ecological footprint with emphasis on carbon footprint, Resource accounting;
- ii. Solid and liquid waste management

Unit -IV: Conservation of biodiversity**(12hrs)**

- i. Conservation of genetic diversity, species diversity and ecosystem diversity, *In situ* and *ex situ* conservation,
- ii. Social approaches to conservation, Biodiversity awareness programmes, Sustainable development

Unit- V: Role of plants in relation to Human Welfare**(12hrs)**

- i. Importance of forestry, their utilization and commercial aspects- a) Avenue trees, b) ornamental plants of India. c) Alcoholic beverages through ages.
- ii. Fruits and nuts: Important fruit crops their commercial importance. Wood, fiber and their uses

Suggested Readings:

1. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.
2. Singh, J. S., Singh, S.P. and Gupta, S. (2006). Ecology, Environment and Resource conservation. Anamaya Publications, New Delhi.
3. Rogers, P.P., Jalal, K.F. and Boyd, J.A. (2008). An Introduction to Sustainable Development. Prentice Hall of India Private Limited, New Delhi.

Suggested activities:

Study of flora and its diversity in the college campus or local area, enumerating wild and exotic species (*Parthenium*, Water hyacinth etc.)

Project work on any one of the International organizations striving for preservation of biodiversity, study of conservation efforts of local people, and civic bodies, study of locally available fruits in different seasons, enumerating the avenue plantations and their diversity in your town/city.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Ethnobotany And Medicinal Botany	CBBOTA 603	2017-18

Syllabus**ETHNOBOTANY AND MEDICINAL BOTANY – CBBOTA 603****Unit –I: Ethnobotany****(12hrs)**

- i. Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. Brief Account The relevance of ethnobotany in the present context
- ii. Major and minor ethnic groups or Tribals of India, and their life styles.
- iii. Plants used by the tribal populations: a) Food plants, b) intoxicants and beverages, c) Resins and oils and miscellaneous uses.

Unit -II: Role of ethnobotany in modern Medicine:**(12hrs)**

- i. Role of ethnobotany in modern medicine with special example *Rauvolfia sepentina*, *Trichopus zeylanicus*, *Artemisia annua*, *Withania somnifera*.
- ii. Medico-ethnobotanical sources in India
- iii. Significance of the following plants in ethno botanical practices (along with their habitat and

morphology) a) Azadirachta indica, b) Ocimum sanctum, c) Vitex negundo, d) Gloriosa superba, e) Tribulus terrestris, f) Phyllanthus niruri, g) Cassia auriculata, h) Indigofera tinctoria, i) Senna auriculata j). Curcuma longa.

iv. Brief account on Role of ethnic groups in the conservation of plant genetic resources.

Unit-III: Ethnobotany as a tool to protect interests of ethnic groups (12hrs)

i. Sharing of wealth concept with few examples from India.

ii. Biopiracy, Intellectual Property Rights and Traditional Knowledge

Unit -IV: History, Scope and Importance of Medicinal Plants. indigenous Medicinal Sciences (12hrs)

i. Definition and Scope-**Ayurveda**: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments.

ii. **Siddha**: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine.

iii. **Unani**: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations (in brief).

Unit -V: Conservation of endangered and endemic medicinal plants: (12hrs)

i. Definition: endemic and endangered medicinal plants,

iii. In situ conservation: Biosphere reserves, National Parks

iv. Ex situ conservation: Botanical Gardens.

Suggested Activities: Studying plant utilization methods by tribal/rural/migrant populations for their beverages, food, medicinal and uses, seminars on role of ethnic groups in conservation of plant genetic resources, project work on traditional knowledge about plant medicines, study of indigenous medicinal sciences and their efficacy.

Suggested Readings:

- 1) S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
- 2) Glimpses of Indian. Ethnobotny, Oxford and I B H, New Delhi – 1981.
- 3) S.K. Jain (ed.) 1989. Methods and approaches in ethnobotany. Society of ethnobotanists, Lucknow, India.
- 4) S.K. Jain, 1990. Contributions of Indian ethnobotny. Scientific publishers, Jodhpur.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Pharmacognosy And Phytochemistry	CBBOTA 604	2017-18

SYLLABUS

Unit-I: Pharmacognosy (12hrs)

Definition, Importance, Classification of drugs - Chemical and Pharmacological, Drug evaluation methods.

Unit –II: Organoleptic and microscopic studies: (12hrs)

Organoleptic and microscopic studies with reference to nature of active principles and common adulterants of Alstonia scholaris (bark), Adhatoda vasica(leaf), Strychnos nuxvomica (seed), Rauwolfia serpentina(root) and Zinziber officinalis Catharanthus roseus.

Unit-III: Secondary Metabolites:**(12hrs)**

- i. Definition of primary and secondary metabolites and their differences, major types - terpenes, phenolics, alkaloids, terpenoids, steroids.
- ii. A brief idea about extraction of alkaloids. Origin of secondary metabolites – detailed account of acetate pathway, mevalonate pathway, shikimate pathway.

UNIT-IV: Phytochemistry:**(12hrs)**

Biosynthesis and sources of drugs:

- (i) Phenols and phenolic glycosides : structural types, biosynthesis, importance of simple phenolic compounds, tannins, coumarins and isocoumarins, flavones.
- (ii) Steroids, sterols, saponins, ecdysones, commercial importance.
- (iii) Alkaloids: Different groups, biosynthesis, bioactivity.
- (v) Volatile oils, aromatherapy.

UNIT-V: Enzymes, proteins and amino acids as drugs:**(12hrs)**

- i. Vaccines, toxins and toxoids, antitoxins, immune globulins, antiserums
- ii. Vitamins, Antibiotics – chemical nature, mode of action.
- iii. Pharmacological action of plant drugs – tumor inhibitors, antioxidants.
- iv. Role of different enzyme inhibitors

Suggested Activities: Isolation techniques of active principles from various parts of popular medicinal plants, debates on the efficacy of plant medicines and palliative cure, volatile oils from plants-extraction methods, project work on crude drugs.

Books For Reference:

- Wallis, T. E. 1946. Text book of Pharmacognosy, J & A Churchill Ltd.
- Roseline, A. 2011. Pharmacognosy. MJP Publishers, Chennai.
- Gurdeep Chatwal, 1980. Organic chemistry of natural productis. Vol.I.Himalaya Publishing house.
- Kalsi, P. S. and Jagtap, S., 2012. Pharmaceutical medicinal and natural product chemistry N.K. Mehra . Narosa Publishing House Pvt. Ltd. New Delhi.
- Agarwal, O. P. 2002. Organic chemistry–Chemistry of organic natural products. Vol. II. Goel publishing house , Meerut.
- Harborne, J. B. 1998. Phytochemical methods –a guide to modern techniques of plant analysis 3 rd edition, Chapman and Hall
- Datta & Mukerji, 1952. Pharmacognosy of Indian roots of Rhizome drugs. Bulletin No.1 Ministry of Health, Govt. of India.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Biological Instrumentation And Methodology	CBBOTB 602	2017-18

SYLLABUS

BIOLOGICAL INSTRUMENTATION AND METHODOLOGY-CBBOTB 602

Unit -I: Imaging and related techniques: (12hrs)

Principles of microscopy; Light microscopy; Fluorescence microscopy; Electron Microscopy (a) Flow cytometry (b) Applications of fluorescence microscopy: Chromosome banding, FISH, chromosome painting; Transmission and Scanning electron microscopy – sample preparation for electron microscopy, cryofixation, negative staining, shadow casting, freeze fracture, freeze etching.

Unit- II: pH and Centrifugation: (12 hrs)

pH meter: Principles and instrumentation, Centrifugation: Principles, types of centrifuges, types of rotors, differential and density gradient centrifugation, application. Sonication, Freeze drying.

Unit- III: Spectrophotometry: (12hrs)

Principle involved in Spectrophotometer; Spectrophotometric techniques, Instrumentation: ultraviolet and visible spectrophotometry (single and double beam, double wavelength spectrophotometers), Infrared spectrometers - Luminometry and densitometry – principles and their applications - Mass Spectroscopy-principles of analysis, application in Biology.

Unit- IV: Chromatography: (12hrs)

Chromatographic techniques: Principle and applications – Column - thin layer –paper, affinity and gas chromatography - Gel filtration - Ion exchange and High performance liquid chromatography techniques– Examples of application for each chromatographic system - Basic principles of electrophoresis.

Unit- V: Preparation of molar, molal and normal solutions, buffers, the art of scientific writing

(12hrs)

Understanding the details on the label of reagent bottles. Molarity and normality of common acids and bases. Preparation of solutions. Dilutions. Percentage solutions. Molar, molal and normal solutions. Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling. The art of scientific writing and presentation of scientific matter. Scientific writing and ethics. Writing references. Powerpoint presentation. Poster presentation. Introduction to copyright-academic misconduct/plagiarism in scientific writing.

Suggested Readings:

1. K. Wilson and KH Goulding. 1986. Principles and techniques of Practical Biochemistry. (3 edn) Edward Arnold, London.
 2. Dawson, C. (2002). Practical research methods. UBS Publishers, New Delhi.
 3. Stapleton, P., Yondeowei, A., Mukanyange, J., Houten, H. (1995). Scientific writing for agricultural research scientists – a training reference manual. West Africa Rice Development Association, Hong Kong.
- Ruzin, S.E. (1999). Plant micro technique and microscopy. Oxford University Press, New York, U.S.A

Suggested activities: Preparing various laboratory reagents, operating laboratory instruments, noting instrument readings, calculating results accurately, Skills on writing scientific articles, presentation of scientific results through tables, graphs, poster presentations and practicing power point presentations.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Mushroom Culture and Technology	CBBOTB 603	2017-18

Syllabus – CBBOTB603
Mushroom Culture and Technology

Unit I: Introduction, history: (12hrs)

Introduction - history - scope of edible mushroom cultivation, Types of edible mushrooms available in India – *Volvariellavolvacea*, *Pleurotuscitrinopileatus*, *Agaricusbisporus*. Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms.

UNIT II: Pure culture-spawn preparation: (12hrs)

Pure culture - preparation of medium (PDA and Oatmeal agar medium)sterilization - preparation of test tube slants to store mother culture – culturingof*Pleurotus* mycelium on Petriplates, preparation of mother spawn in salinebottle and polypropylene bag and their multiplication.

Unit III: Cultivation Technology: (12hrs)

Infrastructure: Substrates (locally available) Polythene bags, vessels, Inoculation hook, inoculation loop, low cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation - Low cost technology, composting technology in mushroom production.

Unit IV: Storage and nutrition : (12hrs)

Short-term storage (Refrigeration - up to 24 hours) Long term Storage (canning, pickels, papads), drying, storage in saltsolutions. Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content – Vitamins.

Unit V: Food Preparation: (12hrs)

Types of foods prepared from mushrooms; soup, cutlet omlette, samosa, pickles and curry .Research Centres - National level and Regional level. Cost benefit ratio - Marketing in India and abroad, Export Value.

CHEMISTRY

Class	Semester	Title of The Paper	Paper Code	W.E.F
IBSC (CBZ, MPC MCCS)	I	Inorganic And Organic Chemistry	CBCHE101	2015-2016

Syllabus

Unit I: (p-BLOCK ELEMENTS) – 15 HOURS

General characteristics of elements of groups 13, 14, 15 elements.

Group-13: Synthesis and structure of diborane and higher boranes (B_4H_{10} and B_4H_9),

Boran-nitrogen compounds ($B_3N_3H_6$ and BN)

Group-14: Preparation and applications of silanes and silicones.

Group-15: Preparation and reactions of hydrazine, hydroxylamine

UNIT 2 : 1 P-BLOCK ELEMENTS –

8 HRS

1. General Characteristics of elements of group 16 and 17

Group 16: Classification of oxides based on Chemical behaviour and oxygen Content.

Group 17: Inter halogen compounds and pseudo halogen compounds.

2. Organometallic compounds

8 HRS

Definition and classification of organometallic compounds, nomenclature, preparation, properties and applications of alkyl of Li, Mg and Al

ORGANIC CHEMISTRY-1

UNIT-3

10 hrs

Structural theory of Organic chemistry

Types of bond fission and organic reagents (Electrophilic, Nucleophilic, and free radical reagents).

Bond polarization:

Introduction of covalent bonds, electronegativity, inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids. Resonance of Mesomeric effects application to (a) acidity of phenol (b) acidity of carboxylic acids. Hyper conjugation and application to stability of carbonium ions, free radicals

Types of organic reactions: Addition - electrophilic, nucleophilic and free radicals Elimination- Examples(mechanism not required)

UNIT4

10 HRS

1. ACYCLIC HYDROCARBONS

6 HRS

Alkenes –preparation of alkenes(two methods), Additions of halogen and its mechanism. Addition of HX. Markonikovs rule,addition of H_2O , HOX with mechanism.

Addition of HBr in the presence of peroxide (anti-markonikovs rule). Dienes-types of dienes, reactions of conjugated dienes _1,2 and 1,4 addition of HBr to 1,3 butadiene and Diels Alder reactions.

2. ALICYCLIC HYDROCARBONS

4 HRS

Alkynes - Preparation by dehydrogenation of dihalides, dehalogenation of tetrahalides, Properties-reactivity of cyclopropane and cyclobutane. Stability of cycloalkanes - Baeyer's strain theory, Sachse and Mohr predictions and Conformations structures of cyclobutane, cyclopropane, cyclohexane.

UNIT-5

BENZENE AND ITS REACTIVITY

10 HRS

Concept of resonance energy. Heat of hydrogenation, heat of combustion of Benzene, mention of C-C bond length and orbital picture of Benzene

Concept of aromaticity-aromaticity definition, Huckles rule –application to Benzenoid (Benzene Naphthalene) and Non-Benzenoid compounds (cyclopropenyl cation, cyclopentadienyl anion and tropylium cation)

I. Reactions – General mechanism of electrophilic substitution, mechanism of nitration. Friedel crafts alkylation. Orientation of aromatic substitution definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic and interpretation of various groups like NO and phenolic) Orientation effect of 1) Amino, methoxy and methyl groups 2) Carboxy , nitro , nitrile carbonyl and Sulphonic acid groups 3) Halogenes. Beginning PHP 6, Apache, My SQL, Web Development, WROX, Wiley Publishers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BSC (CBZ, MPC MCCS)	II	Physical And General Chemistry	CBCHE201	2017-2018

Syllabus

UNIT1

SOLID STATE

8 HRS

Symmetry in crystals. Law of constancy of interfacial angles. The law of rationality of indices. The law of symmetry. Definition of lattice point, space lattice, unit cell. X-ray diffraction and crystal structure. Bragg's law. Determination of crystal structure by Bragg's method. Defects in crystals. Stoichiometric and non-stoichiometric defects

UNIT 2

1. GASEOUS STATE

7 HRS

Critical phenomena. The van der Waals' equation and the critical state. Law of corresponding states. Relationship between critical constants and van der Waals' constants. Joule Thomson effect.

2. LIQUID STATE

8 HRS

Intermolecular forces, structure of liquids (qualitative description). Structural differences between solids, liquids and gases. Liquid crystals, the mesomorphic state. Classification of liquid

crystals into smetic and Nematic and Cholestic. Differences between liquid crystal and solid/liquid. Applications of liquid crystals as LCD devices

UNIT-3

SOLUTIONS

7 HRS

Liquid-liquid –ideal solutions, Raoult's law. Ideally dilute solutions 1, Henry's law. Azeotropes-HCl-H₂O₂ , Ethanol-water systems. Partially miscible liquids – phenol water, trimethylamine-water, trimethylamine-water and nicotine –water system. Immiscible liquid and steam distillation. Nernst distribution law . applications of distribution law.

GENERAL CHEMISTRY

UNIT-4

1. SURFACE CHEMISTRY

5 HRS

Definition of colloids. Properties-Kinetic, optical, electrical. Stability of colloids, Hardy-Schulze law, protective colloid.

2. CHEMICAL BONDING

10 HRS

Valence bond theory, hybridization, VB theory as applied to ClF₃, Ni(CO)₄, Molecular orbital theory-LCAO method, construction of M.O. Diagrams for homo-nuclear and hetero-nuclear diatomic molecules (N₂, O₂, CO and NO).

UNIT-5

STEREOCHEMISTRY OF CARBON COMPOUNDS

15HRS

Molecular representation-Wedge, Fischer, Newmann and Saw-Horse formulae.

Optical isomerism: Optical activity-wave nature of light, plane polarised light, Optical rotation and specific rotation. Chiral molecules-definition, Definition of enantiomers and diastereomers-explanation of optical isomerism with examples Glyceraldehyde, Lactic acid and Tartaric acid. D,L and R,S configuration methods(Cahn-Ingold-prelog rules) and E,Z-configuration.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BSC (CBZ, MPC MCCS)	III	Inorganic And Organic Chemistry	CBCHE301	2016-2017

Syllabus

30 Hrs

UNIT-1

1. CHEMISTRY OF d-BLOCK ELEMENTS:

8 rs

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. stability of various oxidation states

2. THEORIES OF BONDING IN BONDING IN METALS

7 hrs

Valence bond theory, Free electron theory, Explanation of thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors and Insulators.

UNIT-2

1. Metals carbonyls

8hrs

EAN rule, classification of metals carbonyls, structure and shape of metal carbonyls of Mn, Fe and Ni.

2. CHEMISTRY OF F-BLOCK ELEMENTS

7hrs

Chemistry of lanthanides-electronic configuration, oxidation states, lanthanide contraction, causes and consequences of lanthanide contraction. Chemistry of actinides – electronic configuration, comparison of lanthanides and actinides.

UNIT-3

10 hrs

1. HALOGEN COMPOUNDS

Nucleophilic aliphatic substitution reaction –classification into SN1 and SN2-reaction mechanism with examples. Stereo chemistry of SN2 (Walden inversion) and SN1 (Racemisation).

2. HYDROXY COMPOUNDS:

Alcohols: preparation with hydroboration reaction.

Phenols: preparation i) diazonium salt, ii) from aryl sulphonates, iii) from cumene.

CHEMICAL PROPERTIES:

a) Dehydration of alcohols

b) Oxidation of alcohols by CrO_3 , KMnO_4 .

c) Special reactions of phenols: bromination, Kolbe-Schmidt, Reimer-Tiemann reaction, pinacol-pinacolone rearrangement.

UNIT-4

1: CARBONYL COMPOUNDS:

10 hrs

Synthesis of aldehydes from acid chlorides, synthesis of ketones from nitriles and from carboxylic acids.

CHEMICAL PROPERTIES:

Nucleophilic addition reactions with a) NaHSO_3 , b) HCN , c) RMgX , d) 2,4-DNP

BASE CATALYSED REACTIONS: A) aldol condensation, b) Cannizzaro's reaction, c) Perkin reaction, d) benzoin condensation, e) haloform reaction f) Knoevenagel reaction.

OXIDATION OF ALDEHYDES-Baeyer-Villiger oxidation ketones.

REDUCTION: Wolff-Kishner reduction, MPV reduction, reduction with LiAlH_4 and NaBH_4 .

Analysis of aldehydes and ketones with

a) 2,4-DNP test, b) Tollens test, c) Fehling test, d) Schiff's test, e) haloform test (with equation).

2: CARBOXYLIC ACIDS AND DERIVATIVES

Methods of preparation by

a) Hydrolysis of nitriles, amides

b) Hydrolysis of esters.

PHYSICAL PROPERTIES: acidity-strength of acids with examples of trimethylacetic acid and trichloroacetic acid.

CHEMICAL PROPERTIES: esterification (mechanism). degradation of carboxylic acids by hunsdiecker reaction, decarboxylation by schimdt reaction, halogenation by Hell-Volhard-Zelinsky reaction.

UNIT:5

ACTIVE METHYLENE COMPOUNDS:

10 hrs

Keto-enol tautomerism, Acetoacetic ester: Preparation by Claisen condensation.

Synthetic applications: Preparations of

a) Monocarboxylic acids-propionic acids and n-butyric acid.

b) Dicarboxylic acids-succinic acid and adipic acid.

c) Reaction with urea.

Mallonic ester: preparation from acetic acid.

SYNTHETIC APPLICATIONS: Preparation of

a) Monocarboxylic acid(propionic acid n-butyric acid).

b) Dicarboxylic acids(succinic acid and adipic acid).

c) , -unsaturated carboxylic acids (crotonic acid).

d) Reaction with urea.

LIST OF REFERENCE BOOKS

1. Selected topics in inorganic chemistry by W.D. Malik, G.D. Tuli, R.D. Madan

2. Inorganic chemistry J E Huheey, E A Keiter and R L Keiter

3. A text book of organic chemistry by Bahll and Arun Bahl

4. A text book of organic Chemistry by I L Finar Vol 1

5. Organic chemistry by Brucie

6. Organic chemistry by Clayden

7. Advanced inorganic chemistry by Gurodeep Raj

8. Basic inorganic chemistry by Cotton and Wilkinson

9. Concise inorganic chemistry by J.D..LEE

Class	Semester	Title of The Paper	Paper Code	W.E.F
IV BSC (CBZ, MPC MCCS)	IV	Spectroscopy And Physical Chemistry	CBCHE401	2016-2017

Syllabus

UNIT-1:

SPECROPHOTOMETRY

8 hRS

General features of absorption-Beer-Lamberts law and its limitations, transmittance, Absorbance, and molar absorptivity. Single and double beam spectrophotometers. Applications of beer-lambert law for quantitative analysis of 1.chromium in K₂Cr₂O₇.Manganese in Manganous sulphate.

MOLECULAR SPECTROSCOPY:

7 HRS

Interaction of Electromagnetic radiation with molecules and types of molecular spectra. Energy levels of molecular orbitals (, , n).Selection rules for electronic spectra. Types of

electronic transitions in molecules effect of conjugation. Concept of chromophore and auxochrome.

UNIT-2

INFRA RED SPECTROSCOPY:

7 HRS

Different Regions in Infrared radiations. Modes of vibrations in diatomic and polyatomic molecules. Characteristics absorption bands of various function groups. Interpretation of spectra-Alkanes, Aromatic, Alcohols carbonyls, and amines with one example each.

PROTON MAGNETIC RESONANCE SPECTROSCOPY

(¹H-NMR) 8 Hrs

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals-spin-spin coupling, coupling constants. Applications of NMR with suitable examples-ethyl bromide, ethanol, acetaldehyde, toluene and acetophenone.

PHYSICAL CHEMISTRY

30 Hrs

UNIT-3

10 Hrs

Dilute solutions Colligative properties. Raoult's law, relative lowering of vapour pressure, its relation to molecular weight of non-volatile solute. Elevation of boiling point and depression of freezing point. Derivation of Relation between molecular weight and elevation of boiling point and depression in freezing point.

Osmosis, osmotic pressure, Determination of molecular weight of non-volatile solute from osmotic pressure. Abnormal colligative properties-Vant Hoff factor.

UNIT-4

10 Hrs

ELECTROCHEMISTRY

Migration of ions, Kohlrausch's law Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Definition of transport number, determination by Hittorf's method. Applications of conductivity measurements-conductometric titrations. Single electrode potential, sign convention, Reversible and irreversible cells Nernst Equation-Reference electrode, Standard Hydrogen electrode, calomel electrode, Inert electrode, Determination of EMF of cell, Applications of EMF measurements-Potentiometric titrations.

UNIT-5

10 Hrs

PHASE RULE

Concept of phase, components, degree of freedom. Thermodynamic Derivation of Gibbs phase rule. Phase equilibrium of one component system-water system. Phase equilibrium of two component system, solid-liquid equilibrium system. Simple eutectic diagram of Pb-Ag system, simple eutectic diagram, desilveration of lead., NaCl-Water system, Freezing mixtures.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	V	Inorganic, Physical And Organic Chemistry	CBCHE501	2017-2018

Syllabus

UNIT-I

COORDINATION CHEMISTRY:

8H

IUPAC nomenclature, concept of coordination, valence bond theory, geometries of coordination number-4-tetrahedral and squareplaner, and 6-octahedral and its limitations. Crystal field theory-splitting of d-orbitals in octahedral, tetrahedral and square-planer complexes-low spin and high spin complexes. factors affecting crystal field splitting energy. isomerism in coordination compounds-structural isomerism and stereo isomerism, stereo chemistry of complexes with 4 and 6 coordination numbers

UNIT-II

1. spectral and magnetic properties of metal complexes:

4H

Types of magnetic behaviour, spin-only formula, calculation of magnetic moments, experimental determination of magnetic susceptibility-Gouy method.

2. stability of metal complexes:

Factors affecting the stability of metal complexes, chelate affect, determination of composition of complex by job's method and mole ration method.

UNIT-III

ORGANIC CHEMISTRY

Nitro hydro carbons:

Nomenclature and classification-nitro hydro carbons, structure, preparation of nitro alkanes(vapour phase nitration of alkanes, from alkyl halides, from oximes), reactivity-halogenation, reaction with HONO(nitrous acid), Nef reaction and Mannich reaction leading to micheal addition and reduction.

UNIT-IV

NITROGEN COMPOUNDS:

Amines (aliphatic): Nomenclature, classification into primary, secondary, tertiary amines and quarternary ammonium compounds. Preparative methods-

1. gabriel synthesis

2. hoffman's bromamide reaction (mechanisam).

Reduction of amides and Schmidt reaction.physical properties and basic character.

Chemical properties: a) Alkylation b) Acylation c) Carbylamine reaction d) Hinsberg separation e)reaction with nitrous acid of primary, secondary, tertirary (aliphatic amines).Diazotization.

UNIT-V

PHISICAL CHEMISTRY

Thermodynamics

The first law of thermodynamics-

statement, definition of internal energy and enthalpy. Heat capacities and their relationship. Joule-Thomson effect-coefficient. State function. Temperature dependence of enthalpy of formation-Kirchoff s equation. Second law of thermodynamics Different Statements of the law. Caront cycle and its efficiency. Carnot theorem. Concept of entropy. entropy as a state function.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	V	Inorganic, Physical And Organic Chemistry	CBCHE502	2017-2018

Syllabus

UNIT-I

1. Rectivity of metal complexes:

Labile and inert complexes, ligand substitution reactions-SN1 and SN2. Substitution reactions square planar complexes-Trans effect and applications of trans effect.

2. Bioinorganic chemistry:

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Co, Cu, Cl. Metalloporphyrins- Structure and functions of hemoglobin, Myoglobin and Chlorophyll.

PHYSICAL CHEMISTRY

UNIT-II

1. Chemical kinetics

Rate of reaction-Definition of order and molecularity. Derivation of rate constants for first, second, third and zero order reactions and examples. Derivation for time half change. Methods determine the order of reaction. Effect of temperature on rate reaction.

2. Photochemistry

Difference between thermal and photochemical process. Laws of photochemistry-Grothus Drapers law Stark-Einsteins law of photochemical equivalence. Quantum yield-Photochemical reactions mechanism-hydrogen-chlorine, hydrogen-bromine reaction. phosphorescence, Photosensitized reactions.

UNIT-III

ORGANIC CHEMISTRY

Heterocyclic Compounds

Introduction and definition: Simple five membered ring compounds with one hetero atom Ex Furan. Thiophene and pyrrole-Aromatic character-Preparation from 1,4-dicarbonyl compound, Paul-Knorr synthesis.

Properties:

Acidic character of pyrrole-electrophilic substitution at 2 or 5 position. Halogenation Nitration and Sulphonation under mild conditions-Diels Alder reaction in furan.

UNIT-IV

Carbohydrates

Monosaccharides (+) Glucose (aldo hexose)-Evidence for cyclic structure of glucose (some negative aldehydes tests and mutarotation)-Proof for the ring size (methylation, hydrolysis and oxidation reactions)-Pyranose structure (Haworth formula and chair conformational formula). (-) Fructose (Keto-hexose)-Evidence of 2-Keto-hexose structure (formation of pentaacetate, formation of cyanohydrin its hydrolysis and reduction by HI). Cyclic structure for fructose (Furanose structure and Haworth formula)- osazone formation from glucose and fructose- Definition of anomers with examples.

Inter conversion of Monosaccharides: Aldopentose to Aldohexose (Arabinose to D-Glucose. D-Mannose) (Kiliani-Fischer method). Emiers, Epimerisation-Lobry debruyn van

Ekenstein rearrangement. Aldopentose (D-Glucose to D-Arabinose) by Ruff degradation. Aldohexose to Keto-hexose.

{(+)-Glucose to (-)-Fructose} and Keto-hexose to Aldohexose (Fructose to Glucose).

UNIT-V

Amino acids and proteins

Introduction:

Definition of Amino acids, classification of Amino acids into alpha, beta, and gamma amino acids. Natural and essential amino acids-definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of Synthesis: General By following **methods:** a) from halogenated carboxylic acid (HVZ) b) Malonic ester synthesis c) Strecker's synthesis.

Physical properties: General reactions due to amino (Alkylation, Acylation with nitrous acid) and carboxyl groups (Esterification, Decarboxylation reaction, with ammonia)-lactams from gamma and delta amino acids by heating peptide bond (amide linkage).

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	VI	Environmental Chemistry	CBCHEB601	2017-2018

Syllabus

UNIT-I

INTRODUCTION:

Concept of environmental chemistry-Scope and importance of environment in now a days-Nomenclature of environmental chemistry-Segments of environment-Solar and biomass energy and Nonrenewable resources-Thermal power and atomic energy reactions of atmospheric oxygen.

UNIT-II

AIR POLLUTION:

Definition-SOURCES OF AIR POLLUTION (i. Natural. ii. Man-made. iii. Particulate matter (inorganic/organic))-Classification of air pollution-Acid rain-Photochemical smog-Greenhouse effect-Formation and Depletion of ozone-Bhopal gas disaster-controlling method of air pollution.

UNIT-III

WATER POLLUTION

Unique physical and chemical properties of water-water quality and criteria for finding of water quality-dissolved oxygen-BOD, COD, Hardness of water- methods to convert temporary hard water into soft water- methods to convert permanent hard water-eutrophication and its effects-principal wastewater treatment- industrial wastewater treatment

UNIT-IV

CHEMICAL TOXICOLOGY

Toxic chemicals in the environment- effects of toxic chemicals-cyanide and its toxic effects-pesticides and its biochemical effects-toxicity of lead, mercury, arsenic and cadmium.

UNIT-V

ECOSYSTEM AND BIO DIVERSITY ECOSYSTEM

Concepts-structure-functions and types of ecosystem- abiotic and biotic components- energy flow and energy dynamics of ecosystem-food chain-food web-tropic levels.

BIODIVERSITY

Definition-level and types of biodiversity-concept.

LIST OF DIFFERENCE BOOKS

1. Fundamentals of ecology by M. C. Dash.
2. A text book of environmental chemistry by W. Moore and F. A. Moore.
3. Environmental chemistry by Samir k. Banerji.

Class	Semester	Title of The Paper	Paper Code	W.E.F
IBSC (CBZ, MPC MCCS)	VI	Fuel Chemistry And Batteries	CBCHEB602	2017-2018

UNIT –I

12h

Review of energy sources (renewable and non-renewable) – classification of fuels and their calorific value. Coal: Uses of Coal (fuel and non-fuel) in various industries, its composition, carbonization of coal - coal gas, producer gas and water gas – composition and uses – fractionation of coal tar – uses of coal tar based chemicals, requisites of a good metallurgical coke, coal gasification (Hydro gasification and catalytic gasification)

UNIT-II

6h

Petroleum and petrol chemical industry:

Composition of crude petroleum, refining and different types of petroleum products and their applications.

UNIT-III

10h

Fractional distillation (principle and process), cracking (Thermal and catalytic cracking). Reforming petroleum and non-petroleum fuels (LPG, CNG, LNG, biogas), fuels derived from biomass, fuel from waste, synthetic fuels (gaseous and liquids), clear fuels, petro chemicals: vinyl acetate, propylene oxide, isoprene, butadiene, toluene and its derivative xylene.

UNIT-IV

10h

Lubricants: Classification of lubricants, lubricating oils (conducting and non- conducting), solid and semi- solid lubricants, synthetic lubricants. Properties of lubricants (viscosity index, cloud point, pore point) and their determination.

UNIT-V**7h****Batteries:**

Primary and secondary batteries, battery components and their role, Characteristics of Battery. Working of following batteries: Pb acid, Li-Battery, Solar cell and polymer cell

Class	Semester	Title of The Paper	Paper Code	W.E.F
IBSC (CBZ, MPC MCCS)	VI	Inorganic Materials Of Industrial Importance	CBCHEB603	2017-2018

Syllabus**UNIT - I****Recapitulation of s- and p-Block Elements****8h**

Periodicity in s- and p-block elements with respect to electronic configuration, atomic and ionic size, ionization enthalpy, electronegativity (Pauling, Mulliken, and Alfred - Rochow scales). Allotropy in C, S, and P. Oxidation states with reference to elements in unusual and rare oxidation states like carbides and nitrides), inert pair effect, diagonal relationship and anomalous behaviour of first member of each group.

UNIT – II**15h****Silicate Industries****Glass:**

Glassy state and its properties, classification (silicate and non-silicate glasses). Manufacture and processing of glass. Composition and properties of the following types of glasses: Soda lime glass, lead glass, armoured glass, safety glass, borosilicate glass, fluorosilicate, coloured glass, photosensitive glass.

Ceramics:

Important clays and feldspar, ceramic, their types and manufacture. High technology ceramics and their applications, superconducting and semiconducting oxides, fullerenes carbon nanotubes and carbon fibre.

Cements:

Classification of cement, ingredients and their role, Manufacture of cement and the setting process, quick setting cements.

UNIT – III**8h****Fertilizers:**

Different types of fertilizers. Manufacture of the following fertilizers: Urea, ammonium nitrate, calcium ammonium nitrate, ammonium phosphates; polyphosphate, superphosphate, compound and mixed fertilizers, potassium chloride, potassium sulphate.

UNIT – IV**8h****Surface Coatings:**

Objectives of coatings surfaces, classification of surface coatings. Paints and pigments-formulation, composition and related properties. Oil paint, Vehicle, modified oils, Pigments, toners and lakes pigments, Fillers, Thinners, Enamels, emulsifying agents. Special

paints (Heat retardant, Fire retardant, Eco-friendly paint, Plastic paint), Dyes, Wax polishing, Water and Oil paints, Metallic coatings (electrolytic and electroless).

UNIT – V

6h

Alloys:

Classification of alloys, ferrous and non-ferrous alloys, Specific properties of elements in alloys. Manufacture of Steel (removal of silicon decarbonization, demanganization, desulphurization dephosphorisation) and surface treatment (argon treatment, heat treatment, nitriding, carburizing). Composition and properties of different types of steels.

Class	Semester	Title of The Paper	Paper Code	W.E.F
IBSC (CBZ, MPC MCCS)	VI	Analysis Of Applied Industrial Products	CBCHEB604	2017-2018

Syllabus

UNIT-I

Analysis of soaps: moisture and volatile matter, combined alkali, total fatty matter, free alkali, total fatty acid, sodium silicate and chlorides.

Analysis of paints : Vehicle and pigments, Barium Sulphate, total lead, lead chromate, iron pigments, zinc chromate

UNIT- II

Analysis of oils: saponification value, iodine value, acid value, ester value, bromine value, acetyl value. Analysis of industrial solvents like benzene, acetone, methanol and acetic acid., Determination of methoxyl and N-methyl groups.,

UNIT-III

Analysis of fertilizers: urea, NPK fertilizer, super phosphate, Analysis of DDT, BHC, endrin, endosulfone, malathion, parathion. Analysis of starch, sugars, cellulose and paper,

UNIT -IV

Gas analysis: carbon dioxide, carbon monoxide, oxygen, hydrogen, saturated hydro carbon, unsaturated hydrocarbons, nitrogen, octane number, cetane number Analysis of Fuel gases like: water gas, producer gas, kerosene (oil) gas. Ultimate analysis: carbon, hydrogen, nitrogen, oxygen, phosphorus and sulfur.,

UNIT - V

Analysis of Complex materials:

Analysis of cement- loss on ignition, insoluble residue, total silica, sesqui oxides, lime, magnesia, ferric oxide, sulphuric anhydride.

Analysis of glasses - Determination of silica, sulphur, barium, arsenic, antimony, total R₂O₃, calcium, magnesium, total alkalies, aluminium, chloride, fluoride

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	VI	Analytical Methods In Chemistry	CBCHEA601	2017-2018

Syllabus

UNIT-I

Quantitative analysis:

10h

- a) Importance in various fields of science, steps involved in chemical analysis. Principles of volumetric analysis : Theories of acid-base, redox, complexometric, iodometric and precipitation titrations - choice of indicators for these titrations.
- b) Principles of gravimetric analysis: precipitation, coagulation, peptization, coprecipitation, post precipitation, digestion, filtration and washing of precipitate, drying and ignition.

UNIT-II

Treatment of analytical data:

7 h

Types of errors, significant figures and its importance, accuracy - methods of expressing accuracy, error analysis and minimization of errors, precision - methods of expressing precision, standard deviation.

UNIT-III

SEPARATION TECHNIQUES IN CHEMICAL ANALYSIS:

8h

1. SOLVENT EXTRACTION : Introduction, principle, techniques, factors affecting solvent extraction, Batch extraction, continuous extraction and counter current extraction. Synergism., Application - Determination of Iron (III)
2. ION EXCHANGE: Introduction, Principle, Applications (i. Separation of similar ions, ii. Removal of interfering radicals, iii. Amino acids separation).

UNIT - IV

10 h

Chromatography: 1. Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values.

2. Paper Chromatography: Principles, R_f values, experimental procedures, choice of paper and solvent systems, developments of chromatogram - ascending, descending and radial. applications.

UNIT -V

10 h

1. Thin layer Chromatography (TLC): Advantages. Principles, factors effecting R_f values. Experimental procedures. Adsorbents and solvents. Applications.
2. Column Chromatography: Principles, experimental procedures, Sepa

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	VI	Polymer Chemistry	CBCHEA602	2017-2018

Syllabus

UNIT-I

12 h

Introduction of polymers:

Basic definitions (Polymer, monomer, polymerization), degree of polymerization, classification of polymers- Natural and Synthetic polymers, Organic and Inorganic polymers, Thermoplastic and Thermosetting polymers, Plastics, Elastomers, Fibers and Resins, Linear, Branched and Cross Linked polymers, Addition polymers and Condensation Polymers, mechanism of polymerization. Free radical, ionic and Zeigler – Natta polymerization.

UNIT-II

10h

Techniques of Polymerization : Bulk polymerization, solution polymerization. Molecular weights of polymers: Number average and weight average molecular weights Determination of molecular weight of polymers by Viscometry, Osmometry and light scattering methods.

UNIT-III

6 h

Kinetics of Free radical polymerization, Glass Transition temperature (T_g) Free volume theory, WLF equation, factors affecting glass transition temperature (T_g) (i. Chemical structure, ii. molecular weight, iii. effect of plasticizers (diluent)).

UNIT-IV

9 h

Polymer additives:

Introduction to plastic additives – fillers, Plasticizers and Softeners, Lubricants and Flow Promoters, Anti aging additives, Flame Retardants, Colourants, Blowing agents, Cross linking agents.

UNIT-V

8h

Polymers and their applications:

Preparation and industrial applications of Polyethylene, Polyvinyl chloride, Teflon, Polyacrylonitrile, Terelene, Nylon6.6 silicones.

Reference Books:

1. Seymour, R.B. & Carraher, C.E. Polymer Chemistry: An Introduction, Marcel Dekker, Inc. New York, 1981.
2. Odian, G. Principles of Polymerization, 4th Ed. Wiley, 2004.
3. Billmeyer, F.W. Textbook of Polymer Science, 2nd Ed. Wiley Interscience, 1971.
4. Ghosh, P. Polymer Science & Technology, Tata McGraw-Hill Education, 1991.34
5. Lenz, R.W. Organic Chemistry of Synthetic High Polymers. Interscience Publishers, New York, 1967.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	VI	Instrumental Methods Of Analysis	CBCHEA603	2017-2018

Syllabus

UNIT – I

Introduction to spectroscopic methods of analysis:

4 h

Recap of the spectroscopic methods covered in detail in the core chemistry syllabus:

Treatment of analytical data, including error analysis. Classification of analytical methods and the types of instrumental methods. Consideration of electromagnetic radiation.

UNIT – II

Molecular spectroscopy: **8h**

Infrared spectroscopy:

Interactions with molecules: absorption and scattering. Means of excitation (light sources), separation of spectrum (wavelength dispersion, time resolution), detection of the signal (heat, differential detection), interpretation of spectrum (qualitative, mixtures, resolution), advantages of Fourier Transform (FTIR). Samples and results expected.

Applications: Issues of quality assurance and quality control.

UNIT – III **10h**

UV-Visible/ Near IR – emission, absorption, fluorescence and photo acoustic. Excitation sources (lasers, time resolution), wavelength dispersion (gratings, prisms, interference filters, laser, placement of sample relative to dispersion, resolution), Detection of signal (photocells, photomultipliers, diode arrays, sensitivity and S/N), Single and Double Beam instruments, Interpretation (quantification, mixtures, absorption vs. fluorescence and the use of time, photo acoustic, fluorescent tags).

UNIT – IV

Separation techniques

Chromatography: Gas chromatography, liquid chromatography, supercritical fluids, Importance of column technology (packing, capillaries), Separation based on increasing number of factors (volatility, solubility, interactions with stationary phase, size, electrical field), Detection: simple vs. specific (gas and liquid), Detection as a means of further analysis (use of tags and coupling to IR and MS). **8h**

Mass spectroscopy: Making the gaseous molecule into an ion (electron impact, chemical ionization), Making liquids and solids into ions (electrospray, electrical discharge, laser desorption, fast atom bombardment), Separation of ions on basis of mass to charge ratio, Detection and interpretation (how this is linked to excitation). **8h**

UNIT – V

Elemental analysis: **10h**

Mass spectrometry (electrical discharges).

Atomic spectroscopy: Atomic absorption, Atomic emission, and Atomic fluorescence. Excitation and getting sample into gas phase (flames, electrical discharges, plasmas), Wavelength separation and resolution (dependence on technique), Detection of radiation (simultaneous/scanning, signal noise), Interpretation (errors due to molecular and ionic species, matrix effects, other interferences).

NMR spectroscopy: Principle, Instrumentation, Factors affecting chemical shift, Spin coupling, Applications. **6h**

Electroanalytical Methods: Potentiometry & Voltammetry **6h**

Reference books:

1. Skoog, D.A. Holler F.J. & Nieman, T.A. *Principles of Instrumental Analysis*, Cengage Learning India Ed.
2. Willard, H.H., Merritt, L.L., Dean, J. & Settoe, F.A. *Instrumental Methods of*

Analysis, 7th Ed. Wadsworth Publishing Company Ltd., Belmont, California, USA, 1988.

3. P.W. Atkins: Physical Chemistry.
4. G.W. Castellan: Physical Chemistry.
5. C.N. Banwell: Fundamentals of Molecular Spectroscopy.
6. Brian Smith: Infrared Spectral Interpretations: A Systematic Approach.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSC (CBZ, MPC MCCS)	VI	Analysis Of Drugs, Foods, Dairy Products & Bio Chemical Analysis	CBCHEA604	2017-2018

Syllabus

UNIT- I

Analysis of the following drugs and pharmaceuticals preparations:

(Knowledge of molecular formula, structure and analysis)

Analysis of analgesics and antipyretics like aspirin and paracetamol

Analysis of antimalarials like chloroquine .

Analysis of drugs in the treatment of infections and infestations :Amoxycillin., chloramphenicol, penicillin, tetracycline.

UNIT - II

Analysis of the following drugs and pharmaceuticals preparations:

(Knowledge of molecular formula, structure and analysis)

Analysis of antihistamine drugs and sedatives like: allegra, zyrtec(citirizine), alprazolam, lorazepam, diazepam,

UNIT - III

Analysis of anti epileptic and anti convulsant drugs like phenobarbital and phenacemide.

Analysis of drugs used in case of cardiovascular drugs:atenolol, norvasc(amlodipine),

Analysis of lipitor(atorvastatin) a drug for the prevention of production of cholesterol.

Analysis of diuretics like: furosemide (Lasix).

Analysis of prevacid(lansoprazole) a drug used for the prevention of production of acids in stomach.

UNIT - IV

Analysis of Milk and milk products: Acidity, total solids, fat, total nitrogen, proteins, lactose, phosphate activity, casein, chloride. Analysis of food materials-Preservatives: Sodium carbonate, sodium benzoate sorbic acid Coloring matters, -Brilliant blue FCF, fast green FCF, tartrazine, erythrosine , sunset yellow FCF.

Flavoring agents - Vanilla , diacetyl, isoamyl acetate, limonene, ethylpropionate, allylhexanoate and Adulterants in rice and wheat, wheat flour, sago, coconut oil, coffee powder, tea powder, milk..

UNIT - V

Clinical analysis of blood:Composition of blood,clinical analysis,trace elements in the body.Estimation of blood cholesterol,glucose,enzymes,RBC & WBC ,Blood gas analyser.

REFERENCE BOOKS :

- F.J.Welcher-Standard methods of analysis,
- A.I.Vogel-A text book of quantitative Inorganic analysis-ELBS,
- F.D.Snell & F.M.Biffen-Commercial methods of analysis-D.B.Taraporavala & sons,
- J.J.Elving and I.M.Kolthoff- Chemical analysis - A series of monographs
- on analytical chemistry and its applications -- Inter Science- Vol I to VII.,
- Analytical Agricultural Chemistry by S.L.Chopra & J.S.Kanwar -- Kalyani
- Publishers
- Quantitative analysis of drugs in pharmaceutical formulations by P.D.Sethi, CBS
- Publishers and Distributors, New Delhi
- G.Ingram- Methods of organic elemental micro analysis- Chapman and Hall.,
- H.Wincciam and Bobbles (Henry J)- Instrumental methods of analysis of food
- additives.,
- H.Edward-The Chemical analysis of foods;practical treatise on the examination
- of food stuffs and the detection of adulterants,
- The quantitative analysis of drugs- D.C.Garratt-Chapman & Hall.,

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department Of Computer Science & Applications

COMPUTERS

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	I	Introduction to Computers	CBBCA101	2015-16

Class: I BCA

Code: CBBCA101

Paper: Introduction to Computers

Semester: I

UNIT – I

Introduction to Computers, Characteristics of Computers, Computer Block Diagram, Types of computers, Input and Output Devices, Types of printers, Applications of Computers.

Unit – II

Computer Memory, Types of memory devices, Processors.

Number Systems, Binary Number system, Decimal Number System, Octal number system, hexadecimal number system. Decimal to binary, binary to decimal, decimal to octal conversions. Computer Codes: BCD, EBCDIC.

Unit – III

Computer Software, Types of software. Operating System, Functions of operating System, and Types of operating System.

Logic gates: And gate, OR gate, NOT gate, NAND Gate, NOR Gate, XOR Gate, Universal Gates: NAND, NOR

UNIT – IV

Computer Software, Types of software. Introduction to algorithms and programming languages, Types of programming languages. LAN, MAN, WAN, Internet, e-mail account creation, components in e-mail, sending mail, receiving mail.

TEXT BOOK:

“Fundamentals of Computers” by REEMA THAREJA from OXFORD UNIVERSITY PRESS.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	I	‘C’ Programming	CBBCA102	2015-16

Unit I

Introduction to Algorithms and Programming Languages. Compiling Programs, Language Interpreters. Compiling your first program. Running your program .understanding your first program, comments, variables, Data types, and Arithmetic Expressions: working with variables. Understanding Data types and constants, working with Arithmetic Expressions. The Assignment operators. The printf function. The scanf function.

Unit II

Decision making: The if statement, if else, Nested if statements, else if. The switch statement. The conditional operator program looping: for statement. Relational operators. Nested for loops, while statement, do statement. The break statement. The continue statement.

Working with Functions: Defining a Function-Arguments and Local variables. Returning Function Results. Function calling. Declaring Return Types and Argument types. Top Down programming. Functions and Arrays. The global variables. Automatic and static variables. Recursive Functions.

Unit III

Working with Arrays: Defining an array. Initializing Arrays. Character Arrays. Multidimensional arrays- variable length Arrays. Strings: Creating string variable, string functions.

Unit – IV

Working with structures :Defining structure . Functions and structures . Initializing structures . Array of structures structures containing structures .structures containing Arrays. Structure variants . Character strings : Array of characters. variable length character strings . Escape characters .character strings, structures and arrays - character operations.

Pointers: Defining a pointer variable. Using pointers in Expressions. Pointers and structures (Exclude Linked List). Pointers and Functions. Pointers and Arrays. Operations on pointers. Pointers and Memory address.

Unit – V

Files: file manipulating functions, file opening modes, file creating.

TEXT BOOK:“Computer Fundamentals and Programming in C” by REEMA THAREJA from OXFORD UNIVERSITY PRESS

REFERENCE BOOK:

1. E Balagurusamy: COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw- Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
2. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
3. Henry Mullish & Huubert L.Cooper: The Sprit of C, Jaico Pub. House,1996.

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I BCA	II	MS Office	CBBCA201	2015-16

Syllabus

UNIT-I

Word Basics: Starting word, Creating a new document, Opening preexisting document, P a r t s of a word window, Typing text, Selecting text, Deleting text, Undo, Redo, Repeat, Inserting text, Replacing text, Formatting text, Cut, Copy, Paste – Printing. **Formatting Your**

Text and Documents: Auto format, Line spacing, Margins, Borders and Shading. **Working with**

Headers and Footers: Definition of headers and footers, creating basic headers and footers, creating different headers and footers for odd and even pages. **Tables:** Creating a simple table, Creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width. **Graphics:** Importing graphics, Clipart, Insert picture, Clip Art Gallery, using word's drawing features, drawing objects, text in drawing.

Unit II:

MS Power Point: Introduction, Building a presentation, Outlining the presentation, Creating text and chart slides, Formatting charts, Customizing presentation, Drawing on slides, Creating slide shows. **Creating Presentations:** Using auto content wizard, Blank presentation option, Design template option, Adding slides, Deleting a slide, Importing Images from the outside world, Drawing in power point, Transition and build effects, Deleting a slide, Numbering a Slide, Saving presentation, Closing presentation, Printing presentation elements.

Unit III:

MS Excel: Excel Features, Getting started, Creating New worksheet, Selecting cells, Entering and editing text, Entering and editing Numbers, entering and editing Formulas, Referencing cells, Moving cells, Copying cells, Sorting cells, Data inserting rows, Inserting columns, Inserting cells, Deleting parts of worksheet, clearing parts of worksheet. **Formatting:** Page set-up, changing Column widths and Row heights, auto format, changing font sizes and attributes, centering text across columns, using border buttons and Commands, changing colors and shading, hiding rows and columns.

Unit IV:

Introduction to Functions: Parts of Functions, Functions requiring Add-ins, Function Wizard - Functions by category: Date and time functions, Engineering functions, Math and Trig functions, Statistical functions, Text functions. **Excel Charts:** Chart parts and terminology, Instant charts with chart wizard, creation of different types of charts, printing charts, deleting charts – Linking in Excel

Unit V:

MS Access: Creating a Simple Database and Tables: Creating contacts Databases with Wiz, Access Table Wizard, Creating Database Tables without wizard, Field Names, Data Types and Properties, Adding, deleting, renaming the fields in a table. **Forms:** Form Wizard, Saving Forms, Modifying Forms. **Entering and Editing Data:** Adding Records, Duplicating previous entries without Retyping, Undo, Correcting Entries, Global Replacements, Moving from Record to Record in a table. **Finding, Sorting and Displaying Data:** Queries and Dynasets, Creating and using select queries, Returning to the Query Design, Multilevel Sorts, Finding incomplete matches, Showing all Records after a Query, Saving Queries, Crosstab Queries. **Relational Databases:** Flat vs. Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships. **Reports:** Introduction to Reports.

Text books:

1. Baja K K , Office Automation , MacMillan India Ltd, 1996.
2. Steve Sagman, Microsoft Office XP for Windows, Pearson Education Asia, 2002.
3. Jennifer Fulton, Microsoft Office 2000, Prentice-Hall of India, 1999.
4. Reema Thareja , Fundamentals Of Computers, Oxford University Press

Reference books:

1. Windows XP Home Edition Complete, BPB Publications, 2001.
2. Raghav Bahl , Exploring Microsoft Office XP, Cyber Tech, 2001 .
3. Sanjay Saxena , MS Office 2000 for Everyone, Vikas Publishing , 2001.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BCA	II	Data structures	CBBCA202A	2016-17

Syllabus**Unit I**

Overview: Introduction, basic terminology, elementary data organization, data structures, data structures operations, algorithms: complexity, time-space tradeoff, algorithmic notations,

Searching: linear search, binary search, multi-dimensional arrays.

Sorting: Bubble Sort – Selection Sort – Insertion Sort.

Unit II

Linked List: introduction, linked list, traversing a linked list, searching a linked list, memory allocations and garbage collection, insertion and deletion in a linked list, two-way list

Stacks, Queues: introduction, Stacks, arrays representation of stacks, arithmetic expression: polish notation.

UNIT III

Recursion: recursion, tower of Hanoi, implementation of recursive procedure of stacks Arithmetic Notation.

Linked representation & Advance sorting: Linked representation of stacks and queues, Quick Sort – merge sort.

Unit IV

Trees : Tree Terminology, searching, deleting and inserting in binary search trees, heap sort, general trees.

Graphs: introduction, terminology, Traversing a graph BFS, DFS.

Prescribed Text Book:

1. Data Structures by Lipschutz- Shaum's Outline Series

Reference:

1. Data Structures and Algorithms in Java- Robert Laford.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	III	OOPS with JAVA	CBBCA301	2016-17

Syllabus

Unit – I: Java Fundamentals

Fundamentals of Object Oriented programming:

Java Features – How Java differs from C and C++ , Simple Java Program – Java Program Structure – Java Tokens, Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants, Variables and Data types: Constants – Variables – Data types – Scope of Variables, Type Casting.

Operators and Expressions: Arithmetic Operators – Relational Operators -Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Operator Precedence and Associativity.

Unit-II

Decision Making and looping: Decision Making with If statement – Simple If Statement- If else Statement- Nesting If Else Statement- the Else If Ladder,-The switch Statement – The ?: operator. The while statement – The do statement – The for statement

Classes : Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control.

Arrays, Strings and Vectors: One dimensional Arrays, creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types.

Unit – III: Packages and Interfaces in Java

Interfaces: Multiple Inheritance : Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

Packages: Java API Packages – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package

Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority

Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax of Exception Handling Code – Multiple Catch Statements – Using Finally Statement – Throwing our own Exceptions

Unit- IV

Applet Programming: 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 – Passing parameters to Applets – Aligning the display – Displaying Numerical Values – Getting Input from the user.

Prescribed text books:

1. E. Balaguruswamy, Programming with Java, A primer, 3e, TATA Mc Graw Hill Company (2008).

References:

1. John R. Hubbard, Programming with Java, Second Edition, Schaum' soutline Series, Tata Mc Grawhill (2007).
2. Timothy Budd, Understanding Object Oriented Programming with Java, Pearson Education (2007).

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	III	RDBMS	CBBCA302	2016-17

Syllabus**UNIT I:**

Database Systems: Data vs Information, Introducing the database and the DBMS: role and advantages of the DBMS, types of Databases, File systems, problems with file system, Data Independence, DB system environment, DBMS functions.

Data Models: Hierarchical model, Network Model, Relational model, the entity relational model, object-oriented model, Degrees of data abstraction.

UNIT II:

Entity relationship (ER) modeling: The ER Model- Entities, Attributes, Relationships, connectivity and cardinality, existence dependency, relationship strength, weak entities, relationship degree, recursive relationship, Developing ER Diagram. Advanced Data Modeling: Entity super types and subtypes, specialization hierarchy, specialization and generalization, entity integrity

UNIT III:

Normalization of Data Modeling: the need for normalization, normalization process, basic normal forms, higher level normal forms, Denormalization,

UNIT IV:

Introduction to Structured Query Language: introduction to SQL, Data Types in SQL, Operators, DDL, DML, DCL, TCL, Constraints, SQL Functions

UNIT V:

Advanced SQL: Sub Queries, Joins, Views, Sequences, Synonyms. SQL * Plus Commands.

PL/SQL: Program Structure, Triggers, PL/SQL processing with cursors, stored Procedures and functions.

Prescribed TEXT BOOKS:

Data base Systems design, Implementation, and Management, Peter Rob & Carlos Coronel 7th Edition.

REFERENCES :

1. Data base Management Systems, Raghu rama Krishnan, Johannes Gehrke, TATA McGrawHill, 3rd Edition
2. Data base System Concepts, Silberschatz, Korth, McGraw hill, V edition.
3. Fundamentals of Database Systems, Elmasri Navrate Pearson Education

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA	IV	Python	CBBCA401A	2017-18

SYLLABUS

Unit-I Introduction to Python: Python, Features of Python, Python virtual Machine (PVM), Memory Management in Python, Comparisons between C and Python, Comparison between Java and Python

Writing Our First Python Program: Installing Python for Windows, Writing our First Python Program, Executing a Python Program, Using Command line window, using IDLE Graphics Window, Running Directly from System Prompt.

Unit-II Datatypes in Python: Comments in Pythons, Built-in datatypes, none type, numeric type, bool Data type, Sequences, Sets, Literals. User-Defined Data types, Constraints in python, Identifiers and reserved words, Naming Conventions in python, Arithmetic Operators, Assignment operators, unary Minus, Relational operators, Logical Operators, Boolean Operators, Bitwise Operators, Membership Operators, Identity Operators, mathematical functions, using IDLE window, Using command line window.

Unit-III Input and Output: Output Statements, Input Statements , Command line arguments, Parsing command line arguments, Control statements, The If statement, if-else statement, is elif else statement , while loop, for loop, infinite loop, nested Loop, else Suite, break, continue statements. Pass statements.

Unit-IV Arrays in Python: Array, Advantages of array, Creating array, importing the array module, types of arrays, Creating arrays using array(),Creating Arrays using line space, creating arrays using zeros() and ones() Functions, Mathematical operations in array, Viewing and copying arrays, Dimensions of arrays, Working with multidimensional arrays, matrices ,creating strings, Length of a string.

Unit-V Lists and Tuples: Defining a function, calling a function, Returning Results from a function, pass by object References, Recursive Functions, anonymous functions or Lambdas, Lists, Creating Lists using range() Function, Updating the elements of a lists, Concatenation of two Lists.

Prescribed Book:

“Core Python Programming” by Dr. R. Nageswara Rao, Dream Tech Press, 2017 Edition.

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
II BCA	IV	Software Engineering	CBBCA402	2017-18

UNIT-1: (Introduction to Software Engineering)

Software – Definition, Role, Characteristics, Software Applications. Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMi).Process Models: The Waterfall Models – Prototyping Model - The RAD Model - Evolutionary Process Models: Incremental Model, The Spiral Model, Component Assembly Model, The Concurrent Development Model.

Unit-2: (Management & Metrics)

The Management Spectrum – People – The Problem – the Process – The Project Measures, Metrics and indicators – Software Measurement – Size Oriented Metrics, Function Point Metrics, Extended Function Point Metrics, Metrics for Software Quality: Measuring Quality, DRE

Unit-3: (Project Planning Risk Management)

Software Scope – Resources – Decomposition Techniques: Software Sizing, Empirical Estimation Models: COCOMO
Software Risks – Risk Identification – Risk Projection - RMMM

Unit-4: (Analysis & Design)

Analysis Modelling: Elements of Analysis Model, Data Modelling Software Design – Design Principles – Design concepts – Effective Modular Design: Cohesion and Coupling, Sample UML Designing

Unit-5 (SQA & Software Testing)

Quality concepts, SQA Activities, SQA Plan

Software Testing Fundamentals: Testing Objectives, Principles, Testability

Prescribed Text Book:

Software Engineering – A Practitioner’s Approach, Fourth Edition - Roger S Pressman, TATA McGrawHill, 1997

Class	Semester	Title of The Paper	Paper Code	W.E.F
IIIBCA	V	Advanced Java	CBBCA501	2017-18

Class: III BCA

Code: CBBCA501

Paper: Advanced Java

Semester: V

UNIT – I

Servlets: Introduction to Servlets, Advantages of Servlets, Life Cycle Methods,

Servlet API: javax.servlet, javax.servlet.http, classes, interfaces, methods, HttpServlet class
HttpServletRequest Interface, HttpServletResponse Interface

UNIT – II

Simple servlet program, Handling HTTP GET Requests, Handling HTTP POST Requests, Cookies ,cookie class and its methods, sample program on cookies, Session Tracking, HttpSession Interface and its Methods, sample program on session, Servlet chaining

UNIT – III

JSP: Introduction to JSP, Advantages of JSP, Sample JSP Program,

Components of JSP: Directives, Declarations, Scriptlets, Expressions, standard actions.

JSP Implicit objects, retrieving the data posted from HTML file to a JSP file, JSP sessions.

UNIT – IV

JDBC: Stages in a JDBC Program, Registering the Driver (**Type-I**), Connecting to a database, Preparing SQL Statements.

UNIT – V

Sample program to retrieve data from database, sample program to insert values into database, Stored Procedures and Callable Statements PreparedStatements, ResultSets and Types of ResultSets, Storing and retrieving images, Storing and retrieving files.

Reference Books:

Web Technology-A Developer's Perspective by **N.P. GOPALAN** through PHI Learning

Core-JAVA – an Integrated Approach by **Dr. R. Nageswara Rao**

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Web Application Development	CBBCA502	2017-18

Syllabus

UNIT-I :

HTML: Overview of HTML, Formatting text, Web Page Design Guidelines, Adding Graphics, Creating Tables, Setting Body and background attributes, Frame-set

UNIT-II :

Advanced HTML: Creating Sample Web pages

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information

UNIT-III : Java Script: Data Types, Functions, Operators, Control Flow Statements, DOM (Document Object Model), Events and Event Handling.

UNIT-IV : Dynamic HTML with Javascript : Datavalidation, Opening a new window, Messages and Confirmations, Status bar, Writing to a different frame, Rollover Buttons, Moving Images

UNIT-V : JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Reference Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra

Class	Semester	Title of The Paper	Paper Cod:	W.E.F
III BCA	V	Operating System	CBBCA503	2017-18

Syllabus

UNIT – I

Introduction: What is operating system, Process management, Memory management, Storage management, Operating system services, System calls, Types of system calls.

UNIT – II

Process Concepts: Process states, Process Control block, Inter process communication.

Process Scheduling: CPU Scheduler, Preemptive Scheduling, Scheduling criteria, Scheduling algorithms.

UNIT – III

Synchronization: The critical section problem, Peterson’s solution, Semaphores, Readers-Writers problem, Dining-philosophers problem.

Deadlocks: Deadlock characterization, Methods for handling deadlocks, Deadlock prevention, Deadlock avoidance, Deadlock detection.

UNIT – IV

Memory management: logical vs. physical address space, Swapping, contagious memory allocation, Fragmentation, paging, Segmentation.

Virtual Memory Management: Demand paging, Copy on Write, Page replacement, Trashing.

UNIT – V

Secondary Storage Structure: Magnetic disk, Magnetic tapes, Disk structure, Disk attachment, Disk scheduling, Disk management.

Reference Book:

Operating System Principles, 7th Edition, ABRAHAM SILBERSCHATZ, PEATER BAER GALVIN

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Computer Organization	CBBCA504	2017-18

Syllabus

UNIT –I Data representation:

Number Systems: Binary Number System, Octal Number System, Decimal Number System, and Hexa-Decimal Number System.

Conversions: Decimal Number System to Binary Number System, Decimal Number System to Octal Number System, Decimal Number System to Hexa-Decimal Number System, Binary Number System to Decimal Number System, Octal Number System to Decimal Number System, Hexa-decimal Number System to Decimal Number System.

Complements: (r-1)'s Complement, (r's) Complement

Fixed point representation: Integer Representation, Arithmetic addition, Arithmetic subtraction, Float point representation

UNIT-II

Logic gates: AND Gate, OR Gate, INVERTER Gate, BUFFER Gate, NAND Gate, NOR Gate, EXCLUSIVE-OR (XOR) Gate, EXCLUSIVE-NOR Gate.

Boolean algebra, Map simplification

UNIT-III (Flip-Flops)

Flip-flops: SR flip-flop, D flip-flop, JK flip-flop, T flip-flop

UNIT-IV

Combinational Circuits: Half adder, full adder

Digital Components: Integrated Circuits, decoder, encoder, multiplexers.

UNIT-V(Memory Organization)

Memory hierarchy, main memory: RAM and ROM,

Auxiliary memory, Associative Memory, Cache memory.

Prescribed Text Book: Computer System Architecture
Third Edition, Author: M. Morris Mano. PHI publisher

Reference Book: Computer Organization and Architecture
Authors: V. Rajaraman, T.Radhakrishnan. PHI publisher

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	V	Software Testing	CBBCA505	2017-18

Class: III BCA

Semester: V

Paper: Software Testing

Code: CBBCA505

Unit – I (Introduction to Software Testing)

Introduction, Evolution, Myths and Facts, Goals.

Definitions of Testing, Model for Software Testing, Effective & Exhaustive Testing. Software Testing as a Process, Schools of Testing. Error, Defect, Bug, Bug Life Cycle & States. Bug Classification: based on Criticality and based on SDLC, Testing: Principles, Life Cycle

UNIT – II (Testing Methodology)

Testing Methodology: Definition, Strategy Development. V & V Model: Activities. Verification: activities, requirements, objectives. Verification of Designing & Code.

Validation: activities includes test plan, and execution

UNIT – III (Black Box Testing)

Black Box Testing: BVA, BVC, Robustness Testing Method,, Worst-Case Testing, Equivalence Class Testing. Error Guessing.

UNIT – IV (White Box Testing)

White Box Testing: Need, Logic Coverage Criteria, Basic Path, Control-Flow Graph, Cyclomatic Complexity. Data Flow Testing.

UNIT- V (Test Management Quality Management)

Test Management: Organization, Structure of Testing Group, Test Planning and Test Design and Specifications (includes Test Case). Software Quality: Product/Process Quality, Quality Cost, Quality factors

Prescribed Book:

1) “Software Testing Principles and Practices” by NareshChauhan, published in Oxford University Press

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	.Net Programming	CBBCA601	2017-18

Unit I:Introducing Windows Forms: Introduction, Common Operations on Windows Form, Creating message Box, Handling Events.

Working With Windows Form Controls: Label, TextBox, Button, RadioButton, CheckBox, ComboBox, ListBox, GroupBox, Panel control, PictureBox, Timer Control, ProgressBar.

Unit II: Working with Tool Strips, Menus and Dialog Boxes in Windows Forms: Tool Strips and Menus in C# 2008, Using the ToolStrip Control, Using the MenuStripControl, Dialog Boxes in Visual C# 2008.

Unit III: Working With ADO.Net: Introduction to ADO.Net, New Features of ADO.net, Components of ADO.net, Basic Operations in ADO.net, Creating a Connection to a Data Base, Executing Commands by using Command object, Adding and configuring a DataAdapter, Creating a Data Set, Using Data Adapter to retrieve data in a Data Set.

Implementing Data Binding: Introduction, Types of Data Binding in Windows Forms.

UNIT-IV (Chapter-9,10)

Introducing Language-Integrated Query: Introduction, LINQ Queries, Executing a simple LINQ query, The Standard Query Operators, The Sorting operators, The Set Operators, Filtering Operators, The projection and Partition Operator, The Join Operators, The Grouping Operators, LINQ to ADO.NET

Unit V:

Introduction to ASP.Net: Features, Understanding Web Server Requests and Responses, Understanding ASP.NET, Creating Web application with ASP.Net.

Understanding Web Forms Validation Controls: Comparing Server and Client Validation, Validation data at the Web Server, Implementing Client Validation.

Prescribed Book:

1. Comdex .Net Programming course kit... Covering .Net Framework..2008 C#.2008, By Vikas Gupta, Dreamtech Press.[C#.2008— Ch3, CD-Ch1,Ch2, Ch6, Ch7]
2. Ms.Visual C# 2008 Step By Step By John Sharp, Microsoft press Book. [Ch27,28]

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	PHP	CBBCA602	2017-18

Unit I: (Creating PHP Pages Using PHP6)

Overview of PHP Structure and Syntax: How PHP Fits with HTML – The Rules of PHP Syntax – The Importance of Coding Practices, **Creating Your First Program:**

Using HTML to Spice up Your Pages: Integrating HTML with PHP – Considerations with HTML inside PHP.

Using Constants and Variables to Add Functionality: Overview of Constants – Overview of Variables

Passing Variables between Pages: Passing Variables through a URL – Passing Variables with Sessions – Passing Variable with Cookies – Passing Information with Forms

Unit II :

Using if/else Arguments: Using if Statements – Using if and else Together
Using Includes for Efficient Code, Using Functions for Efficient Code

All about Arrays: Array Syntax – Sorting Arrays – for each Constructs, While You're Here...

Alternate Syntax for PHP: Alternates to the echo Command – Alternates to Logical Operators – Alternates to Double Quotes: Using heredoc – Alternates to Incrementing/Decrementing Values

OOP Dreams: Classes – Properties and Methods – Why use OOP

Unit III: (Using PHP with MySQL)

Overview of MySQL Structure and Syntax: MySQL Structure – MySQL Syntax and Commands, How PHP Fits with MySQL, Connecting to the MySQL Server, Looking at a Ready – Made Database

Querying the Database: WHERE, oh WHERE – Working with PHP and Arrays of Data: foreach – a Tale of Two Tables

Helpful Tips and Suggestions: Documentation – Using MySQL Query Browser

Using Tables to Display Data: Creating a Table, Wait a Minute, Who’s the Master? A Lasting Relationship

Unit IV: (Form Elements: Letting the User Work with Data)

Your First Form: FORM Element – INPUT Element – Processing the Form

Driving the User Input: One Form, Multiple Processing – Radio INPUT Element – Multiple Submit Buttons – Basic Input Testing – Ternary Operator

Letting the User Edit the Database: Preparing the Battlefield, Inserting a Record in a Relational Database, Deleting a Record, Editing Data in a Record

Unit V: (Manipulating and Creating Images with PHP)

Working with the GD Library: What File Types Can I Use with GD & PHP? - Enabling GD in PHP, Allowing Users to Upload Images, Converting Images File Types, Special Effects, Adding Captions, Adding Watermarks and Merging Images, Creating Thumbnails

Validating User Input: Users Are Users Are Users ..., Incorporating Validation into the Movie Site, Forgot Something? , checking for Format Errors. **Sending e-Mail**

Prescribed Text Book:

1. Beginning PHP 6, Apache, My SQL, Web Development, WROX, Wiley Publishers.

Reference Books: Beginning PHP 5.3: Matt Doyle, WROX, Wiley India Publishers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Data Communications	CBBCA603	2015-16

Syllabus

UNIT – I

INTRODUCTION: Data Communications: Components, Data Representation, Data Flow, Networks: Distributed Processing, Network Criteria, Physical Structures, Network Models, Categories of Networks. The Internet. Protocols And Standards: Protocols, Standards, Standards Organizations, Internet Standards.

NETWORK MODELS: Layered Tasks: Sender, Receiver, and Carrier, Hierarchy.

The OSI Model: Layered Architecture, Peer-to-Peer Processes. TCP/IP Protocol Suite. Addressing.

UNIT - II

Data and Signals: Analog And Digital: Analog and Digital Data, Analog and Digital Signals, Periodic and Non-periodic Signals, Periodic Analog Signals: Sine Wave, Phase, Wavelength, Time and Frequency Domains, Composite Signals, Bandwidth. Digital signals: Bit Rate, Bit Length, Digital Signal as a Composite Analog Signal, Transmission of Digital Signals. Transmission Impairment. Performance: Bandwidth, Throughput, Latency (Delay), Bandwidth-Delay Product, Jitter.

UNIT-III

DIGITAL TRANSMISSION: Digital-To-Digital Conversion: Line Coding, Line Coding Schemes, Block Coding. Analog-To-Digital Conversion: Pulse Code Modulation, Delta Modulation. Transmission Modes: Parallel Transmission, Serial Transmission.

UNIT – IV

ANALOG TRANSMISSION: DIGITAL-TO-ANALOG CONVERSION: Aspects of Digital-to-Analog Conversion, Quadrature Amplitude Modulation. Analog-to-analog Conversion.

BANDWIDTH UTILIZATION: MULTIPLEXING AND SPREADING: MULTIPLEXING: Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Synchronous Time-Division Multiplexing, Statistical Time-Division Multiplexing, **SPREAD SPECTRUM:** Frequency Hopping Spread Spectrum (FHSS), Direct Sequence Spread Spectrum.

UNIT – V

TRANSMISSION MEDIA: Guided Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Unguided Media: Wireless: Radio Waves, Microwaves, Infrared.

SWITCHING: Circuit-Switched Networks: Three Phases, Efficiency, Delay. Datagram networks: Routing Table, Efficiency, Delay, Virtual-Circuit Networks: Addressing, Three Phases, Efficiency, Delay in Virtual-Circuit Networks

Prescribed Textbook: Data Communications and Networking, Fourth Edition

by Behrouz A. Forouzan. Chapters: 1-8

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Business Intelligence	CBBCA604 <u>Electives-A</u>	2017-18

Syllabus

UNIT-I

Business intelligence : Effective and timely decisions, data, information and knowledge , the role of mathematical models. Business intelligence architectures, ethics and business intelligence

UNIT –II Decision support system: Definition of system, representation of decision making process, Evolution of information systems, Definition of information systems, development of decision support system

UNIT-III Data warehousing: Definition of data warehouse, data warehouse architecture, cubes and multidimensional analysis.

UNIT-IV Data mining: Definition of data mining, representation of input data, data mining process, Analysis methodologies

UNIT-V Data preparation: Data validation incomplete data data affected by noise, data transformation standardization feature extraction ,data reduction

Prescribed Book:

Business Intelligence, Data mining and Optimization for Decision Making by “Carlo Verzellis”,
Wiley Publication

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Mobile App Development	CBBCAB604 Electives-B	2017-18

Electives-B**Class – III BCA****Semester - VI****Paper title: Mobile App Development****Code: CBBCAB604****UNIT - I**

INTRODUCTION: History of Android, Introduction to Android Operating Systems, Android Development Tools, Android Architecture.

UNIT - II

DEVELOPMENT TOOLS: Installing and using Eclipse with ADT plug-in, Installing Virtual machine for Android sandwich/Jelly bean (Emulator), configuring the installed tools, creating a android project – Hello Word, run on emulator, Deploy it on USB-connected Android device.

UNIT - III

USER INTERFACE ARCHITECTURE: Application context, intents, Activity life cycle, multiple screen sizes.

UNIT - IV

USER INTERFACE DESIGN: Form widgets, Text Fields, Layouts, Button control, toggle buttons, Spinners (Combo boxes), Images, Menu, and Dialog.

UNIT - V

DATABASE: Understanding of SQLite database, connecting with the database.

Reference Books:

1. Android application development for java programmers. By James C. Sheusi. Publisher: Cengage Learning, 2013.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BCA	VI	Cryptography and Network Security	CBBCAC604	2017-18

Syllabus

Unit-I Introduction: Security trends, OSI Security Architecture, Security Attacks: passive attacks and active attacks, Security Services, Security Mechanisms, A model for Network Security

Unit-II Symmetric cipher Model, substitution techniques: Caesar Cipher, Playfair Cipher, Hill Cipher, Transposition Techniques, Rotor Machines, Steganography

Unit-III Principles of Public-key cryptosystems: Public-key cryptosystems, Applications for Public-key cryptosystems, Requirements Public-key cryptography, public-key Cryptanalysis, the RSA Algorithm.

Unit-IV Authentication Requirements, Authentication Functions, Message Authentication codes, Hash Functions, Security of Hash Functions and MACS

Unit-V Digital signature, Authentication Protocols, Digital Signature Standards

Prescribed Book:

Cryptography and Network Security by William Stallings 4th Edition, PHI Learning.

Reference books:

Cryptography and Network Security by Prakash C. Gupta 6th Edition

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.COM[COMP]	I	Fundamentals of Computers	CBFOC101	2015-16

Unit I:

Introduction to Computers, Characteristics of Computers, Computer Block Diagram, Types of computers, Input and Out Put Devices, Types of printers, Applications of Computes.

Unit II:

Computer Memory, Types of memory devices, Processors.

Number Systems, Binary Number system, Decimal Number System, Octal number system, hexadecimal number system. Decimal to binary, binary to decimal, decimal to octal conversions. Computer Codes: BCD, EBCDIC.

Unit III:

Computer Software, Types of software's. Operating Systems, Functions of operating System, and Types of operating System.

Unit IV:

Introduction to Windows, Desktop, File, Folder, My Computer, My documents, Recycle bin, Internet Explorer, Windows Explorer. **Office Automation**: Organization of an Office, Nature of office work, Need for office automation. **Document Preparation**: Word processing, Various office equipment that help in document preparation, Document storage and retrieval

Unit V:

Word Basics: Starting word, Creating a new document, Opening preexisting document, Parts of a word window, Typing text, Selecting text, Deleting text, Undo, Redo, Repeat, Inserting text, Replacing text, Formatting text, Cut, Copy, Paste – Printing. **Formatting Your Text and Documents:** Auto format, Line spacing, Margins, Borders and Shading. **Working with Headers and Footers:** Definition of headers and footers, creating basic headers and footers, creating different headers and footers for odd and even pages. **Tables:** Creating a simple table, Creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width. **Graphics:** Importing graphics, Clipart, Insert picture, Clip Art Gallery, using word's drawing features, drawing objects, text in drawing.

Text Books :

1. Reema Thareja, Fundamentals of Computers, Oxford University Press.
2. Baja K.K., Office Automation , MacMillan India Ltd, 1996.
3. Steve Sagman, Microsoft Office XP for Windows, Pearson Education, Asia, 2002
4. Jennifer Fulton, Microsoft Office 2000, Prentice-Hall of India,1999.

Reference Books :

1. Peter Norton, Introduction to Computers, 6th Edition , Tata McGraw – Hill.
2. Jacob Beckerman, How to Build a Computer 2014-15: Learn, Select Parts, Assemble, and Install: A Step by Step Guide to Your First Homebuilt.
3. Leon A and Leon M, Computers for Everyone, Leon Vikas , 2001.
4. Turban E, Rainer R K, and Potter R E, Introduction to Information Technology , John Wiley & Sons , 2000

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.COM [COMP]	II	Office Automation Tools	CBOAT201	2015-16

Unit I:

MS Power Point: Introduction, Building a presentation, Outlining the presentation, Creating text and chart slides, Formatting charts, Customizing presentation, Drawing on slides, Creating slide shows. **Creating Presentations:** Using auto content wizard, Blank presentation option, Design template option, Adding slides, Deleting a slide, Importing Images from the outside world, Drawing in power point, Transition and build effects, Deleting a slide, Numbering a Slide, Saving presentation, Closing presentation, Printing presentation elements.

Unit II:

MS Excel: Excel Features, Getting started, Creating New worksheet, Selecting cells, Entering and editing text, Entering and editing Numbers, entering and editing Formulas, Referencing cells, Moving cells, Copying cells, Sorting cells, Data inserting rows, Inserting columns,

Inserting cells, Deleting parts of worksheet, clearing parts of worksheet. **Formatting:** Page set-up, changing Column widths and Row heights, auto format, changing font sizes and attributes, centering text across columns, using border buttons and Commands, changing colors and shading, hiding rows and columns.

Unit III:

Introduction to Functions: Parts of Functions, Functions requiring Add-ins, Function Wizard - Functions by category: Data and time functions, Engineering functions, Math and Trig functions, Statistical functions, Text functions. **Excel Charts:** Chart parts and terminology, Instant charts with chart wizard, creation of different types of charts, printing charts, and deleting charts – Linking in Excel

Unit IV

MS Access: Creating a Simple Database and Tables: Creating contacts Databases with Wiz, Access Table Wizard, Creating Database Tables without wizard, Field Names, Data Types and Properties, Adding, deleting, renaming the fields in a table. **Forms:** Form Wizard, Saving Forms, Modifying Forms. **Entering and Editing Data:** Adding Records, Duplicating previous entries without Retyping, Undo, Correcting Entries, Global Replacements, Moving from Record to Record in a table. **Finding, Sorting and Displaying Data:** Queries and Dynasets, Creating and using select queries, Returning to the Query Design, Multilevel Sorts, Finding incomplete matches, Showing all Records after a Query, Saving Queries, Crosstab Queries. **Relational Databases:** Flat vs. Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships. **Reports:** Introduction to Reports.

Unit V:

Computer Networks: Internet - Emerging Computer Technologies.

Text books :

1. Baja K K , Office Automation , MacMillan India Ltd, 1996.
2. Steve Sagman, Microsoft Office XP for Windows, Pearson Education Asia, 2002.
3. Jennifer Fulton, Microsoft Office 2000, Prentice-Hall of India, 1999.
4. Reema Thareja , Fundamentals Of Computers, Oxford University Press

Reference books :

1. Windows XP Home Edition Complete, BPB Publications, 2001.
2. Raghav Bahl , Exploring Microsoft Office XP, Cyber Tech, 2001 .
3. Sanjay Saxena , MS Office 2000 for Everyone, Vikas Publishing , 2001.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.COM (Computers)	III	Web Designing	CBWD301A	2017-18

SYLLABUS:

UNIT I:

Introduction to Network, -- Types of Networks – Network topologies, Types of topologies -- analog and digital signal. Connecting Devices – Hubs, Repeaters, Bridges, Routers, Network Interface Cards (NIC) and Switches

UNIT II

Internet, Web Browsers

HTML Common Tag: Introduction, HTML Basics, HTML Tags, text formatting tags, Forms, Frames, Tables, input tags, Web Page Design

UNIT III

Dynamic HTML: Introduction, Cascading Style Sheets (CSS), elements in CSS, Inline, Internal, External Style sheet.

UNIT IV

Java Scripts: Introduction, Basics of Java Script, Control Structures, Pop up Boxes, Functions, Arrays, Events, Objects.

TEXT BOOKS

1. Introduction to Computer Networks by P.K.Singh, VK Global Publications Pvt. Ltd.
2. Web Technologies by A.A. Puntambekar from Technical Publications, Pune

REFERENCE BOOKS

1. Internet and web technologies - rajkamal, tmh.
2. TCP/IP PROTOCOL SUITE - Behrouz A. Forouzan, 3rd edition, TMH.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.COM [COMP]	IV	Introduction to ‘C’	CBC401A	2017-18

Class: II B.COM (Computers).

Code: CBC401A

Paper: Introduction to ‘C’

Semester: IV

Unit – I (Introduction to C) – 13 Hours

Programming, High Level Languages, Language Interpreters, understanding your first program, Compiling your first program, Running your program, comments, variables, Data types, and Arithmetic Expressions : Understanding Data types and constants .working with Arithmetic Expression, operators, The I/O Functions.

Unit – II (Control Structures) – 12 Hours

Decision making : The if statement . the if else construct . Nested if statements . The else if construct The switch statement, The conditional operator.

Looping : while statement, do statement, for, Nested loops, break statement and continue statement.

Unit – III – 16 Hours

Working with Arrays: Defining an array: one dimensional, two dimensional, Initializing Arrays .character Arrays, Matrix, String Functions.

Unit-IV – 16 Hours

Working with Functions: Defining a Function, Returning Function Results, function calling, Declaring Return Types and Argument types, Recursive Functions. Passing array variable as argument to function.

Prescribed Text Book:

1) “Programming with C”- By Balaguru Swamy.

Class	Semester	Title of The Paper	Paper Code:	W.E.F
III B.Com(Computers)	V	DBMS	CBBCOMP501	2017-18

Class: III B.Com(Computers)

Paper: DBMS

Semister: V

Code: CBBCOMP501

Unit-I Introduction: DBMS – Data, Information, DBMS, Advantages of DBMS over file system. Data models- Hierarchical, Network, Relational. Data Abstraction and architecture, DBMS environment, types of Data base systems.

Unit-II

ER-Model: Introduction, Notations, Entities, Attributes, Relationships. ER-Diagrams examples.

Unit III SQL: Introduction, Data types, Operators, Sub languages: DDL, DML, TCL. Select query. Set operators. SQL Functions: Number, Character, Date & Time.

Unit IV Adv. SQL: DBMS Keys, Constraints: Check, Not NULL, Primary key, Foreign Key.

Joins, Sub Queries, Views, SQL* Plus.

Reference Books:

- i) **Data Base Management Systems by Raghu rama Krishnan**
- ii) **Database Systems by elmasri/navathe**

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com	V	Introduction to Tally ERP 9 [Accounts Only]	CBBCOMP502	2017-18

UNIT - I:

Installation of Tally package – Various versions of Tally – Tally company types – Tally Accounting features -- Creation of Company Using Accounts Only.

UNIT - II:

Shutting a company – Alteration of Company – Deleting a Company – Quit Tally package with and without confirmation --- Splitting Company Data – Creation of Group Companies.

UNIT - III:

Creation of Foreign Currency and Exchange rates – Creation of Groups and Ledgers – Single Ledger and Multi Ledger creation –Interest parameters setting - Cost categories and Cost centers – Budgets – Budget Types in Tally– Creation of budget types in Tally-- Voucher Entry – Types of Voucher Entry – Types of Vouchers – Contra – Payment – Receipt – Journal – Sales – Credit Note – Purchases – Debit Note.

UNIT - IV:

Interest calculations – Interest class voucher creation – Working with Bank Reconciliation Statement in Tally– Foreign Exchange Transactions– Displaying Day Book -- Displaying Trial Balance – Displaying Profit and Loss Account -- Displaying Balance Sheet –

UNIT - V:

Security Control – Tally Vault Password – Change in Tally Vault Password Defining User levels – Types of Access - Creating users and Pass words.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com.(Comp)	V	Principles of Software Engineering	CBBCOMP503	2017-18

UNIT-1: (Introduction to Software Engineering)

Software – Definition, Role, Characteristics, Software Applications.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMi).

UNIT-2

Process Models: The Waterfall Models – Prototyping Model - The RAD Model - Evolutionary Process Models: Incremental Model, The Spiral Model, Component Assembly Model, The Concurrent Development Model.

Unit-3: (Management & Metrics)

The Management Spectrum: – People – The Problem – the Process – The Project

People: The Players, Team Leaders, The Software Team, Coordination and Communication Problem: Software Scope, Problem Decomposition.

Unit-4: (Software Process and Project Metrics)

Measures, Metrics and indicators – Software Measurement – Size Oriented Metrics, Function Point Metrics, Extended Function Point Metrics, Metrics for Software Quality: Measuring Quality, DRE

Unit-5: (Project Planning)

Software Scope – Resources – Decomposition Techniques: Software Sizing, Empirical Estimation Models: COCOMO

Prescribed Text Book:

Software Engineering – A Practitioner’s Approach, Fourth Edition - Roger S Pressman, TATA McGrawHill, 1997.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com.(Comp)	VI	E-commerce	CBBCOMP601	2017-18

Introduction to E-commerce

Introduction, Types of E-Commerce, E-Commerce frame work, E-commerce consumer applications, E-Commerce organizational applications.

Unit-2

Inter Organizational Commerce - EDI, EDI Implementation, EDI Applications and Business, EDI: legal, security and privacy issues, EDI and standardization
Value added networks.

Unit -3

Intra Organizational Commerce - work Flow, Automation Customization and internal Commerce, Supply chain Management Fundamentals, Functions of SCM

Unit – 4

Corporate Digital Library: Document Library, Digital Document Types, Corporate data warehouses, Advertising and marketing, Information Based Marketing.

Advertising and Marketing on the internet

Advertising on the internet, charting the on-line marketing process, Market research

Unit-5**Electronic Payment System and its Security**

Electronic Fund Transfer, Digital Token-Based E-payment system, E-Cash, Smart Cards, Credit Cards, Risks in Electronic Payment systems.

Prescribed TEXT BOOK:

1. “Frontiers of Electronic Commerce” by Ravi kalakota , Pearson publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Com	VI	Advanced Tally (ACCOUNTS WITH INVENTORY)	CBBCOMP602	2017-18

SYLLABUS

UNIT-1:

Tally company types – Tally Inventory features – Inventory Info Menu – Units of Measure – Godowns – Stock Groups – Stock Categories – Stock Items.

UNIT-2:

VAT – Input VAT and Output VAT – VAT Payable calculation – VAT payable transfer Entry -- TDS features in Tally – Implementation of TDS in Tally – Service Tax Features in Tally – Implementation of Service Tax in Tally.

UNIT-3:

Voucher Entry using Inventory – Inventory vouchers – Stock Journal Voucher -- Sales order – Purchase Order – Sales Invoice – Purchase Invoice – Rejections in – Rejections out -- Creation of Bill of Materials – BOM – Creation of Manufacturing Journal and its working features.

UNIT-4:

Working with POS invoice – Using Job costing in Tally -- Displaying of Stock Reports – Statements of Inventory Menu.

Class	Semester	Title of Paper	Subject Code	W.E.F
III BCOM (COMPUTERS)	V1	OOPs with JAVA	CBBCOMP603	2017-18

Unit – I:

Java Features, Java Program Structure, Simple Java Program, – Java Virtual Machine – Command Line Arguments. Constants, Variables and Data types: Constants – Variables – Data types – Scope of Variables, Type Casting.

Unit-II

Operators and Expressions: Arithmetic Operators – Relational Operators -Logical Operators – Assignment Operators – Increment and Decrement Operators

Unit-III

Decision Making and looping: Decision Making with If statement – Simple If Statement- If else Statement- Nesting If Else Statement- the Else If Ladder,-The switch Statement – The ?: operator. The while statement – The do statement – The for statement

Unit-IV

Classes: Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control.

Arrays,

Unit – V

Definition of Inheritance –Types of Inheritances- Defining Interfaces – Extending Interfaces – Implementing Interfaces

Prescribed text books:

2. E. Balaguruswamy, Programming with Java, A primer, 3e, TATA Mc Graw Hill Company (2008).

References:

3. John R. Hubbard, Programming with Java, Second Edition, Schaum' soutline Series, Tata Mc Grawhill (2007).
4. Timothy Budd, Understanding Object Oriented Programming with Java, Pearson Education (2007).

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
I BSc	I	Computer fundamentals & MS Office	CBCSC101	2015-16

SYLLABUS

UNIT – I(Fundamentals) Introduction to Computers, Characteristics of Computers, Computer Block Diagram, Types of computers, Input and Out Put Devices, Types of printers, Applications of Computes.

Unit – II (Memory Devices & Number System)

10 Hrs.

Computer Memory, Types of memory devices, Processors.

Number Systems, Binary Number system, Decimal Number System, Octal number system, hexa-decimal number system, Decimal to binary, binary to decimal, decimal to octal conversions. Computer Codes: BCD, EBCDIC.

Unit – III (Software's)

10 Hrs.

Computer Software, Types of software's. Operating Systems, Functions of operating System, and Types of operating System.

UNIT – IV (MS-Word)

15 Hrs.

Introduction to Algorithms and Programming Languages

MS Word: Getting Started, Working with Microsoft Office 2010. Understanding Word Basics. Editing and Formatting Text. Formatting Documents, Working with Graphic Objects.

UNIT – V (Excel & PowerPoint)

15 Hrs.

Microsoft Excel: Understanding Excel Basics. Formatting and Editing the Worksheet. Using Formulas and Functions. Working with Charts.

Microsoft PowerPoint.: Understanding PowerPoint Basics. Formatting and Modifying Presentations. Enhancing the Presentation.

TEXT BOOK:

“Fundamentals of Computers” by REEMA THAREJA from OXFORD UNIVERSITY PRESS.

REFERENCE BOOK:

1. “Computer Fundamentals and Programming in C” by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. **PC SOFTWARE UNDER WINDOWS** by Puneet Kumar And Sushil Bhardwaj From Kalyani Publishers

Class	Semester	Title of The Paper	Paper Code	W.E.F
I BSc	II	‘C’ Programming	CBCSC201	2015-16

SYLLABUS**Unit I: Introduction to Algorithms and Programming Languages:**

Compiling Programs, Language Interpreters, Compiling your first program, running your program, understanding your first program, comments, variables, Data types, and Arithmetic Expressions: working with variables. Understanding Datatypes and constants, working with Arithmetic Expressions. The Assignment operators, the print function, the scanf function.

Unit II: Decision making statements & Functions

The if statement, if else, Nested if statements, else if, the switch statement. The conditional operator program looping: for statement, Relational operators. Nested for loops, while statement; do statement, the break statement. The continue statement. Defining a Function-Arguments and Local variables, Returning Function Results, Function calling, Declaring Return Types and Argument types, Top Down programming, Functions and Arrays, The global variables, Automatic and static variables, recursive Functions.

Unit III: Arrays & Strings

Defining an array, Initializing Arrays, Character Arrays, Multidimensional arrays-variable length Arrays, Array of characters, variable length character strings, Escape characters, character strings, structures and arrays - character operations. Creating string variable, string functions.

Unit IV: Structures & Pointers

Defining structure, Functions and structures, Initializing structures, Array of structures, structures containing structures, structures containing Arrays, structure variants.

Defining a pointer variable, Using pointers in Expressions, Pointers and structures (Exclude Linked List), Pointers and Functions, Pointers and Arrays, Operations on pointers. Pointers and Memory address.

Unit V: Files

File manipulating functions, file opening modes and file creating.

TEXT BOOK:

“Computer Fundamentals and Programming in C” by REEMA THAREJA from OXFORD UNIVERSITY PRESS.

REFERENCE BOOK:

1. E Balagurusamy: COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw- Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
4. 1. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
5. 2. Henry Mullish & Huubert L.Cooper: The Sprit of C, Jaico Pub. House,1996.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BCA/BSc (MPCs/MECs/MSCs/MCCs)	III	OOPS with JAVA	CBBCA301 & CBCSC301	2016-17

Unit – I: Java Fundamentals (15 Hrs)**Fundamentals of Object Oriented programming :**

Java Features – How Java differs from C and C++, Simple Java Program – Java Program Structure – Java Tokens, Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants, Variables and Data types: Constants – Variables – Data types –, Scope of Variables, Type Casting.

Operators and Expressions: Arithmetic Operators – Relational Operators -Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Operator Precedence and Associativity.

Unit-II (20 Hrs)

Decision Making and looping: Decision Making with If statement – Simple If Statement- If else Statement- Nesting If Else Statement- the Else If Ladder,-The switch Statement – The ?: operator. The while statement – The do statement – The for statement

Classes : Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control.

Arrays, Strings and Vectors: One dimensional Arrays, creating an Array – Two dimensional Arrays – Strings – Vectors – Wrapper Classes – Enumerated Types.

Unit – III: Packages and Interfaces in Java (25 Hrs)

Interfaces: Multiple Inheritance : Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

Packages: Java API Packages – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package

Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority

Managing Errors and Exceptions: Types of Errors – Exceptions – Syntax of Exception Handling Code – Multiple Catch Statements – Using Finally Statement – Throwing our own Exceptions

Unit- IV (20 Hrs)

Applet Programming: 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 – Passing parameters to Applets – Aligning the display – Displaying Numerical Values – Getting Input from the user.

Prescribed text books:

- a. E. Balaguruswamy, Programming with Java, A primer, 3e, TATA Mc Graw Hill Company (2008).

References:

5. John R. Hubbard, Programming with Java, Second Edition, Schaum' soutline Series, Tata Mc Grawhill (2007).
6. Timothy Budd, Understanding Object Oriented Programming with Java, Pearson Education (2007).

Class	Semester	Title of The Paper	Paper Code	W.E.F
II BSc (MPCs/MECs/MSCs/MCCs)	IV	Data Structures through java	CBCSC401	2016-17

Unit I (10 Hrs)

Overview: Introduction, basic terminology, elementary data organization, data structures, data structures operations, algorithms: complexity, time-space tradeoff, algorithmic notations,

Searching: linear search, binary search, multi-dimensional arrays.

Sorting: Bubble Sort – Selection Sort – Insertion Sort.

Unit II (20 Hrs)

Linked List: introduction, linked list, traversing a linked list, searching a linked list, memory allocations and garbage collection, insertion and deletion in a linked list, two-way list

Stacks, Queues: introduction, Stacks, arrays representation of stacks, arithmetic expression: polish notation.

UNIT III (15 Hrs)

Recursion: recursion, tower of Hanoi, implementation of recursive procedure of stacks Arithmetic Notation.

Linked representation & Advance sorting: Linked representation of stacks and queues, Quick Sort – merge sort.

Unit IV (15 Hrs)

Trees : Tree Terminology, searching, deleting and inserting in binary search trees, heap sort, general trees.

Graphs: introduction, terminology, Traversing a graph BFS, DFS.

Prescribed Text Book:

1. Data Structures by Lipschutz- Shaum's Outline Series

Reference:

1. Data Structures and Algorithms in Java- Robert Laford.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (MPCS/MECS/MSCS/MCCS)	V	Database Management Systems	CBCSC501	2017-18

SYLLABUS:**Unit-I :-**

Database Systems: Why Databases? Data vs. Information, Introducing the Database, Why Database Design is Important, Evolution of File System Data Processing, Problems with File System Data Processing, Database Systems

Data Models: Data Modeling and Data Models, the Importance of Data Models, Data Model Basic Building Blocks, Business Rules, the Evolution of Data Models, Degrees of Data Abstraction

Unit-II :-The Relational Database Model: A Logical View of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the System Catalogs, Relationships within the Relational Database, Data Redundancy Revisited, Indexes, CODD's Relational Database Rules

Unit-III :-

Entity Relationship (ER) Modelling: The Entity Relationship Model (ERM), Developing an ER Diagram, Database Design Challenges: Conflicting Goals. **Advanced Data Modelling:** The Extended Entity Relationship Model.

Unit-IV :-

Introduction to Structured Query Language (SQL): Introduction to SQL, DDL, DML, TCL, DQL Constraints, Creating a View, Joining Database Tables

Advanced SQL: Relational Set Operators, SQL Join Operators, Subqueries and Correlated Queries, SQL Functions.

Unit-V :-

Normalization of Database Tables: Database Tables and Normalization, the Need for Normalization, The Normalization Process, Higher-Level Normal Forms, Normalization and Database Design, Denormalization

Prescribed Book:

1. Database System Concepts, By.. Peter Rob... CENGAGE Learning.

Class	Semester	Title of The Paper	Paper Code	W.E.F
IIB.Sc (MPCS/MECS/MSCS/MCCS)	V	Software Engineering	CBCSC502	2017-18

Syllabus

UNIT-1: (Introduction to Software Engineering)

Software – Definition, Role, Characteristics, Software Applications.

Process: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMi).

Process Models: The Waterfall Models – Prototyping Model - The RAD Model - Evolutionary Process Models: Incremental Model, The Spiral Model, Component Assembly Model, The Concurrent Development Model.

Unit-2: (Management & Metrics)

The Management Spectrum – People – The Problem – the Process – The Project Measures, Metrics and indicators – Software Measurement – Size Oriented Metrics, Function Point Metrics, Extended Function Point Metrics, Metrics for Software Quality: Measuring Quality, DRE

Unit-3: (Project Planning Risk Management)

Software Scope – Resources – Decomposition Techniques: Software Sizing, Empirical Estimation Models: COCOMO Software Risks – Risk Identification – Risk Projection - RMMM

Unit-4: (Analysis & Design)

Analysis Modelling: Elements of Analysis Model, Data Modelling Software Design – Design Principles – Design concepts – Effective Modular Design: Cohesion and Coupling, Sample UML Designing

Unit-5 (SQA & Software Testing) Quality concepts, SQA Activities, SQA Plan Software Testing Fundamentals: Testing Objectives, Principles, Testability

Prescribed Text Book:

Software Engineering – A Practitioner’s Approach, Fourth Edition - Roger S Pressman, TATA McGrawHill, 1997

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC [MPCS/MECS/MSCS/MCCS]	VI	Web Technologies	CBCSCA601	2017-18

UNIT-I : (HTML Introduction)

HTML: Overview of HTML, Formatting text, Web Page Design Guidelines, Adding Graphics, Creating Tables, Setting Body and background attributes, Frame-set

UNIT-II : (Cascading Style Sheets)

Advanced HTML: Creating Sample Web pages

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information

UNIT-III : (Fundamentals of Java Script)

Java Script: Data Types, Functions, Operators, Control Flow Statements, DOM (Document Object Model), Events and Event Handling.

UNIT-IV:(Java Script)

Dynamic HTML with Javascript : Datavalidation, Opening a new window, Messages and Confirmations,Status bar, Writing to a different frame, Rollover Buttons, Moving Images

UNIT-V :(DHTML with JS)

JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Reference Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlets and JSP 2nd Edition, Bryan Basham, Kathy Sierra

Class:	Semester:	Title of The Paper:	Paper Code	W.E.F
III B.Sc [MPCS]	VI	.Net Programming	CBCSCA602	2017-18

Unit I:

Introducing Windows Forms: Introduction, Common Operations on Windows Form, Creating message Box, Handling Events.

Working With Windows Form Controls: Label, TextBox, Button, RadioButton, CheckBox, ComboBox, ListBox, GroupBox, Panel control, PictureBox, Timer Control, ProgressBar.

Unit II:

Working with Tool Strips, Menus and Dialog Boxes in Windows Forms: Tool Strips and Menus in C# 2008, Using the ToolStrip Control, Using the MenuStripControl, Dialog Boxes in Visual C# 2008.

Unit III:

Working With ADO.Net: Introduction to ADO.Net, New Features of ADO.net, Components of ADO.net, Basic Operations in ADO.net, Creating a Connection to a Data Base, Executing Commands by using Command object, Adding and configuring a DataAdapter, Creating a Data Set, Using Data Adapter to retrieve data in a Data Set.

Implementing Data Binding: Introduction, Types of Data Binding in Windows Forms.

UNIT-IV (Chapter-9,10)

Introducing Language-Integrated Query: Introduction, LINQ Queries, Executing a simple LINQ query, The Standard Query Operators, The Sorting operators, The Set Operators, Filtering Operators, The projection and Partition Operator, The Join Operators, The Grouping Operators, LINQ to ADO.NET

Unit V:

Introduction to ASP.Net: Features, Understanding Web Server Requests and Responses, Understanding ASP.NET, Creating Web application with ASP.Net.

Understanding Web Forms Validation Controls: Comparing Server and Client Validation, Validation data at the Web Server, Implementing Client Validation.

Prescribed Book:

Comdex .Net Programming course kit... Covering .Net Framework..2008 C#.2008, By Vikas Guptha, Dreamtech Press.[C#.2008— Ch3, CD-Ch1,Ch2, Ch6, Ch7]

Ms.Visual C# 2008 Step By Step By John Sharp, Microsoft press Book. [Ch27,28]

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC [M.P.CS]	VI	PHP	CBCSCA603	2017-18

Unit I: (Creating PHP Pages Using PHP6)

Overview of PHP Structure and Syntax: How PHP Fits with HTML – The Rules of PHP Syntax – The Importance of Coding Practices,

Creating Your First Program:

Using HTML to Spice up Your Pages: Integrating HTML with PHP – Considerations with HTML inside PHP.

Using Constants and Variables to Add Functionality: Overview of Constants – Overview of Variables

Passing Variables between Pages: Passing Variables through a URL – Passing Variables with Sessions – Passing Variable with Cookies – Passing Information with Forms

Unit II :

Using if/else Arguments: Using if Statements – Using if and else Together Using Includes for Efficient Code, Using Functions for Efficient Code

All about Arrays: Array Syntax – Sorting Arrays – for each Constructs, While You’re Here...
Alternate Syntax for PHP: Alternates to the echo Command – Alternates to Logical Operators
 – Alternates to Double Quotes: Using heredoc – Alternates to Incrementing/Decrementing Values
OOP Dreams: Classes – Properties and Methods – Why use OOP

Unit III: (Using PHP with MySQL)

Overview of MySQL Structure and Syntax: MySQL Structure – MySQL Syntax and Commands, How PHP Fits with MySQL, Connecting to the MySQL Server, Looking at a Ready – Made Database

Querying the Database: WHERE, oh WHERE – Working with PHP and Arrays of Data: foreach – a Tale of Two Tables

Helpful Tips and Suggestions: Documentation – Using MySQL Query Browser

Using Tables to Display Data: Creating a Table, Wait a Minute, Who’s the Master? A Lasting Relationship

Unit IV: (Form Elements: Letting the User Work with Data)

Your First Form: FORM Element – INPUT Element – Processing the Form

Driving the User Input: One Form, Multiple Processing – Radio INPUT Element – Multiple Submit Buttons – Basic Input Testing – Ternary Operator

Letting the User Edit the Database: Preparing the Battlefield, Inserting a Record in a Relational Database, Deleting a Record, Editing Data in a Record

Unit V: (Manipulating and Creating Images with PHP)

Working with the GD Library: What File Types Can I Use with GD & PHP? - Enabling GD in PHP, Allowing Users to Upload Images, Converting Images File Types, Special Effects, Adding Captions, Adding Watermarks and Merging Images, Creating Thumbnails

Validating User Input: Users Are Users Are Users ..., Incorporating Validation into the Movie Site, Forgot Something? , checking for Format Errors. **Sending e-Mail**

Prescribed Text Book:

1. Beginning PHP 6, Apache, My SQL, Web Development, WROX, Wiley Publishers.

Reference Books: Beginning PHP 5.3: Matt Doyle, WROX, Wiley India Publishers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.(Computers)	VI	E-commerce	CBCSCA604	2017-18

Unit-1: Introduction to E-commerce

Introduction, Types of E-Commerce, E-Commerce frame work, E- commerce consumer applications, E- Commerce organizational applications.

Unit-2: Inter Organizational Commerce

Inter Organizational Commerce - EDI, EDI Implementation, EDI Applications and Business, EDI: legal, security and privacy issues, EDI and standardization, Value added networks.

Unit -3: Intra Organizational Commerce

Work Flow, Automation Customization and internal Commerce, Supply chain Management Fundamentals, Functions of SCM

Unit – 4:

Corporate Digital

Library: Document Library, Digital Document Types, Corporate data warehouses, Advertising and marketing, Information Based Marketing.

Advertising and Marketing on the internet

Advertising on the internet, charting the on-line marketing process, Market research

Unit-5: Electronic Payment System and its Security

Electronic Fund

Transfer, Digital Token-Based E-payment system, E-Cash, Smart Cards, Credit Cards, Risks in Electronic Payment systems, Legal and security Issues.

Prescribed TEXT BOOK:

1. “Frontiers of Electronic Commerce” by Ravi kalakota , Pearson publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Foundation of Data Science	CBCSCB602	2017-18

UNIT – I INTRODUCTION TO DATA SCIENCE :

Data science process – roles, stages in data science project – working with data from files – working with relational databases –exploring data – managing data – cleaning and sampling for modelling and validation –introduction to NSQL.

UNIT – II MODELING METHODS: Choosing and evaluating models – mapping problems to machine learning, evaluating clustering models, validating models – cluster analysis – Kmeans algorithm, Naïve Bayes – Memorization Methods – Linear and logistic regression –unsupervised methods.

UNIT – III INTRODUCTION TO R Language: Reading and getting data into R – ordered and unordered factors – arrays and matrices – lists and data frames – reading data from files – probability distributions – statistical models in R - manipulating objects – data distribution.

UNIT – IV MAP REDUCE: Introduction – distributed file system – algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce – Hadoop - Understanding the Map Reduce architecture - Writing Hadoop Map Reduce Programs - Loading data into HDFS - Executing the Map phase - Shuffling and sorting - Reducing phase execution.

UNIT – V DELIVERING RESULTS :Documentation and deployment – producing effective presentations– Introduction to graphical analysis – plot() function – displaying multivariate data – matrix plots – multiple plots in one window - exporting graph - using graphics parameters. Case studies.

Reference Books

1. Nina Zumel, John Mount, "Practical Data Science with R", Manning Publications, 2014.
2. Jure Leskovec, AnandRajaraman, Jeffrey D.Ullman, "Mining of Massive Datasets", Cambridge University Press, 2014.
3. Mark Gardener, "Beginning R - The Statistical Programming Language", John Wiley & Sons, Inc., 2012.
4. W. N. Venables, D. M. Smith and the R Core Team, "An Introduction to R", 2013.
5. Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, Abhijit Dasgupta, "Practical Data Science Cookbook", Packt Publishing Ltd., 2014.

Class	Semester	Title of The Paper	Paper Code:	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Big Data Technologies	CBCSCB603	2017-18

Syllabus

UNIT I

INTRODUCTION TO BIG DATA:Introduction – distributed file system – Big Data and its importance, Four V's in bigdata, Drivers for Big data, Big data analytics, Big data applications. Algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce.

UNIT II

INTRODUCTION TO HADOOP : Big Data – Apache Hadoop & Hadoop EcoSystem – Moving Data in and out of Hadoop – Understanding inputs and outputs of MapReduce - Data Serialization.

UNIT- III

HADOOP ARCHITECTURE: Hadoop Architecture, Hadoop Storage: HDFS, Common Hadoop Shell commands , Anatomy of File Write and Read., NameNode, Secondary NameNode, and DataNode, Hadoop MapReduce paradigm, Map and Reduce tasks, Job, Tasktrackers - Cluster Setup – SSH & Hadoop Configuration – HDFS Administering – Monitoring & Maintenance.

UNIT-IV

HADOOP ECOSYSTEM AND YARN :Hadoop ecosystem components - Schedulers - Fair and Capacity, Hadoop 2.0 New Features- NameNode High Availability, HDFS Federation, MRv2, YARN, Running MRv1 in YARN.

UNIT-V

HIVE AND HIVEQL, HBASE:-Hive Architecture and Installation, Comparison with Traditional Database, HiveQL - Querying Data - Sorting And Aggregating, Map Reduce Scripts, Joins & Subqueries, HBase concepts- Advanced Usage, Schema Design, Advance Indexing - PIG, Zookeeper - how it helps in monitoring a cluster, HBase uses Zookeeper and how to Build Applications with Zookeeper.

Reference Books

1. Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, "Professional Hadoop Solutions", Wiley, ISBN: 9788126551071, 2015.

2. Chris Eaton, Dirk deRoos et al. , “Understanding Big data ”, McGraw Hill, 2012.
3. Tom White, “HADOOP: The definitive Guide” , O Reilly 2012.
4. Vignesh Prajapati, “Big Data Analytics with R and Hadoop”, Packet Publishing 2013.
5. Tom Plunkett, Brian Macdonald et al, “Oracle Big Data Handbook”, Oracle Press, 2014.
6. Jy Liebowitz, “Big Data and Business analytics”,CRC press, 2013.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Computing for Data Analytics	CBCSCB604	2017-18

Syllabus

UNIT – I

DATA ANALYTICS LIFE CYCLE: Introduction to Big data Business Analytics - State of the practice in analytics role of data scientists - Key roles for successful analytic project - Main phases of life cycle - Developing core deliverables for stakeholders.

UNIT – II

STATISTICS Sampling Techniques : Data classification, Tabulation, Frequency and Graphic representation - Measures of central value - Arithmetic mean, Geometric mean, Harmonic mean, Mode, Median, Quartiles, Deciles, Percentile - Measures of variation – Range, IQR, Quartile deviation, Mean deviation, standard deviation, coefficient variance, skewness, Moments & Kurtosis.

UNIT – III

PROBABILITY AND HYPOTHESIS TESTING: Random variable, distributions, two dimensional R.V. joint probability function, marginal density function. Random vectors - Some special probability distribution - Binomial, Poisson, Geometric, uniform, exponential, normal, gamma and Erlang. Multivariate normal distribution - Sampling distribution – Estimation - point, confidence – Test of significance, 1 & 2 tailed test, uses of t-distribution, F-distribution, 2 distribution.

UNIT – IV

PREDICTIVE ANALYTICS: Predictive modeling and Analysis - Regression Analysis, Multicollinearity , Correlation analysis, Rank correlation coefficient, Multiple correlation, Least square, Curve fitting and goodness of fit.

UNIT – V

TIME SERIES FORECASTING AND DESIGN OF EXPERIMENTS :Forecasting Models for Time series : MA, SES, TS with trend, season - Design of Experiments, one way classification, two way classification, ANOVA, Latin square, Factorial Design.

Reference Books:

1. Chris Eaton, Dirk Deroos, Tom Deutsch et al., “Understanding Big Data”, McGrawHill, 2012.
2. Alberto Cordoba , “Understanding the Predictive Analytics Lifecycle”, Wiley, 2014.
3. Eric Siegel, Thomas H. Davenport , “Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die”, Wiley, 2013.
4. James R Evans, “Business Analytics – Methods, Models and Decisions”, Pearson 2013.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Cloud Computing (Cluster C)	CBCSCC602	2017-18

Class: III B.Sc. (COMP/ELEC/STAT/MCCS)
Paper: Cloud Computing [Cluster C]

Semester: VI
Code: CBCSCC602

UNIT - I

CLOUD COMPUTING OVERVIEW: Origins of Cloud computing – Cloud components – Essential characteristics – On-demand self-service, Broad network access, Location independent resource pooling , Rapid elasticity , Measured service

UNIT - II

CLOUD SCENARIOS – BENEFITS: scalability , simplicity , vendors ,security. Limitations – Sensitive information - Application development – Security concerns - privacy concern with a thirdparty - security level of third party - security benefits Regularity issues: Government policies

UNIT - III

CLOUD ARCHITECTURE: Cloud delivery model – SPI framework , SPI evolution , SPI vs.traditional IT Model

SOFTWARE AS A SERVICE (SAAS): SaaS service providers – Google App Engine, Salesforce.com and google platform – Benefits – Operational benefits - Economic benefits – Evaluating SaaS
PLATFORM AS A SERVICE(PAAS): PaaS service providers – Right Scale – Salesforce.com – Rack space – Force.com – Services and Benefits

UNIT - IV

INFRASTRUCTURE AS A SERVICE (IAAS): IaaS service providers – Amazon EC2 , Go Grid –Microsoft soft implementation and support – Amazon EC service level agreement – Recent developments – Benefits. **CLOUD DEPLOYMENT MODEL :** Public clouds – Private clouds – Community clouds – Hybrid clouds - Advantages of Cloud computing

UNIT - V

VIRTUALIZATION: Virtualization and cloud computing - Need of virtualization – cost , administration , fast deployment , reduce infrastructure cost - limitations

TYPES OF HARDWARE VIRTUALIZATION: Full virtualization - partial virtualization – para virtualization

DESKTOP VIRTUALIZATION: Software virtualization – Memory virtualization - Storage virtualization – Data virtualization – Network virtualization

MICROSOFT IMPLEMENTATION: Microsoft Hyper V – Vmware features and infrastructure –Virtual Box - Thin client

Reference Books:

1. Cloud computing a practical approach - Anthony T.Velte , Toby J. Velte Robert Elsenpeter TATA McGraw- Hill , New Delhi - 2010
2. Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online - Michael Miller - Que 2008
3. Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier.
4. Cloud Computing, A Hands on approach, ArshadeepBahga, Vijay Madiseti, University Press
5. Mastering Cloud Computing, Foundations and Application Programming, Raj Kumar Buyya, Christenvecctiola, S Tammaraiselvi, TMH

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Mobile Computing(Cluster C)	CBCSCC603	2017-18

Class: III B.Sc(COMP/ELEC/STAT/MCCS)

Semester: VI

Paper: Mobile Computing [Cluster C]

Code: CBCSCC603

UNIT – I Introduction to Network Technologies and Cellular Communications:

HIPERLAN: Protocol architecture, physical layer, Channel access control sub-layer, MAC sub-layer, Information bases and networking

WLAN: Infrared vs. radio transmission, Infrastructure and ad hoc networks, IEEE 802.11. Bluetooth.: User scenarios, Physical layer, MAC layer, Networking, Security, Link management

GSM: Mobile services, System architecture, Radio interface, Protocols, Localization and calling, Handover, Security, and New data services.

Mobile Computing (MC): Introduction to MC, novel applications, limitations, and architecture

UNIT –II (Wireless) Medium Access Control: Motivation for a specialized

MAC (Hidden and exposed terminals, Near and far terminals), SDMA, FDMA, TDMA, CDMA.

UNIT –III Mobile Network Layer:

Mobile IP (Goals, assumptions, entities and terminology, IP packet delivery, agent advertisement and discovery, registration, tunneling and encapsulation, optimizations), Dynamic Host Configuration Protocol (DHCP).

UNIT – IV Mobile Transport Layer:

Traditional TCP, Indirect TCP, Snooping TCP, Mobile TCP, Fast retransmit/fast recovery, Transmission /time-out freezing, Selective retransmission, Transaction oriented TCP.

UNIT – V Database Issues:

Hoarding techniques, caching invalidation mechanisms, client server computing with adaptation, power-aware and context-aware computing, transactional models, query processing, recovery, and quality of service issues.

- 1). **Jochen Schiller**, “Mobile Communications”, *Addison-Wesley*. (Chapters 4, 7, 9, 10, 11), second edition, 2004.
- 2) **Stojmenovic and Cacute**, “Handbook of Wireless Networks and Mobile Computing”, *Wiley*, 2002, ISBN 0471419028. (Chapters 11, 15, 17, 26 and 27)

Reference Books:

- 1) Reza Behravanfar, “Mobile Computing Principles: Designing and Developing Mobile Applications with UML and XML”, ISBN: 0521817331, Cambridge University Press, October 2004

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc (COMP/ELEC/STAT/MCCS)	VI	Data Communication (Cluster C)	CBCSCC604	2017-18

Class: III B.Sc(COMP/ELEC/STAT/MCCS)

Semester: VI

Paper: Data Communication [Cluster C]

Code: CBCSCC604

UNIT – I

INTRODUCTION: Data Communications: Components, Data Representation, Data Flow, Networks: Distributed Processing, Network Criteria, Physical Structures, Network Models, Categories of Networks. The Internet: A Brief History, The Internet Today. Protocols And Standards: Protocols, Standards, Standards Organizations, Internet Standards.

NETWORK MODELS: Layered Tasks: Sender, Receiver, and Carrier, Hierarchy, The OSI Model: Layered Architecture, Peer-to-Peer Processes, Encapsulation. Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, Application Layer::Tcp/Ip Protocol Suite: Physical and Data Link Layers, Network Layer, Transport Layer, Application Layer. Addressing: Physical Addresses, Logical Addresses, Port Addresses, Specific Addresses.

UNIT - II

Data and Signals: Analog And Digital: Analog and Digital Data, Analog and Digital Signals, Periodic and Non-periodic Signals, Periodic Analog Signals: Sine Wave, Phase, Wavelength, Time and Frequency Domains, Composite Signals, Bandwidth. Digital signals: Bit Rate, Bit Length, Digital Signal as a Composite Analog Signal, Transmission of Digital Signals. Transmission Impairment: Attenuation, Distortion, Noise. Performance: Bandwidth, Throughput, Latency (Delay), Bandwidth-Delay Product, Jitter.

UNIT-III

DIGITAL TRANSMISSION: Digital-To-Digital Conversion: Line Coding, Line Coding Schemes, Block Coding. Analog-To-Digital Conversion: Pulse Code Modulation, Delta Modulation. Transmission Modes: Parallel Transmission, Serial Transmission.

UNIT – IV

ANALOG TRANSMISSION: DIGITAL-TO-ANALOG CONVERSION: Aspects of Digital-to-Analog Conversion, Amplitude Shift Keying, Frequency Shift Keying, Phase Shift Keying, Quadrature Amplitude Modulation. Analog-to-analog Conversion: Amplitude Modulation, Frequency Modulation, Phase Modulation.

BANDWIDTH UTILIZATION: MULTIPLEXING AND SPREADING: MULTIPLEXING: Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Synchronous Time-Division Multiplexing, Statistical Time-Division Multiplexing, **SPREAD SPECTRUM:** Frequency Hopping Spread Spectrum (FHSS), Direct Sequence Spread Spectrum.

UNIT – V

TRANSMISSION MEDIA: Guided Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Unguided Media: Wireless: Radio Waves, Microwaves, Infrared.

SWITCHING: Circuit-Switched Networks: Three Phases, Efficiency, Delay. Datagram networks: Routing Table, Efficiency, Delay, Virtual-Circuit Networks: Addressing, Three Phases, Efficiency, Delay in Virtual-Circuit Networks

Prescribed Textbook: Data Communications and Networking, Fourth Edition
by Behrouz A. Forouzan. Chapters: 1-8 ,Mc Graw Hill Publications,2007

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Course Structure and Scheme of Teaching and Examination PG Diploma in E-Banking

E-BANKING

Class	Semeste	Title of The Paper	Paper Code	W.E.F
EBK	I	Principles And Practices Of Banking	EBK 10117	2017-18

UNIT - I : Banking Regulation: Constitution, Objectives, Functions of RBI; Tools of Monetary Control; Regulatory Restrictions on Lending, **Retail Banking, Wholesale and International Banking:** Retail Banking- Products, Opportunities; Wholesale Banking, Products; International Banking, Requirements of Importers & Exporters, Remittance Services; Universal Banking; ADRs; GDRs; Participatory Notes.

UNIT – 2: Role and Functions of Capital Markets, SEBI: Overview of Capital Market; Stock Exchange; Commonly used Terms; Types of Capital Issues; Financial Products / Instruments including ASBA, QIP; SEBI; Registration of Stock Brokers, Sub-brokers, Share Transfer Agents, etc QIBs

UNIT – 3: CIBIL, Fair Practices Code for Debt Collection, BCSBI: Role and Functions of CIBIL; Fair Practices Code for Debt Collection; Codes of BCSBI, **Recent Developments in the Financial System:** Structure, Reforms in the Indian Financial System; recent developments in Money, Debt, Forex Markets; Regulatory Framework; Payments and Settlement System

UNIT – 4:

Bankers' Special Relationship

Mandate; POA; Garnishee Orders; Banker's Lien; Right of Set off **Consumer Protection - COPRA, Banking Ombudsman Scheme** Operational Aspects of COPRA Act & Banking Ombudsman Scheme. **Opening accounts of various types of customers:** Operational Aspects of opening and maintaining Accounts of Different Types of Customers including Aadhaar, SB Rate Deregulation, **Ancillary Services:** Remittances; Safe Deposit Lockers; Govt. Business; EBT

UNIT – 5

Principles of lending, Working Capital Assessment and Credit Monitoring Cardinal Principles; Non-fund Based Limits; WC; Term Loans; Credit Appraisal Techniques; Sources of WC Funds & its Estimation; Operating Cycle; Projected Net WC; Turnover Method; Cash Budget; Credit Monitoring & Its Management; Base Rate, **Priority Sector Advances:** Targets; Sub-Targets; Recent Developments

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	I	Banking Technology	EBK 10217	2017-18

UNIT – 1:

Banking Technology: Essentials of Bank computerization Computer Systems; LANs; WANs; UPS; Core Banking

Payment Systems and Electronic Banking:

ATMs; HWAK; PIN; Electromagnetic Cards; Electronic Banking; Signature Storage & Retrieval System; CTS; Note & Coin Counting Machines; Microfiche; NPC; RUPAY

UNIT- 2 :

On Line Banking : Online Enquiry and Update Facilities – Personal Identification Numbers and their use in conjunction with magnetic cards of both credit and debit cards, smart cards, signature storage and display by electronic means, cheque truncation, note and coin counting device

UNIT – 3

Data Communication Network and EFT systems:

Components & Modes of Transmission; Major Networks in India; Emerging Trends in Communication Networks for Banking; Evolution of EFT System; SWIFT; Automated Clearing Systems; Funds Transfer Systems; Recent Developments in India

UNIT – 4

Role of Technology Upgradation and its impact on Banks:

Trends in Technology Developments; Role & Uses of Technology Upgradation; Global Trends; Impact of IT on Banks **Preventive Vigilance in Electronic Banking** Phishing; Customer Education; Safety Checks; Precautions

UNIT – 5

Security Considerations

Risk Concern Areas; Types of Threats; Control Mechanism; Computer Audit; IS Security; IS Audit; Evaluation Requirements

Overview of IT Act

Gopalakrishna Committee Recommendations

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	I	Accounting And Finance For Bankers	EBK 10317	2017-18

UNIT – 1: BUSINESS MATHEMATICS AND FINANCE: Calculation of Interest and Annuities: Calculation of Simple Interest & Compound Interest; Calculation of Equated Monthly Instalments; Fixed and Floating Interest Rates; Calculation of Annuities; Interest Calculation using Products / Balances; Amortisation of a Debt; Sinking Funds.

UNIT – 2: Capital Budgeting: Present Value and Discounting; Discounted Technique for Investment Appraisal; Internal Rate of Return (IRR); Method of Investment Appraisal; NPV and IRR compared; Investment Opportunities with Capital Rationing; Investment Decision making under condition of uncertainty; Expected NPV Rule; Risk Adjusted Discount Rate Approach for NPV Determination; Sensitivity Analysis for NPV Determination; Decision Tree Analysis for NPV Estimation; Payback Methods; ARR.

UNIT – 3: Foreign Exchange Arithmetic: Fundamentals of Foreign Exchange; Forex Markets; Direct and Indirect Quote; Some Basic Exchange Rate Arithmetic – Cross Rate, Chain Rule, Value date, etc.; Forward Exchange Rates – Forward Points; Arbitrage; Calculating Forward Points; Premium / discount; etc. **Definition, Scope and Accounting Standards:** Nature and Purpose of Accounting; Historical Perspectives; Origins of Accounting Principles; Accounting Standards in India and its Definition and Scope; Generally Accepted Accounting Principles of USA (US GAAP); Transfer Pricing; Overview of IFRS; Difference between GAAP & IFRS.

UNIT – 4: Cash / Subsidiary Books and Ledger: Record Keeping Basics; Account Categories; Debit and Credit Concepts; Accounting and Columnar Accounting Mechanics; Journals; Ledgers; subsidiary books; etc.

UNIT – 5: Trial Balance, Rectification of Errors and Adjusting & Closing Entries Meaning of a Trial Balance; Features and Purpose of a Trial Balance; Types of Trial Balance and Preparation of a Trial Balance; Disagreement of a Trial Balance; Classification of Errors; Location of Errors; Rectification of Errors; Suspense Account and Rectification; Rectification of Errors when Books are closed; Adjusting and Closing Entries. **Final Accounts of Banking Companies:** Definition and Functions of a Bank; Requirements of Banking Companies as to Accounts and Audit; Significant Features of Accounting Systems of Banks; Principal Books of Accounts; Preparation and Presentation of Financial Statements of Banks; CMA Format; Accounting Treatment of Specific Items; Preparation of Profit and Loss Account; Comments on Profit and Loss Account; Important Items of Balance Sheet; Disclosure Requirements of Banks; Additional Disclosures prescribed by RBI; Disclosures required under BASEL norms.

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	I	Information Technology, Data Communication And Electronic Banking (Theory)	EBK 10417	2017-18

UNIT-1: Information Technology : Computer technology- Computer Peripherals (including Touch Screen) - Software Technology - Operating System : Latest O/S like LINUX, Windows XP Data base Systems : RDBMS like Oracle, SQL - Computerization in Banks

UNIT-2: Data Communication and Communication products - Computer Networks - including Integrated Service Digital Network, Remote Access Server - Network Components - WAN Communication Environment - including Information Super Highway

UNIT – 3: Information System Planning - Information System Analysis and Design – Information System selection and Procurement - Information System Implementation and Management

UNIT – 4: Technology Policy Guidelines in India Technology Upgradation in Banking Sector, Dr. A. Vasudevan 1999.- Report on Internet Banking, S. R. Mittal, 1999. IT Act 2000 - Cyber Law 2000 - Report of the Advisory Group of Payment and Settlement System - Part I & II, M. G. Bhide, Sep, 27, 2000. - Report on Working group on Electronic Money - Zarir J. Cama – July 2002 Committee on Payment Systems - Dr. R. H. Patil - Oct 2002 - Report of the Committee on Computer Audit - A. L. Narasimhan - Dec 2002 - Working Group on Cheque Truncation and E-cheque - Dr. Barma - July 2003 RTGS Regulations 2004

UNIT – 5: Current Trends in IT in Banks Global Networks : ARPANET, NFSNET, INTERNET, USENET NEWS, RTGS, SFMS, SEFT, PDO / NDS / SSS / CFMS - Plastic Wallet Technology - E-commerce - Public Key Infrastructure

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	II	Legal & Regulatory Aspects Of Banking	EBK 20117	2017-18

UNIT – 1: Different Types of Borrowers: Types of Borrowers; Limited Liability Partnership
Types of Credit Facilities: Cash Credit, Overdraft, Demand Loans, Term Loans, Bill Finance
Secured and Unsecured Loans, Registration of Firms and Incorporation of Companies
 Definition of Secured and Unsecured loans; Need for Secured Loans; Registration of Firms; Consequences of Non-registration of Firms; Incorporation of a Company
Indemnities Definition of Contract of Indemnity; Features of Indemnity Contract & Guarantee; Scope and Application of Indemnity Contracts to Banks; Obligations of a Banker; Precaution & Rights of an Indemnity Holder

UNIT – 2 : Bank Guarantees: Definition and Types of Bank Guarantees; Banker's Duty to Honour Guarantee; Precautions to be taken for Issuance of Bank Guarantee; Precautions to be taken for Payment under Bank Guarantee; Invocation & Enforcement. **Letters of Credit:** General Considerations of Letters of credit; Parties to a Letter of credit; Types of Letters of credit; Documents under a Letter of credit; UCPDC 600; Banks obligation for payment of Letter of credit.

Deferred Payment Guarantees Purpose of DPGs; Methods of Payment **Laws Relating to Bill Finance:** Class of Bills and Laws Governing Bills; Classification of Bills; Categories of Bill Finance; Bill Finance and Legal Position of Banker. **Laws Relating to Securities and Modes of Charging – I** Mortgage; Types of Mortgage; Enforcement of Mortgages **Laws Relating to Securities and Modes of Charging – II** Lien; Pledge; Hypothecation; etc.

UNIT – 3:Registration and Satisfaction of Charges: Definition of Charge; Procedure for Registration of Charge; Effect of Non- registration of Charges; Provisions of Law relating to Registration of Charges, **Case Laws on Responsibility of Paying Bank:** Negotiable Instruments Act and Paying Banks; Liability of Paying Banker; Payment in due course; Payment in Good Faith; Whether Payment under Mistake Recoverable, **Case Laws on Responsibility of Collecting Bank:** Statutory protection to Collecting Bank; Duties of Collecting Bank

UNIT – 4: BANKING RELATED LAWS: Recovery of Debts due to Banks and Financial Institutions Act, 1993(DRT Act) Objective of the Act, Constitution of Tribunal, Procedure to be followed, Enforcement process, **Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act (SARFAESI):** Constitutional Validity; Definitions; Regulation & Reconstruction; Enforcement of Security Interest; Central Registry; Offences & Penalties; Miscellaneous Provisions. **Bankers Books Evidence Act, 1891 -** Applicability; Definition; Important Provisions **The Legal Services Authorities Act, 1987 -** Lok Adalats- Organisation; Jurisdiction; Disposal of Cases; Awards **The Consumer Protection Act, 1986 and CERSAI** Preamble, Extent & Definitions; Consumer Protection Councils; Consumer Disputes Redressal Agencies; **Tax Laws -** Income Tax; Commodity Transaction Tax; Service Tax - **Negotiable Instruments Act, 1881 -** Applicability; Definition; Important Provisions - **Payment & Settlements Systems Act, 2007 -** Applicability; Definition; Important Provisions

UNIT – 5: COMMERCIAL LAWS WITH REFERENCE TO BANKING OPERATIONS
Indian Contract Act, 1872: Meaning and essentials of contract; Contract of Indemnity & Rights of Indemnity Holder; Contract of Guarantee; Contract of Bailment; Contract of Pledge; Contract of Agency, **The Sale of Goods Act, 1930:** Features; Sale & Agreement to Sell; Conditions and Warranties; Express & Implied; Rights of Unpaid Seller: **Indian Partnership Act, 1932:** Definition & Types of Partnerships; Relation of partners to one another & to third Parties; Minor admitted to benefits of partnership; Dissolution of a firm; Effect of non

registration; Limited liability partnerships formation, registration, rights and liabilities of partners: **The Companies Act, 1956 (Now Companies Act, 2013)**: Definition, Features & Types of companies; Memorandum and Articles of Association; Doctrine of Ultra Vires, Constructive Notice, Indoor Management; Membership of Company- Acquisition, Cessation, Register, Rights & Duties of Members, Prospectus; Directors; Winding up of Companies: **Foreign Exchange Management Act, 1999**: Important Terms; Powers of RBI, Regulation and Management; Directorate of Enforcement

Class	Semester	Title of The Paper	Paper Cod:	W.E.F
EBK	II	Bank Marketing	EBK 20217	2017-18

UNIT- 1

Marketing – An Introduction - Concept; Management; Products & Services; Marketing Mix; Brand Image - **Social Marketing / Networking** - Evolution, Importance & Relevance of Social Marketing / Networking

UNIT - 2

Consumer Behaviour and Product - Consumer Behaviour; Product Planning, Development, Strategies, etc; CRM – **Pricing** - Importance, Objectives, Factors, Methods, Strategies of Pricing; Bank Pricing –

UNIT – 3:

Distribution - Distribution Channels; Channels for Banking Services; Net Banking; Mobile Banking

UNIT- 4 :

Channel Management - Meaning, Levels, Dynamics, Advantages – **Promotion** Role of Promotion in Marketing; Promotion Mix - **Role of Direct Selling Agent / Direct Marketing Agent in a bank** - Definition; Relevance; Banker as DSA / DMA; Delivery Channels in Banks; Benefits

UNIT-5:

Marketing Information Systems – a longitudinal analysis - Functions & Components of MKIS; MKIS Model; Use of Computers & Decision Models; Performance of MKIS; Advantages

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	II	Design Development And Implementation Of Information System	EBK 20317	2017-18

UNIT- 1:

MIS and its Structure - MIS for Operating Management & Strategic Control - Decision Support System & GDSS - Information Resource Management & Call Centre - Front End Tool - (D2K, SQL * PLUS, PL / SQL)

UN IT - 2:

Data Modeling Concepts - RDBMS - Oracle / SQL - Database Concurrency Recovery & Security Concepts - Determination of Data Requirements for Database - Operating System - LINUX

UNIT – 3:

Intranet - Data Marts, Data Warehousing, Data Mining - IP Addressing LAP

UNIT – 4:

Information Resource Management - Business Processes Re-engineering - Technology led Products and Delivery Channels

UNIT - 5:

Centralized Banking Solutions / Core Banking - RTGS, SFMS

Class	Semester	Title of The Paper	Paper Code	W.E.F
EBK	II	Security In Electronic Banking	EBK 20417	2017-18

UNIT – 1:

Computer System Security Concerns - Physical Security Environment - Hardware Security Environment - Logical Security Environment - Network Security Environment

UNIT – 2:

Disaster Recovery and Business Continuity - Fault Tolerant Systems - Network Trouble Shooting

UNIT – 3:

Overview of Computer Viruses - Detection and Prevention of Computer Viruses - Anti Virus Policies

UNIT – 4:

Information System Security Policy - System Audit Frame Work - System Audit - Administration and System Controls

UNIT – 5:

Computer Crime - Computer Crime Management

ENGLISH



KAKRAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

(Sponsored by S.K.P.V.V. Hindu High Schools' Committee)

Kothapeta, Vijayawada -1

A College with Potential for Excellence (CPE)

Class	Semester	Title of the Paper	Paper Code	W.E.F
I B.Sc, B.Com, BCA, BBM	I	General English-I	CBENG101A	2016-17

SYLLABUS

Unit – I - PROSE

1. A.P. J. Abdul Kalam: The Knowledge Society (from *Ignited Minds*)
2. Ngugi Wa Thiong'o: The Language of African Literature (from *Decolonizing the Mind*)

Unit – II – POETRY

1. Robert Frost: The Road Not Taken
2. Nissim Ezekiel: Night of the Scorpion

Unit – III - SHORT STORY

1. Mulk Raj Anand : The Lost Child
2. Henry Lawson: The Loaded Dog

Unit – IV - ONE - ACT PLAY

1. William Shakespeare: The Merchant of Venice (Court Scene – Act IV Scene -1)

Unit – V - LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
Single Sentence Answer Questions on Vocabulary (spelling), sound (pronunciation), sense (meaning), and syntax (usage)
2. Classroom Activity
 - a) Exercises in Articles and Prepositions
 - b) Exercises in Tenses, Interrogatives and Question tags

Prescribed Textbook: STEP UP WITH ENGLISH – Published by Orient BlackSwan 2016

Class	Semester	Title of the Paper	Paper Code	W.E.F
I B.Sc,B.Com, BCA, BBM	II	General English-II	CBENG201A	2016-17

SYLLABUS

Unit – I – PROSE

1. J. B.S Haldane: The Scientific Point of View
2. A.G. Gardiner : On Shaking Hands

Unit – II – POETRY

1. John Keats: Ode to Autumn
2. Kishwar Naheed : I am not that Woman (from *An Anthology of Commonwealth Poetry* edited by C.D. Narasimhaiah)

Unit –III - SHORT STORY

1. Ruskin Bond : The Boy Who Broke the Bank
2. R. K. Narayan : Half a Rupee Worth

Unit – IV - ONE ACT PLAY

1. Anton Chekhov: The Proposal

Unit – V - LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
 - i. Transformation of Sentences (Voice, Speech and Degrees)
 - ii. Dialogue Practice (Oral)
 - iii. Listening Comprehension
2. Classroom Activity
 - i. Guided Composition
 - ii. Dialogue Writing
 - iii. Reading Comprehension

Class	Semester	Title of the Paper	Paper Code	W.E.F
II B.Sc, B.Com, BCA, BBM	III	General English-III	CBENG301	2016-17

Unit – I - PROSE

1. M.K. Gandhi: Shyness My Shield (from *The Story of My Experiments with Truth*)
2. Alexis C. Madrigal: Why People Really Love Technology: An Interview with Genevieve Bell

Unit – II - POETRY

1. Gabriel Okara: Once upon a Time
2. Seamus Heaney: Digging

Unit – III - SHORT STORY

1. Jhumpa Lahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved Charioteer

Unit – IV - ONE ACT PLAY

1. Gurajada Appa Rao: *Kanyasulkam*, translated by C. Vijayasree & T. VijayaKumar (Acts I & II)

Unit – V - LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
 - a) JAM Sessions
 - b) Note Taking
 - c) Reporting for the Media
 - d) Expansion of an idea

2. Classroom Activity

- a) Transformation of sentences (Simple-Complex-Compound Sentences)
- b) Note Making
- c) Report Writing
- d) Writing for the Media*

Prescribed Textbook: Global Horizons Published by Orient BlackSwan 2016



K.B.N. COLLEGE (AUTONOMOUS) VIJAYAWADA

(Sponsored By : S.K.P.V.V. Hindu High School's Committee)

I B.A. / B.Sc. / B.Com. / BBM / BCA - HINDI - PAPER - 1

I SEMESTER - SYLLABUS

with EFFECT FROM 2013-2014.

Re-Accredited by NAAC-A

Time : 3 Hrs.

Max-Marks : 75

I. PROSE

“गद्य-संदेश”

संपादक - डॉ. वी.एल. नरसिंहम शिवकोटि

प्रकाशक - लार्वेन पब्लिकेशन्स

(COMMON CORE SYLLABUS)

LESSONS -

- | | | |
|----------------------|---|------------------------|
| 1. साहित्य की महत्ता | - | महावीर प्रसाद द्विवेदी |
| 2. मित्रता | - | आचार्य रामचन्द्र शुक्ल |
| 3. पूस की रात | - | प्रेमचंद |

II. Non-detailed -

“कथा - लोक”

संपादक - डॉ. घनश्याम

प्रकाशक - सुधा पब्लिकेशन्स

LESSONS -

- | | | |
|----------------|---|-----------------------|
| 1. मुक्तिधन | - | प्रेमचंद |
| 2. उसने कहा था | - | चन्द्रधर शर्मा गुलेरी |
| 3. पुरस्कार | - | जयशंकर प्रसाद |

III. GRAMMER

1. शुद्ध कीजिए
2. वाच्य बदलिए
3. लिंग बदलिए
4. वचन बदलिए
- ~~5. कर्तृत्व बदलिए~~

5. सूचना के अनुसार बदलिए (काल, कारक, जब-तब, निपेधार्यक, अपना प्रयोग)

Approved by

Principal
A. Ramakrishna
K. V. Sarvani



K.B.N. COLLEGE (AUTONOMOUS) VIJAYAWADA

(Sponsored By : S.K.P.V.V. Hindu High School's Committee)

I B.A. / B.Sc. / B.Com. / BBM / BCA - HINDI - PAPER - 1

II SEMESTER - SYLLABUS

With EFFECT FROM 2013-2014.

Re-Accredited by NAAC-A

Time : 3 Hrs.

Max-Marks : 75

I. PROSE

“गद्य-संदेश”

संपादक - डॉ. वी.एल. नरसिंहम शिवकोटि

प्रकाशक - लार्वेन पब्लिकेशन्स

(COMMON CORE SYLLABUS)

LESSONS -

1. भारत एक है - रामधारीसिंह 'दिनकर'
2. सच्ची वीरता - सरदार पूर्णसिंह
3. संस्कृति और साहित्य का परस्पर संबंध - डॉ. रामकुमार वर्मा

II. Non-detailed -

“कथा - लोक”

संपादक - डॉ. घनश्याम

प्रकाशक - सुधा पब्लिकेशन्स

LESSONS -

1. मैं हार गई - मन्नू भण्डारी
2. भूख हडताल - श्री बालशौरी रेड्डी
3. ठेस - फणीश्वरनाथ रेणु

III. GRAMMER

1. संधि विच्छेद
2. समास की पहचान
3. प्रशासनिक शब्दावली

IV. LETTERS

1. व्यक्तिगत पत्र
2. आदेश पत्र (पुस्तकों या माल के लिए)
3. आवेदन पत्र
4. शिकायती पत्र
5. मित्र के पत्र

Approved by

Reminiscences
A. R. R. R.



K.B.N. COLLEGE (AUTONOMOUS) VIJAYAWADA

(Sponsored By : S.K.P.V.V. Hindu High School's Committee)
II B.A. / B.Sc., / B.Com., / BBM / BCA - HINDI - PAPER - II

III SEMESTER - SYLLABUS - W.E.F. 2014 - 2015

Paper Code : 301 A

Max-Marks : 75

ISO 9001- 2008 Certified Institution

NAAC "A" Grade

I. काव्य - दीप

संपादक : श्री बी. राधाकृष्ण मूर्ति

प्रकाशन : मारुति पब्लिकेशन्स, गुन्टूर

प्राचीन पद्य :

1. कबीरदास
2. सूरदास
3. तुलसीदास



संदर्भ सहित व्याख्या

आधुनिक पद्य :

1. मातृभूमि - मैथिली शरणगुप्त
2. युगावतार बापू - सोहनलाल द्विवेदी
3. भारतमाता - सुमित्रानंदन पंत



संदर्भ सहित व्याख्या और सारांश

II. हिन्दी साहित्य का इतिहास

(निम्नलिखित चार प्रश्न या विषय निर्धारित है।)

1. हिन्दी साहित्य का काल-विभाजन।
2. वीरगाथा काल की प्रमुख विशेषताएँ व प्रवृत्तियाँ
3. भक्तिकाल की विशेषताएँ और प्रमुख कवि।

III. कवि / लेखक परिचय :

- | | | |
|-----------------|--------------------|-------------------|
| 1. कबीरदास | 2. सूरदास | 3. तुलसीदास |
| 5. जयशंकरप्रसाद | 5. सुमित्रानंदनपंत | 6. मैथिलीशरणगुप्त |

IV. (अ) प्रयोजनमूलक हिन्दी

IV. (आ) कार्यालय हिन्दी (प्रशासनिक शब्दावली)

V. (अ) अनुवाद

अंग्रेजी से हिन्दी में अनुवाद

(From Prescribed para Only)

(5 to 8 Lines)





K.B.N. COLLEGE (AUTONOMOUS) VIJAYAWADA

(Sponsored By : S.K.P.V.V. Hindu High School's Committee)
II B.A. / B.Sc., / B.Com., / BBM / BCA - HINDI - PAPER - II

IV SEMESTER - SYLLABUS - W.E.F. 2014- 2015

Paper Code : 401 A

Max-Marks : 75

ISO 9001- 2008 Certified Institution

NAAC "A" Grade

(POETRY, TRANSTATION & GENERAL ESSAY)

I. काव्य - दीप :

संपादक : श्री बी. राधाकृष्णमूर्ति

प्रकाशन : मारुति पब्लिकेशन्स, गुण्टूर।

प्राचीन पद्य :

1. रहीम

2. बिहारीलाल

3. मीराबाई

} संदर्भ सहित व्याख्या

II. आधुनिक पद्य :

1. कर्मवीर - अयोध्यासिंह उपाध्याय हरिहौध

2. कैकेयी का पश्चात्ताप - मैथिली शरण गुप्त

3. तोडती पत्थर - सूर्यकांतत्रिपाठी निराला

} संदर्भ सहित व्याख्या और सारांश

III. आधुनिक काल : (हिन्दी साहित्य का इतिहास)

1. आधुनिककाल और उसकी प्रवृत्तियाँ

2. नाटक का विकास

3. उपन्यास का विकास - प्रेमचंद

4. रीतकाल की प्रवृत्तियाँ और प्रमुख कवि ।

IV. निबंध :

1. पर्यावरण - प्रदूषण

2. पुस्तकालय

3. स्त्रीशिक्षा

4. दहेज प्रथा

5. बेकारी की समस्याँ

6. विद्यार्थी और राजनीति

7. आधुनिक युग - कम्यूटीकरण

8. भूमण्डलीकरण

V. (अ) कार्यालय हिन्दी / प्रशासनिक शब्दावली

V. (आ) गद्यांश को पढ़कर निम्न प्रश्नों का जवाब दीजिए :

VI. (अ) कंठस्थ की पूर्ति कीजिए :

1. रहीम के दोहे (1 to 5)

2. बिहारी के दोहे (1 to 5)

VI. (आ) अनुवाद :

सामान्य अनुवाद (अंग्रेजी से हिन्दी में)

HUMAN VALUES & PROFESSIONAL ETHICS

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

(Sponsored by S.K.P.V.V.Hindu High Schools' Committee)

(An Autonomous College in the Jurisdiction of Krishna University)

Kothapeta, Vijayawada

Human Values and Professional Ethics	CBHV101A	2017-2018	B.Com, B.Sc, BBM, BCA
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HUMAN VALUES AND PROFESSIONAL ETHICS SYLLABUS

UNIT-I

CHAPTER 1: Understanding Value Education :Need for Value Education – Basic guidelines for Value Education

CHAPTER 2: Self Exploration as the Process for Value Education – Purpose of Self Exploration –
Natural Acceptance – Svatva, Swatantrata, Swarajya- Pre-conditioning.

UNIT-II

CHAPTER 3: The Basic Human Aspirations – Continuous Happiness and Prosperity – difference between prosperity & wealth

CHAPTER 4: The program to Fulfill Basic Human Aspirations :- Basic requirements to fulfill human aspirations – Different levels of human living - SVDD,SSDD,SSSS – Mutual Fulfillment, Mutual Prosperity

UNIT-III

CHAPTER 5: Understanding the Human Being as co-existence of self and body – needs and activities of self & body, right utilization of body

CHAPTER 6: Harmony in Self: Important to study ourself – Imaging, analyzing and selecting/tasting – Realisation & Understanding - Preconditioning, Sensations.

UNIT-IV

CHAPTER 7: Harmony with the body – Programs to take care of body – Human body: a self organized unit- Sanyama and Svasthya

UNIT-V

CHAPTER 8: Harmony in the Family :-Values in Human relationships – Four elements of Justice – Family basic unit of human interaction.

ENVIRONMENTAL STUDIES

ENVIRONMENTAL STUDIES	CBES201A	2017-2018	I Degree
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Unit-I: GLOBAL ENVIRONMENTAL CHALLENGES**8 Hrs.**

Climate Change, Global warming, Acid rains, Ozone layer depletion, Carbon Credits, Carbon trading.

Unit - II : ECOSYSTEM AND BIODIVERSITY**15 Hrs**

- **Concept of Ecosystem:** Abiotic & Biotic components, Functions of Ecosystem(Food Chain, Food Web, Energy Flow, Ecological Pyramids, Nutrient Cycles – Carbon & Water cycle)
- **Biodiversity:** Values , Threats and Conservation of Biodiversity

Unit-III NATURAL RESOURCES**10 Hrs.**

- **Water resources:** Use and over utilization of surface and ground water, Water conservation methods.
- **Energy resources:** Renewable & Non-renewable energy sources, use of alternate sources
- **Forest resources:** Use and over-exploitation , deforestation causes & consequences
- **Land resources:** Soil erosion & desertification

Unit-IV ENVIRONMENTAL POLLUTION**12 Hrs.**

- **Basics of Environment:** Atmosphere, Hydrosphere, Lithosphere & Biosphere
- **Causes, Effects and control measures of Air, Water, Soil and Noise Pollution.**
- **Solid waste management:** Causes, effects and control measures of urban & Industrial wastes

Unit-V HUMAN POPULATION AND SOCIAL ISSUES**15 Hrs.**

Human population: Population explosion- Causes, Effects & Control measures,

Environment and Human Health: AIDS, Swine flu.

Social issues:Sustainable Development, Re-settlement and Rehabilitation Problems, Swacha Bharat
Environmental laws and regulation:Air act, Water act, Wild life (Protection) Act, Municipal Solid Waste (Management & Handling) Rules , 2000.

Dept. of HVPE	CBCE301A	2017-2018	All Second Year Degree Classes
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CITIZENSHIP EDUCATION

Unit – I : Citizen and citizenship – Role of the Citizen in the State and Society.

Unit – II : Indian Constitution and Citizenship – Social Economic and Political Justice – Right to Information Act – Features - Applications and Benefits - (A supreme Expression of Popular Sovereignty).

Unit – III : Human Rights and Fundamental Rights – Consumer Rights and Protection – (Consumer Protection Act 1986)

Unit – IV : Fundamental Duties of a Citizen- Women Empowerment – Prevention of Domestic Violence act

Unit – V : Humanitarianism and Citizenship – Social Equality – Responsibility for the society and Family – Life and living , the path for Human Excellence.

BOOKS SUGGESTED

1. Indian Constitution (Bharata rAjyA Mgamu) Telugu Academy.
2. SamAjam – vivAhaM kuluMbasamMhaMlu – Telugu Academy.
3. Prof. H. Lajpath Roy -2010 – Consumer Protection – Role of Universities.
4. Right To Information Act. Govt. Publication.

Dept. of HVPE	CBAS401	2016-2017	All Second Year Degree Classes
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ANALYTICAL SKILLS

UNIT – 1:

Data Analysis:-The data given in a Table, Graph, Bar Diagram, Pie Chart, Venn diagram or a passage is to be analyzed and the questions pertaining to the data are to be answered.

UNIT – 2

Sequence and Series:- Analogies of numbers and alphabets completion of blank spaces following the pattern in A:b::C: d relationship odd thing out; Missing number in a sequence or a series.

UNIT - 3

Arithmetic ability:-Algebraic operations BODMAS, Fractions, Divisibility rules, LCM&GCD (HCF).

Date, Time and Arrangement Problems: Calendar Problems, Clock Problems, Blood Relationship.

UNIT - 4

Quantitative aptitude:- Averages, Ration and proportion, Problems on ages, Time-distance – speed.

UNIT – 5

Business computations:- Percentages, Profit &loss, Partnership, simple compound interest.

Reference Books:

1. Quantitative Aptitude for Competitive Examination by R S Agrawal, S.Chand publications.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude : Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogita prakasan, Kic X, Kiran Prakashan publishers
4. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw hill publications.
5. Old question Paper of the exams conducted by (Wipro, TCS, Infosys, Etc) at their recruitment process, source-Internet.

Dept. of HVPE	CBESP401	2016-2017	All Second Year Degree Classes
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ENTREPRENEURSHIP

Unit-I: Entrepreneurship: Entrepreneur characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations –Role of Entrepreneurship in economic development –Start-ups.

Unit-II: Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

Unit-III: Project Formulation and Appraisal : Preparation of Project Report –Content; Guidelines for Report preparation – Project Appraisal techniques –economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

Unit-iv: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions –DICs- SFC- SSIDC- Other financial assistance.

Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions –Rehabilitation and Investment Allowances.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M.CH., Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi, 2009
3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011
4. Kanishka Bedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi, 2011
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi.
7. Peter F. Drucker, Innovation and Entrepreneurship.
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges & Opportunities.

Dept. of HVPE	CBLE401	2016-2017	All Second Year Degree Classes
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LEADERSHIP EDUCATION

Unit-I: Organisation – Management – Leadership –Meaning and Significance – Different theories – Trait Theory, Blake & Mountan Theory – Other functions of Management- Leadership Qualities

Unit-II: Behavioral Concepts – Individual Behaviour – Perception – Learning – Attitude Formation and Change – Motivation – Theories of Motivation – Personality Development.

Unit-III: Interpersonal Behaviour – Communication – Leadership – Influencing Relations – Transactional Analysis.

Unit-IV: Group Dynamics – Roles – Morale – Conflict – Groups – Inter-Group Behaviour – Inter-Group Collaboration and Conflict Management.

Unit-V: Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

Reference Books:

1. Fred Luthans, “Organizational Behaviour”, Tata McGraw Hill Publishing Co., New Delhi.
2. Robins, Stephen P, “Organisational Behaviour”, 9th Edition, Prentice Hall of India, New Delhi.
3. Koontz and O “Donnell”, Essentials of Management, Tata McGraw Hill Publishing Co., New Delhi, 2000.
4. Keith Davis, “Human Behaviour at Work”, Tata McGraw Hill Publishing Co., New Delhi.
5. Aswathappa, ”Orgnizational Behaviour”, Himalaya Publishing House, Mumbai
6. Stoner Freeman, “Management”, Prentice Hall of India, New Delhi.
7. NCC HANDBOOK

KAKARAPARTI BHAVANARAYANA PG COLLEGE (AUTONOMOUS)
PG DEPARTMENT OF COMMERCE
MASTER OF COMMERCE

M.Com

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	I	Perspectives of Management	COM10117	2017-18

SYLLABUS

Unit-I:

Introduction: Management, Concept, Significance, Levels, Skills, Functions and Principles - Management as an Art, Science and Profession – Social responsibilities of business.

Unit-II:

Planning: Nature, Purpose, Process of Planning, Types of Plans – Premising & Forecasting, Decision Making: Concept, Process, Rationality in Decision; Decision Tree Analysis - Management By Objectives: Concepts, Process, and Preconditions.

Unit-III:

Organizing: Process - Formal and Informal Organizations - Departmentation: Methods of departmentation, Span of Control; V.A. Graicuna's Theory - Factors Determining Span of Control - Delegation: Concept, Process, Advantages and Principles of Effective Delegation; Decentralization: When to Decentralize and How to Decentralize; Line and Staff: Concept-Reasons for Conflicts between Line and Staff and Measures to Overcome; Committees, Reasons for using Committees, Conditions for Successful Operations of Committees.

Unit-IV:

Staffing: Nature and Importance of Staffing, Factors in Selecting Lower, Middle and Upper Level Managers - Executive Development Programme (EDPs). **Directing:** Meaning, Assumptions of Human Behaviour by Douglas McGregor, Edgar Shien and Elton Mayo.

Unit-V:

Motivation: Significance, Process-Theories of Maslow, Herzberg, McClelland, Porter and Lawler; Leadership: Trait Approach, Leadership Styles, Managerial Grid; Likerts Four Systems of Leadership-Communication: Importance, Process, Media, Channels, Barriers, Principles of Effective Communication. **Controlling:** Basis - Control Process, Pre-Requisites, Requirements of adequate Control - Techniques of control, PERT and CPM.

REFERENCE BOOKS:

1. Koontz, H and Wihrich.H, *Management*, 10th ed., McGraw, New York 1995.
2. Stoner, J.Etc.,*Management*, 6th ed., Pearson Education, 1995.
3. Thomas S. Bateman, Scott A. Snell, *Management*, Tata McGraw Hill.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	I	Financial Accounting	COM10217	2017-18

SYLLABUS

Unit -I:

Introduction to Accounting: Accounting - Meaning, Scope and Significance of Accounting - Accounting Principles, Concepts and Conventions - Capital and Revenue Transactions.

Unit – II:

Rules of Debit and Credit - Journal - Ledger - Subsidiary Books - Preparation of Trial Balance - Rectification of Errors - Preparation of Bank Reconciliation Statement.

Unit -III:

Preparation of Final Accounts

- (i) Preparation of Financial statements of Profit Oriented organizations: P&L Account, Balance Sheet.
- (ii) Preparation of Financial Statements of Non-Profit making organizations: Preparation of Receipts & Payments Account, Income & Expenditure account and Balance Sheet.
- (iii) Preparation of Financial Statements from incomplete records (Single entry)

Unit - IV:

Financial Analysis : Objectives – Ratio Analysis – Funds Flow & Cash Flow Analysis.

Unit – V:

Accounting for Special Transactions - Bills of Exchange - Consignment - Joint Venture - Depreciation.

REFERENCE BOOKS:

1. S.P.Jain and K.L.Narang, Financial Accountin–II, Kalyani Publishers, 2005, 2nd Edition
2. S.N.Maheswari & S.K Maheswari, Financial Accounting, Vikas Publishing House 4th edition
3. Mukerjee and Hanif, Modern Accountancy, Tata Mcgraw Hill co, 2009, 1st Edition

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I M.com	I	Business Economics	COM10317	2017-18

SYLLABUS

UNIT I:

Managerial Economics: Definition, Nature, Scope – Functions and Responsibilities of a Managerial Economist – Law of Demand and its exceptions – Elasticity of Demand – Market Demand Equation – Types of Elasticity of Demand and their Managerial Uses – Demand Forecasting – Methods of Forecasting for Existing and New Product.

UNIT II:

Production Analysis & Firm Theory: Economic Theory of Firm – Theories of firm-Baumol’s Model and Agency Theory – Production Function – Law of Variable Proportions & ISO-Quants & ISO Costs – Least Cost Factor Combination – Returns to Scale – Economies and Diseconomies of Scale.

UNIT III:

Cost, Profit & Market Structures: Cost Concepts – Short-run and Long-run Cost Curves – Determinants of Short-Term & Long Term Profits, Measurement of Profit – Profit Maximization vs. Wealth Maximization – Demand and Supply: Market Equilibrium – Market Structures – Concept of Price – Pricing and Output Determination under Perfect Competition, Monopolistic Competition and Monopoly.

UNIT IV:

Indian Economic Environment: Overview of Indian Economy – Recent changes in Indian Economy – Macro Economic Aggregates and Concepts - National Income - GDP, GNP, NNP, WPI, CPI – Types of Inflation: Demand Pull and Cost Push Inflation, Philips curve, Stagflation – Measurement of Inflation – Economics of Risk & Finance – Monetary Policy & Fiscal Policy.

UNIT V:

Trade Cycles: Phases, Theories, and Corrective Measures – Behavioral and Technical Function: Aggregative Demand and Supply, Consumption Function and Investment Function – Keynesian Theory (overview).

REFERENCE BOOKS:

1. Joel Dean, *Managerial Economics*, Prentice Hall.
2. Mote & Paul, *Managerial Economics*, Tata McGraw Hill.
3. Gupta, *Managerial Economics*, Tata McGraw Hill.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	I	Business Environment	COM10417	2017-18

SYLLABUS**Unit-I:**

Business Environment: Components and Significance - Nature of Business Environment – Limitations – Micro and Macro factors influencing Business Decisions.

Unit-II:

Economic Environment of Business: Significance for Business – Economic Planning – Objectives and Achievements; Government policies – Industrial policy of 1991; new industrial Policy; Fiscal policy and Monetary Policy; Economic Reforms and LPG – Human Development Index.

Unit-III:

Political and Legal Environment of Business: Political Institutions – Legislature, Executive and Judiciary – Changing Dimensions of Legal Environment in India; Patents Act-1970, SICA-1985, SEZ Act-2005, Competition Act – 2002.

Unit-IV:

Socio Cultural and Technological Environment: Elements of Socio – Cultural Environment; Impact on Business - Social Audit - Technological Environment in India; Technology Transfer – Technology Policy.

Unit -V:

International and Recent Issues in Environment: Multinational Corporations; FDI in Indian Business; International Economic Institutions: Role of WTO, World Bank, IMF. EXIM Policy.

REFERENCE BOOKS:

1. Francis Cherunilam, *Business Environment*, Himalaya Publishing House, Mumbai.
2. Fernando, A.C., *Business Environment*, Pearson.
3. Suresh Bedi, *Business Environment*, Excel Books, New Delhi,

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I M.com	I	Information Technology For Business	COM10517	2017-18

SYLLABUS**Unit-I:**

Introduction: Evolution of Computers – Generations; Types of Computers – hardware and software – Types of software – Storage Devices data representation for Computers.

Unit-II:

Computer Networks: Types of Network – LAN, WAN, MAN – Network Topologies – Introduction to Internet – E-Commerce; ERP Evaluation and Growth.

Unit-III: MS Word & Excel:

MS Word: Creation of Document – Format Document – Text Editing and Saving – Organising information with table and outlines – Mail Merge – Index – Printing.

MS Excel: Creating and Editing Worksheets – Cell Formatting – Creating and using formulas and functions – use of Macros – Sorting and Querying data – Working with Graphs and Charts.

Unit-IV:

Power Point: Features of power point – Creation of Slides – use of Templates and slide designs – Slide master Animation Timings - Action Buttons

Unit-V:

Data Analysis with statistical Tools: MS Access: Create Databases, Tables, Relationships – Create forms to enter data – filter data – use of queries in data manipulation – Generating reports.

REFERENCE BOOKS:

1. V. Rajaraman, Introduction to Information Technology, Prentice Hall, India.
2. Carver: Doing Data Analysis with SPSS 16.0, 3/e Cengage, 2009
3. George: SPSS for Windows Step by Step, 6/e, Pearson Education, 2009

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I M.Com	I	Quantitative Techniques For Business Decisions	COM10617	2017-18

SYLLABUS**Unit-I:**

Probability: Concept of Probability: Definitions of Probability, Addition Theorem of Probability, Conditional Probability and Multiplication theorems of Probability, Baye's Theorem of Probability and its Applications.

Unit- II:

Theoretical distributions: Binomial Distribution, Poisson distribution and Normal distribution – their Properties and Applications.

Unit-III:

Correlation and Regression: Correlation: Types of Correlation - Simple and Rank Correlation coefficient in the case of two variables-Multiple correlation **Regression:** Meaning and importance of Regression Analysis. Estimation of Lines of Regression in the case of two variables-Multiple regression

Unit-IV:

Statistical Decision Theory: Techniques of decision making under uncertainty without the use of Probability and with the help of Probability, Decision tree, Game theory -Introduction to Operations research -Need of Operations Research Techniques in Business Decisions.

Unit-V:

Statistical Estimation & Testing of Hypothesis: Estimation – Characteristics of good estimator, Point Estimate and Interval Estimate - Hypothesis – Meaning - Concept – Null and Alternate Hypothesis - Types of Errors, Standard deviations and Proportions – Testing of Hypothesis - Z- test for Means, T-test, F-test for two variances and Chi-Square test for goodness of fit and independent of Attributes and their Applications - Confidence intervals (Only theory).

REFERENCE BOOKS:

1. Sharma, J.K., Fundamentals of Business Statistics, Pearson.
2. Sancheti, Dc & V.K Kapoor, Business Mathematics, Sultan Chand.
3. Arora, P. N., S. Arora Comprehensive Statistical Methods, S. Chand.

Class	Semester	Title of The Paper:	Paper Code	W.E.F
I M.com	II	Entrepreneurship Development	COM20117	2017-18

SYLLABUS

Unit-I:

Introduction: Entrepreneurship – Meaning, importance- Entrepreneur characteristics- Women entrepreneurs; Classification of entrepreneurs - Entrepreneur vs Intrapreneur - Management Vs Entrepreneurship.

Unit-II:

Idea Generation and Opportunity Assessment: Importance of Ideas in entrepreneurship- Sources of New Ideas – Techniques for generating ideas- Steps in assessing business potential of an idea- Opportunity Recognition- sources and process- Steps in tapping opportunity.

Unit-III:

Project Formulation and Appraisal: Meaning and significance of Project Report - Content; Guidelines for Report preparation- Project Appraisal- Methods-Economic Analysis; Financial Analysis; Market Analysis; Technical Feasibility- Sources of Finance-Term loans and Short term Finance.

Unit-IV:

Institutions Supporting Small Business Enterprises: Introduction- Central level Institutions- KVIC; SIDO; NSIC Ltd; National Productivity Council (NPC); EDII -State level Institutions- DIC- SFC-SSIDC- Industry Associations- CII ; FICCI; ASSOCHAM.

Unit-V:

Government Policy and Taxation Benefits: Government Policy for SSIs- Need for tax benefits- Tax Holiday; Rehabilitation allowance ; Investment Allowance; Tax concessions for SSIs in Rural and Backward areas.

REFERENCE BOOKS:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M. Ch., Entrepreneurship Development- Small Business Enterprises, Pearson, Delhi, 2009
3. Michael H. Morris, et. al., Entrepreneurship and Innovation, Cengage Learning, New Delhi, 2011

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	ADVANCED ACCOUNTING	COM20217	2017-18

SYLLABUS

Unit – I:

Royalties : Definition – Minimum Rent – Short workings – Recovery of Short workings – Journal Entries in the books of Landlord and lessees – Strike period treatment

Unit - II:

Hire purchase and installment system: Hire Purchase System - Features – Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - Default and Repossession- Hire purchase Trading A/c – Installment Purchase System - Difference between Hire purchase and Installment purchase systems - Accounting Treatment in the books of Purchaser and Vendor

Unit - III :

Branch and Departmental Accounts: Dependent Branches: features-Books of accounts- methods of accounting of dependent branches - Debtors System, Stock and debtors system. Departmental Accounts: need, features, Basis for Allocation of Expenses, treatment of Inter - Departmental Transfer at cost or Selling Price-Treatment of Expenses that cannot be allocated – Preparation of departmental profit and loss.

Unit IV:

Partnership Accounts: Partnership Accounts Admission, Retirement, Death, Treatment of Joint Life Policy, Dissolution of partnership firms, Amalgamation of partnership firms, Conversion of partnership firm into a company and sale of partnership firm to a company

Unit V:

Introduction to Company Accounts: Meaning and Characteristics of Company – Kinds of Companies – Incorporation of a Company – Issue of Shares – Accounting Entries - Issue at par, at Premium and at Discount - Forfeiture of Shares - Reissue of Forfeited Shares - Redemption of preference shares – Issue of Debentures - Accounting for bonus issue and right issue

REFERENCE BOOKS:

1. S.P.Jain and K.L.Narang, Financial Accountin–II, Kalyani Publishers, 2005, 2nd Edition
2. S.N.Maheswari & S.K Maheswari, Financial Accounting, Vikas Publishing House 4th edition
3. Mukerjee and Hanif, Modern Accountancy, Tata Mcgraw Hill co, 2009, 1st Edition

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	FINANCIAL MANAGEMENT	COM20317	2017-18

SYLLABUS

Unit-I:

Introduction: Nature, Scope and Objectives of Financial Management: Functions of Finance - Profit Maximization vs. Wealth Maximization – Role of Financial Manager in Modern Business Organizations – Risk - Return Tradeoff.

Unit-II:

Investment decision: Capital Budgeting process – Cash Flow Estimation and measurement – Investment criterion – Methods of appraisal: Traditional Techniques and Discounted Cash Flow Methods - Capital rationing – Risk analysis in capital budgeting.

Unit-III:

Financing decisions: Concept of leverage – Types of Leverages –EBIT – EPS Analysis – Capital Structure – Determinants - Theories – Net Income approach – Net operating income approach – Traditional view – MM Hypothesis. Cost of Capital: Types of Cost of Capital - Weighted average Cost of capital.

Unit-IV:

Dividend decisions: Kinds of dividends, Dividend Policy types, Dividend Theories - Walter's Model - Gordon's Model - M-M Hypothesis - Retained Earnings Policies - Bonus Shares.

Unit-V:

Working capital management: Concepts of working capital – Determinants of Working capital – Optimum level of Current assets – Liquidity Vs. Profitability – Risk – Return tangle – Estimating working capital needs – Financing strategies of working capital – Inventory Management – Inventory Control Techniques - Receivables Management - Cash Management.

References

1. Brearley, Richard and Myers, Steward: Principles of Corporate Finance, New York, McGraw Hill.
2. Soloman, Ezra, Theory of Financial Management, Columbia Press.
3. James C. Van Horne, Financial Management and Policy, Prentice Hall of India.

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I M.com	II	Human Resource Management	COM20417	2017-18

SYLLABUS

Unit- I:

Human Resource Management: Nature and significance, functions of HRM, Qualities and Role of HR Manager, HRM Model, HRM in a changing Environment.

Unit-II:

Human Resource Planning: Job Analysis – HR Planning - Objectives, process, factors affecting HR Planning, Requisites for successful HR Planning. Recruitment – Factors influencing, Sources of recruitment–E- Recruitment-Selection Process – Placement, induction and Socialization – Promotion and Transfers.

Unit-III:

Employee Training: Significance – Identification of Training Needs – Employee Training Methods – Executive Development Methods – Evaluation of Training and Development Programs – Effectiveness of Training.

Unit-IV:

Performance Appraisal: Scope & Significance – Methods of Appraisal - Limitations of Appraisal - Career Planning and Development – Counseling- Mentoring-Coaching.

Unit – V:

Wage and Salary Administration: Wage Structure and Policy – Wage Differentials – Wage Payment Methods – Incentives – Fringe Benefits –Industrial Relations: Causes of Disputes and Settlement - Role of State in Industrial Relations - Collective Bargaining - Employee Participation in Management - Quality of Work Life – Specific issues for QWL – Strategies for improving QWL (Basics).

References

1. Aswathappa.K. *Human Resource and Personnel Management*, 2nd Edition, Tata McGraw Hill, New Delhi, 2001.
2. De Cenzo. & Stephen P.Robbins, *Personnel/ Human Resource Management*, Pearson Publications,
3. Edwin B.Flippo, *Personnel Management*, McGraw-Hill

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	MARKETING MANAGEMENT	COM20517	2017-18

SYLLABUS

Unit-I: Marketing – Concepts - Approaches to the Study of Marketing – Functions of Marketing - Marketing Environment.

Unit-II: Consumer Behavior – Factors affecting consumer behavior- Market Segmentation – Market Targeting and Positioning – Marketing Information System and Marketing Research.

Unit-III: Marketing Mix: Product Mix – Product Line - Product Planning – New Product Development - Product Life Cycle – Branding - Packaging – Goods vs Service.

Unit-IV: Pricing and Distribution: Pricing - Objectives – Methods and Strategies of Pricing – Channels of Distribution – Channel Selection and Management –Physical Distribution Concept.

Unit-V: Promotion: Integrated Marketing Communications - Promotion mix - Personal Selling - Advertising - Sales Promotion, Publicity and Public Relations – Direct Marketing, Promotional strategies - Web marketing.

References

1. Philip Kotler and Kevin Lane Keller: Marketing Management, Prentice Hall of India / Pearson Education, New Delhi.
2. William J Stanton & Futrell: Fundamentals of Marketing.
3. V. J. Ramaswami and S. Namakumari: Marketing Management, Macmillan Business Books, Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	RESEARCH METHODOLOGY	COM20617	2017-18

SYLLABUS

Unit – I:

Introduction to Research : Nature and Scope of Research Methodology – Research design – Types of Research – Research Process - Significance of Research in Commerce and Management.

Unit – II:

Sources of Data and Sampling : Types of Sources: Primary and Secondary – Methods of Data Collection – Questionnaire –Schedule-Observation - Attitude Measurement Techniques – Administration of Surveys – Sample Design and Sampling Techniques.

Unit – III:

Tabulation and Data Analysis : Tabulation and Cross Tabulation of Data: Univariate, Bivariate data - Analysis and Interpretation - Testing of Hypothesis – Parametric and non-Parametric tests - Z- test for Means, T-test, F-test for two variances and Chi-Square test for goodness of fit and independent of Attributes and their Applications - SPSS Packages and Applications (Problems)

Unit– IV:

Multivariate Analysis :Advanced Techniques for Data Analysis: ANOVA, Discriminate Analysis, Factor Analysis, Clustering Techniques.

Unit – V:

Report Writing and Presentation: Significance of Report writing – Different steps in writing report - objectives and types of research reports, Format and content of research report – Layout of Research report, structure and Language of typical reports –Illustrations and tables - Interpretation - Technique of Interpretation - Precaution in Interpretation - Bibliography, referencing and footnotes

References

1. Bhattacharya D. K., "Research Methodology", Excel Books, New Delhi.
2. Cooper, "Business Research Methods", Tata McGraw Hill, New Delhi, 2010.
3. C.R.Kothari, "Research Methodology: Methods and Techniques", New Age International Publishers, New Delhi, 2006.
4. Gupta S.P. "Statistical Methods", Sultan Chand, New Delhi, 2010.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	Accounting Package &Tally	COM20717	2017-18

SYLLABUS

Unit I: Introduction to Computerized Accounting

Introduction to Computerized Accounting – Meaning and Scope – Features of Computerized Accounting - Advantages and Limitations of Computerized Accounting – Computerized Accounting VS Manual Accounting – Accounting Software – Types of Accounting Software.

Unit II: Accounting Software Tally

Features of Tally – Tally Configuration and INI setup - Tally Screen Components – Company Creation, Alter and Delete – Company features – Configuration – Group Company – Creating and Altering a Group Company – Processing Transactions in Tally – Tally Groups and sub Groups – Group Creation, Alter and Delete — Managing Groups in Multiple Companies - Ledgers – Creation, Alter and Delete Ledgers - Errors in Grouping and Account Classification.

Unit III: Accounting Vouchers

Recording of Transactions – Voucher Types – Payment Voucher – Receipt Voucher – Contra Voucher – Sales Voucher – Purchase Voucher – Journal Voucher – Creation, Alteration and Deletion of Vouchers – New Voucher Types – Display Vouchers – Create, Alter and Delete Foreign Currencies – Voucher entry using foreign currencies.

Unit IV: Accounts with Inventory

Introduction to inventory – Inventory Methods – Units of Measurement Creation, Alter and Delete – Stock Groups – Creation, Display, Alter and Deletion of Stock Groups – Stock Items – Create, Alter, Display and Deletion of Stock Items – Stock Valuation methods – FIFO, LIFO, Average stock level, Minimum Level and Maximum Level – Creation of Sales order and Purchases Order – Rejection In and Rejection Out – Creation of Cost Centers – Creation of Godown.

Unit V: Taxes and Report Generation

Enabling TDS/TCS and GST - Financial Reports in Tally – Trial Balance - Trading and Profit and Loss Account – Balance Sheet – Bank Reconciliation Statement - Stock Summary Report – Ratio Analysis – Funds Flow Statement – Godown summary Report – Statutory Reports – GST, TDS Reports.

Reference Books:

1. Tally, C.NellaiKannan, Nels Publications, 2009, 2nd Edition, New Delhi.
2. Asok K. Nadhani, Tally.ERP 9, BPB Publications, 2010, 1st Edition, New Delhi.,
3. Tally 9, Dr.K.Kiran Kumar, Sri Laasya Publications, 2009, 2nd Edition, New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	FUNCTIONAL ENGLISH	COM20817	2017-18

SYLLABUS**Unit I: Pronunciation & Listening Skills**

- (a) Letters and Sounds; Consonant and Vowel Sounds of English; Word Stress & Intonation; Rhythm (Weak forms) in Connected Speech.
- (b) Types of Listening; Purpose of Listening: Identify key words in speech; identify specific information in normal speech; take notes while listening.

Unit-II: Language Varieties

- (a) Varieties of English- Legal English, Scientific English, Business English, Language of the Press and Advertisements.
- (b) Language and Communication: Sign Language & Body Language, Types of Communication.

Unit-III: Reading and Vocabulary

Vocabulary in use: Word formation, Idioms & Phrases, Denotative & Connotative meaning, synonyms & Antonyms, One-word Substitutes, Spelling, Using words as different Parts of Speech, Contextual meaning, Reading comprehension, Use of Dictionary, Skimming, Scanning.

Unit-IV: Functional Grammar

Basic Sentence structures, Articles, Tenses, Prepositions, Concord, Number, Transformation of sentences.

Unit-V: Language Functions

- (a) Language Functions: Greeting, apologizing, requesting, offering help, inviting, agreeing/disagreeing etc.
- (b) Group discussions, Debates, Interviews, Speaking Extempore, The art of Public Speaking, and Telephone Etiquette.

References

1. HariMohana Prasad and Uma Rani (2008): Objective English; New Delhi, Tata McGrawHill Pub.
2. Krishna Mohan and N.P. Singh (1995) Speaking English Effectively, New Delhi, Macmillan.
3. Communication Skills: A Multi-Skill Course (2008): Bharathiar University, Chennai, Macmillan Publishers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.com	II	Human Values For Ethics	COM20917	2017-18

SYLLABUS

Unit – I: Introduction –Need, Basic Guidelines and Content

1. Understanding the need , basic guidelines, content and process for value Education
2. Self-Exploration – What is it? – its content and process: ‘Natural Acceptance’ and Experiential Validation – as the mechanism for self-explanation
3. Continuous Happiness and Prosperity – A look at basic Human Aspirations

Unit – II: Process for Value Education

1. Right Understanding, Relationship and Physical Facilities – basic requirements for fulfillment of aspirations of every human being with their correct priority
2. Understanding Happiness and prosperity correctly – A critical appraisal of the current scenario
3. Method to fulfill the above human aspirations; understanding and living in harmony at various levels

Unit – III: Understanding Harmony in the Human Being

1. Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’
2. Understanding the needs of Self (‘I’) and ‘Body’ – Sukh and Suvidha
3. Understanding the Body as an instrument of ‘I’ (I being the doer, seer and enjoyer)

Unit –IV: Harmony in Myself

1. Understanding the characteristics and activities of ‘I’ and harmony in ‘I’
2. Understanding the harmony of I with the Body: Sanyam and Swasthya: correct appraisal of Physical needs, meaning of Prosperity in detail
3. Programs to ensure Sanyam and Swasthya – practice exercises and Case Studies will be taken up in Practice Sessions

Unit – V: Understanding Harmony in the Family and Society – harmony in Human - Human Relationship

1. Understanding harmony in the family – the basic unit of human interaction
2. Understanding values in human relationship; meaning of Nyaya and Program for its fulfillment to ensure Ubhay-tripti
3. Trust (Vishwas) and Respect (Samman) as the foundational values of relationship.

Text Books

1. R R Gaur, R,Sangal, G.P Bagaria, 2009, A Foundation Course in value Education(English)
2. Pradeep Kumar Ramancharla, 2013, A foundation course in value education (Telugu)
3. R R Gaur, R Sangal G P Bagaria, 2009, Teacher’s Manual (English)
4. Pradeep Kumar Ramancharla, 2013, Teacher’s Manual (Telugu)

Reference Books

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
2. E.F. Schumacher, 1973, Small is Beautiful; a study of economics as if people mattered, Blond & Briggs, Britain
3. A. Nagraj, 1998, Jeevanvidya to Na Prayanam, Hyderabad

Relevant CDs, Movies, Documentaries & Other Literature

1. Value Education Website, <http://www.uptu.ac.in>
2. Story of Stuff, <http://www.storyofstuff.com>
3. Al Gore, An Inconvenient Truth, Paramount Classics, USA
4. Charlie Chaplin, Modern Times, United Artists, USA
5. IIT Delhi, Modern Technology – the untold Story

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Accounting For public Utility And Emerging Areas	COM 30117	2017-18

SYLLABUS

Unit – I : ACCOUNTING FOR PROFESSIONAL ORGANISATIONS

Accounting books and documents to be maintained by professional men like Doctor, Lawyers, Engineers, and Accountants as per the provisions of income tax Act. Precautions to be taken in maintaining accounts - Relation between accounts of professional persons and their household accounts - preparation of final accounts (including problems)

Unit-II: ACCOUNTING FOR HOTELS, HOSPITALS AND EDUCATIONAL INSTITUTIONS

Hotels: Accounting for cash- Accounting for sales- Allowances to guests Preparation of Final accounts, special adjustments and features- special ratios relating to hotel business.

Hospitals: Types of hospitals- Items of income and expenditure preparation of financial statements- profit and loss account and balance sheet.

Educational Institutions: Introduction- Books of accounts- Annual statement of accounts- Receipts and payments account, income and expenditure account and balance sheet. (Including problems)

Unit – III : FARM ACCOUNTING: Objectives of farm accounting – peculiar features of farm accounting – Books of accounts- Recording of farm transactions- Preparation of final accounts- single entry method and double entry method.

GOVERNMENT ACCOUNTING: General Principles- Indian Audit and accounting Department- Comptroller and auditor general of India- Financial Administration- Procedure for preparation of Government Accounts – Compilation of Accounts. (Only Theory)

Unit – IV: ACCOUNTS OF ELECTRICITY CONCERN: Accounts of Electricity Companies. - Brand Accounting – Lean Accounting: Introduction, Meaning, Limitations of Traditional accounting, Objectives, Steps, Principles, Practices and Tools.

Unit- V: INFLATION ACCOUNTING: Meaning – Features – Limitations of Conventional Financial Statements – Methods of Accounting – CPP, CCA and Hybrid

FORENSIC ACCOUNTING: Introduction – Meaning – Role – Requisites - Growth. International Accounting – Introduction, Meaning, Harmonization of Financial Reporting Standards - Green Accounting –Responsibility Accounting.

REFERENCE BOOKS

1. G. Prasad & V. Chandra SekharaRao, *Accounting for Managers*, Jai Bharat Publications,
2. Meigs&Meigs, *Accounting the Basis for Business Decisions*, Tata McGraw Hill, New Delhi.
3. Pankaj Gupta, *Management Accounting*, Excel Books, New Delhi,2006.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	CORPORATE ACCOUNTING	COM 30217	2017-2018

SYLLABUS

Unit - I: Corporate Financial Accounting: Objectives-Scope - Role of Corporate Accountant- Analysis and Interpretation of Financial Statements - Inflation Accounting.

Unit - II: Valuation of Shares: Need for Valuation of Shares – Factors Effecting Value of Shares - Methods of Valuation – Impact of Earnings on Share Valuation – Role of Fundamental Analysis and Technical Analysis in Share Valuation – Fair Value of a Share – Buy Back of EquityShares.

Unit - III: Financial Reporting: Concept, Objectives – Users of Financial Reporting and Specific Purpose of Report – Difficulties in Corporate Reporting– Interim Reporting – Problems – Improving Financial Reporting – Value Added Statements – Disclosure of Value Added Statements – Economic Value Added.

Unit - IV: Consolidated Financial Statements: Definition of Parent or Holding and its Subsidiary - Need for Consolidated Financial Statement – Preparation of Consolidated Balance Sheet of a Holding Company with one Subsidiary – Consolidation of Profit of Loss Account – Consolidated Statement of Changes in Financial Position.

Unit-V: New trends in Accounting: Human Resource Accounting - Environmental Accounting- Social Responsibility Accounting etc.

REFERENCE BOOKS

1. Advanced Accounting – Corporate Accounting Vol. 2 – Ashok Sehgal& Deepak Sehgal, Taxmann Allied Services Pvt Ltd, NewDelhi.
2. Advanced Accounting–Volume–2;R.L.Gupta&Radhaswami S. Chand & Co. Delhi.
3. Financial Accounting: A Managerial Perspective, R. NarayanaSwamy, Prentice Hall of India.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Cost And Management Accounting	COM 30317	2017-2018

SYLLABUS

UNIT-I

Cost Management – Nature and Scope – Management of Value Chain – Tools of Cost Management - Product Costing Systems – Concepts and Design Issues.

UNIT-II

Activity Based Costing System – Meaning and Scope – Limitations of Traditional Costing Allocation Methods – Application of ABC System – Activity – Based Management – Concept and Scope – Target Costing – Benchmark Costing.

UNIT-III

Quality Cost Systems – Meaning and Application – Conflict Between Quality and Cost – Trade-off Between Quality and Price – Value Analysis – Life Cycle Costing – Learning Curve Analysis – JIT.

UNIT-IV

Cost Estimation – Methods – Costing Engineering – Using Regression Analysis – Evaluating Performance – Variance Analysis – Kaizen Costing.

UNIT-V

Cost Control and Cost Reduction – Managerial and Technical Aspects – Meeting the Cost Reduction Challenges Role of Cost Accountant.

REFERENCE BOOKS

1. 'Cost Management' – Strategies for Business Decisions HILTON, MAHER and SELT, Tata McGraw Hill, II ed. 2002.
2. 'Cost Accounting' – Principles and Practice, B.M.Lall Nigam, Prentice Hall of India.
3. Cost Accounting: Theory and Practice, BhabatoshBenarjee, Prentice Hall of India.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	DIRECT TAXES	COM 304A17	2017-2018

UNIT-I: Income Tax Act 1961: Basic Concepts, Income, Agriculture Income - Residential Status and Incidence of Tax - Incomes Exempt from Tax u/s10.

UNIT-II: Heads of Income of Individuals; Salaries- income from house property and gain from business or profession, capital gains, income from other sources, clubbing up of income set off and carry forward of losses, deductions from gross total income, computation of total income and tax liability.

UNIT-III : Assessment of Individuals, Hindu Undivided Families, Firms, Association of Persons, Cooperative Societies and Companies.

UNIT- IV : Tax Administration; Income Tax Authorities, Assessment procedure, collection and recovery of tax, refunds, penalties and procedures, appeals and revisions.

UNIT – V : Wealth Tax Act, 1957 – Chargeability – Incidence of Tax – Assets – Deemed Assets - Assets Exempt from Wealth Tax - Return of Wealth and Assessment – Rates of Tax - Computation of Net Wealth.

REFERENCE BOOKS

1. Singhania, C.K., *Direct Taxes*, Taxmann Publications, NewDelhi.
2. Lal B.B., *Direct Taxes*, Pearson Education, NewDelhi.
3. GirishAhuja and Ravi Gupta, *Direct Taxes*, BharatPublications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Management And Cost Audit	COM 305A17	2017-2018

UNIT-1 Introduction to Cost Audit

Meaning, Nature and Scope of Cost Audit- Purpose and Objectives of Cost Audit-Concepts of Efficiency Audit-Value For Money (VFM) Audit-Performance Audit, Social Audit, Management Audit-Distinction between Financial Audit and Cost Audit-Appointment under the Companies Act, Qualification and disqualification of Cost Auditor-Relationship between cost audit and annual statutory auditor-Rights and Powers, Responsibilities and Duties, Qualification and Disqualification, Resignation and Removal.

UNIT-2 Legislation Relevant to Cost Audit

Companies Act, 1994-Cost Audit (Report) Rules, 1997-Order of the Government for Cost Audit- CMA Ordinance, 1977 (Ordinance No. LIII of 1977), CMA Regulations, 1980 (and subsequent amendments)-Duties and liabilities of Cost Auditors-Code of Conduct and Ethics- Professional misconduct, Liability of a cost auditors-Cost Audit Notes and Records Meaning of Cost Audit Notes and Records Cost Audit Notes and Working Papers Cost Audit Report Rules, 2011-Form for filling Cost Audit Report and Other Documents.

Unit -3 Audit Planning Control & Reporting

Familiarization with the industry-the organization, the production process systems and procedures-list of records and reposts- preparation of the audit program-Verification of records and reports – Utilization of statistical sampling methods – verification of performance and statements maintained under the cost Accounting (Records) Rules-Evaluation of Internal Control Systems - Budgetary Control Capacity utilization: inventory control , purchase and payables sales and receivables , management information system- assessment of the adequacy of the internal audit function-Risk Assessment, Preparation Cost audit report, placement of the report before the Board of directors and Finalization.

Unit-4 Introduction of Management Audit

Meaning, nature and scope, organizational needs for Management Audit and its coverage over and above other audit procedures-Areas of Management Audit-Specific areas of management and operational audit involving review of internal control-purchasing operations, manufacturing operations, selling and distribution, personnel policies, systems and procedures-Aspects relating to concurrent audit-Auditing Process and Systems-Audit of the Management Processes and Functions, such as Planning, Organization, Staffing, Co-ordination, Communication, Direction and Control.

Unit -5 Auditing of MIS

Evaluation of Management Information and Control Systems with special emphasis on Corporate Image and Behavioral Problems-Auditing e-business, e-cash, e-payment, e-transactions-Environmental Audit-Auditing CSR & Corporate Governance-Corporate Development and Management Audit, including operational and propriety aspects-Audit of Social responsibility of management-Corporate governance and Board Audit Committee Functions.

REFERENCE BOOKS

1. Cost and Management Audit, Ramanathan A R, 2nd edition, Tata McGraw-Hill, 199
2. Cost and Management Audit, Shri Mohammad sthaf anathan, Book Corporation Publishers, 2016.
3. Cost and Management Audit, T. Padma and K. P. C. Rao, 2nd Edition, Bharat Law House Pvt. Ltd.-2014.
4. Cost Accounting Records & Cost Audit Under Companies (Cost Records And Audit) Rules 2014, Kunal Banerjee, 2nd Edition, Taxmann Publications Pvt. Ltd., 2015.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Financial Institutions & Markets	COM 303F17	2017-2018

UNIT-I Financial Institutions – Banks & Non-banking Financial Institutions – Genesis and Development– New Financial Institutions like the Discount Finance House of India, stock Holding Corporation of India Limited, Industrial Leasing and Financial Services Limited etc., – Indian Banking System: An Overview, Recent Developments, Role of Reserve Bank of India, Finance Ministry and Control Mechanism.

UNIT-II Development Banks: Objectives and Scope of Development Banks – Industrial Development Bank of India, Industrial Finance Corporation of India, Industrial Credit Investment Corporation of India, National Bank for Agricultural and Rural Development, Export and Import Bank, Small Industrial Development Bank of India, Industrial Reconstruction Bank of India, State Financial Corporations and State Industrial Development Corporation; Investment institutions: LIC. GIC, UTI, Mutual Funds and Pension Funds.

UNIT-III International Financing Institutions: Objectives of International Financial Institutions. Source of Funds, Priority Areas – IBRD, International Finance Corporation, International Development Agency, Asian Development Bank and International Monetary Fund.

UNIT-IV Financial Markets: Government Economic Philosophy and financial market, structure of financial market in India – Capital market: Capital Market Theory, Critical Evaluation of the Development, Future Trends – Primary Market System and Regulations in India – Primary Market Intermediaries: Commercial Banks, Development Banks, Merchant Bankers, Rating Agencies – Secondary Market System and Regulations in India: Stock Exchanges, Stock Exchange Regulations – Regulations and Regulatory Agencies (Primarily SEBI): for Primary Markets and Secondary Markets

UNIT-V Bond Markets: Government Bond Market and its Interface with Capital Market – Debt Market in India and its Interface with Stock Markets, Primary and Secondary Markets, Capital and Money Market – Mutual Fund: Concept, Mechanism Role, etc.

Case Study (Not Exceeding 300 words)

Practical Component:

- Students are asked to examine the financial system in any two product and service oriented companies and present brief report on the same in seminar periods.
- The class will be divided into small groups (consisting of 6 students). The groups are to discuss and present their views on variety of financial instruments used in corporate sector.
- Students are asked to identify any three financial markets and financial intermediaries in their region/locality; compare and contrast the role of and functions of organized financial markets and financial intermediaries.

REFERENCE BOOKS

1. L.M.Bhole – Financial Market and Institutions
2. M.Y.Khan – Indian Financial System
3. Vasant Desai – Development Banking–Issues and Options, Himalaya Pub.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Foreign Exchange Risk Management	COM 304A17	2017-2018

UNIT – I: FRAMEWORK OF FOREIGN EXCHANGE: Foreign exchange-sources and uses - foreign trade and foreign exchange - balance of payments of India

UNIT- II: INTERNATIONAL EXCHANGE SYSTEMS: Fixed and Floating Exchange Rates -Exchange Rate System Prior to IMF – Exchange Rate Systems Under IMF – European union – External Value of Rupee – Convertibility of Rupee – South East Asian Currency Crisis

UNIT–III: ADMINISTRATION OF FOREIGN EXCHANGE: History of Exchange Control in India – Foreign Exchange Management Act, 1999 – Administrative Set -Up-Organization of an Authorized Dealer – Foreign Exchange Markets

UNIT–IV: EXCHANGE ARITHMETIC: Ready or Spot Exchange Rates – Ready rates Based on cross Rates – Forward Exchange Contracts – Forward Exchange Rates Based on cross Rates – Inter Bank Deals Swap Deals - Execution of Forward Contract – Cancellation / Extension of Forward Contract

UNIT –V: RISK MANAGEMENT: Exchange Dealings – Futures and options – Exchange Risk: Transaction Exposure – Exchange Risk: Translation and Economic Exposures – Interest Rate Risk – Managing interest Rate Risk

REFERENCE BOOKS

1. David S. Kidwell, Richard L. Peterson, David W. Blackwell: Financial Institutes, Marke and Money, Harcourt Brace Jovanovion, 1993.
2. H.P Bhardwaj: Foreign Exchange Handbook, Wheeler publishing, 1994.
3. Treasury and Risk Management in Banks – 11 BF Taxmann- 2006.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	SECURITY ANALYSIS AND PORTFOLIO Managementand	COM 305F17	2017-2018

SYLLABUS

UNIT-I

Investment: Meaning, Characteristics, Objectives of Investment, Investment Vs. Speculation and Gambling, Types of Investors – Investment Avenues: Traditional and Modern – Risk: Meaning, Elements of risk, Systematic and Unsystematic Risk – Capital Allocation Between Risky & Risk Free Assets – Utility Analysis – Measurement of Risk: S.D, Variance, Correlation, Regression and Beta coefficients – Risk Returns Trade-off.

UNIT-II

Valuation of Shares and Bonds: Concept of Present Value, Share Valuation Model, Constant Growth Model, Multiple Growth Model, Discount Rate, Multiplier Approach to Share Valuation, and Regression Analysis – Bond Valuation: Bond Returns, Bond Prices, Bond Pricing Theorems, Bond Risks and Bond Duration.

UNIT-III

Fundamental Analysis & Technical Analysis of Equity Stock: Economic, Industry and Company Analysis Framework, Economic Forecasting Techniques – Technical Analysis (Case Study: Coca Cola): Basic Principles and Assumption of Technical Analysis, Chart Patterns, and Technical Indicators – Dow Theory, Elliot Wave theory, Confidence Index RSA, RSI, Moving Average Analysis, and Japanese Candlesticks.

UNIT-IV

Portfolio and Management: Random walk Theory, Efficient Market Hypothesis and Forms of Market Efficiency – Portfolio Management: Process of Portfolio Management, Portfolio Analysis, Portfolio Risk and Return Calculation –Diversification of Risk – Portfolio Selection – Feasible Set of Portfolio – Efficient Frontier – Security Market Line – CML –Selection of Optimal portfolio using Markowitz and Sharpe Single Index model.

UNIT-V

Capital Market Theory: CAPM-Arbitrage Pricing Theory – Methods of Portfolio Performance Evaluation: Sharpe, Traynor, and Jensen – Measures Portfolio Revision: Need for Revision, Constraints in Revision, Revision Strategies, Formula Plans, and Portfolio Management in India.

REFERENCE BOOKS:

1. Reilly and Brown, *Investment Analysis & Portfolio Mgmt*, Thomson Learning.
2. Fisher and Jordan, *Security Analysis & Portfolio Management*, Pearson, PHI.
3. David G. Luenberger, *Investment science*, Oxford.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	E-BANKING	COM 302B17	2017-2018

UNIT-I : IT In Banking:

Information Technology disimplications-Information Technology-Indian Banking Scenario-Initiatives and Trends.

UNIT-II : Applications in Banking

Computer based information system for Banking and Electronic Banking Electronic Fund Management.

UNIT-III : Enabling Technologies of Modern Banking

Electronic Commerce and Banking – Customer Relationship Management integrated Communication Network for Banks.

UNIT-IV : Security and Control Systems

Computer Security and Disaster Management System-Audit and Computer Crime–Security and Control Aspects of Emerging Banking Technologies.

UNIT-V : Planning and Implementation of Information System

Security and Control Aspects of Emerging Banking Technologies–Data Warehousing and Data Mining–Designing and Implementing Computerization in Banking Sector.

Reference Books

1. Hawtrey, *The art of Central Banking*, Augustus M Kelley Publishers, 1970, New York.
2. Vasant Desai, *Indian Banking–Nature and Problems*, Himalaya Publishing House, Mumbai.
3. Khan M. Y–*Indian Financial System*, Tata Mc. Graw Hill Publishing Company Limited, New Delhi, 2004

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Bank financial Management	COM 303B17	2017-2018

UNIT-I

Nature of Banking Business: official regulation and control over banks in India: Banking Regulation Act, 1949, Reserve Bank of India Act, 1934, Banking Companies Act, 1970

UNIT-II

Forms of Banking: Branch Banking, Unit Banking, Group Banking, Chain Banking, Business, Correspondent Banking. Process of Bank Management; Branch location policies and decisions, organizational Structure of Commercial Banks in India

UNIT-III

Bank Balance Sheet: Management of Assets and Liabilities in banks – Profit, Profitability and Productivity in banks – Management of large sized branches and rural branches. Internal control and performance budgeting system. Capital Budgeting – Traditional Techniques – Modern Techniques – NPV, IRR, ARR, PI and PP.

UNIT-IV

Leverages in Banks – Financial Leverage - Operating Leverage – Cost of Equity – Capital Structure – Net Income Approach – Net Operating Approach and M – M Hypothesis. Working Capital Management.

UNIT-V

E-Banking – Aspects of E-Banking – Traditional Vs. E-Banking Models – Advantages and constraints – Security Methods – Risk Management – Outsourcing E-Banking – Legal and Regulatory Compliance.

REFERENCE BOOKS

- 1) Hawtrey, The art of Central Banking, Sugustus M Kelley Publishers, 1970, New York.
- 2) Narendra Kumar, Bank Nationalism of India – A Symposium, Lalvani Publishing House, 1969, Mumbai.
- 3) Pal Panadlkar & N.C.Mehra, Rural Banking, National Institute of Bank Management, Mumbai.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Banking Law & Practice	COM 304B17	2017-2018

UNIT-1 Banker – Customer Relationship definition and meaning of Banker & Customer, permitted activities of Commercial Banks in India – General & Special features of their relationship – Rights & Duties.

UNIT-2 Deposit Accounts – Opening operations and closure of fixed deposit accounts, recurring account, Savings Account, Current and Deposit Schemes for N.R.I's.

UNIT-3 Banking Investments – Negotiable instruments (NI) – Types parties to NI's – Crossing, Endorsements, Payments and Collection of Cheques, Bouncing of Cheques – Implications, various laws affecting bankers.

UNIT-4 Banking Services – Safe custody, MICR clearing, ATM's, Credit Cards, Debit Cards, Travelling Cheques, Ombudsman and Customer services, Fraud Detection and control.

UNIT-5 Emerging Trends and Issues – International banking, Euro Banks and Offshore Banking, overview of Banking risks, Corporate governance, Credit Risk Management in Banks – Liquidity Risk Management – Asset Liability Management.

REFERENCE BOOKS

1. Hawtrey, The art of Central Banking, Sugustus M Kelley Publishers, 1970, New York.
2. Narendra Kumar, Bank Nationalism of India – A Symposium, Lalvani Publishing House, 1969, Mumbai.
3. Pal Panadlkar & N.C.Mehra, Rural Banking, National Institute of Bank Management, Mumbai.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	Insurance Products And Management	COM 305B17	2017-2018

Unit - I: Life Insurance Concept – Basic Principles of Life Insurance Utmost Blood Faith – Insurance Interest – Types of Insurance – Types of Insurance – Variations of Whole Life Insurance – Other types of Life Insurance

Unit - II: Life insurance Contractual Provisions – Dividend Options – Non Forfeiture Options – Settlement Options - Additional Life Insurance Benefits – Insurance Pricing – Rate Making in Life Insurance

Unit - III: Health and Disability – Income – Insurance – Types of Individual Health Insurance Coverage – Individual Medical Expense, Contractual – Group Insurance Plans – Group Medical Expense Insurance.

Unit - IV: Employee Benefits – Retirement Plans – Fundamentals of Private Retirement Plans – Types of Qualified Retirement Plans – Profit Sharing Plans – Self Retirement Plans for Employed – Single Retirement Plans – Simplified Retirement Pension.

Unit - V: Re-insurance: Reasons for Reinsurance – Types of Reinsurance – Alternatives to Traditional Reinsurance – Functions of Reinsurance – Advantages and Disadvantages of Reinsurance

REFERENCE BOOKS

1. George E Rejoa, Principles of Risk Management and Insurance, Pearson Education, New Delhi, 2004.
2. Black Jr Skipper Jr. Health Insurance, Pearson Delhi, 2003.
3. M.N. Mishra, Insurance Principles and Practices, S.Chand, New Delhi, 2003.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	International Business Environment	COM 302G17	2017-2018

UNIT – I International Business: An overview – Types of International Business; The External Environment; The Economic and Political Environment, The Human Cultural Environment; Influence on Trade and Investment Patterns; Recent World Trade and Foreign Investment Trends; Balance of Payments Accounts and Macroeconomic Management;

UNIT – II Theories and Institutions: Trade and Investment – Government Influence on Trade Investment; Regional Blocks; International production; Internationalisation of Service Firms; Operation Management in International Firms;

UNIT – III World Financial Environment: Foreign Exchange Market Mechanism; Determinants of Exchange Rates; Euro – currency Market; Offshore Financial Centers; International Banks; Non- Banking Financial Service Firms; Stock Markets; Global Competitiveness;

UNIT – IV Export Management; Licensing; Joint Ventures Technology and Global Competition; Globalisation and Human Resource Development; Globalisation with Social Responsibility; World Economic Growth and the Environment; Country Evaluation and Selection;

UNIT – V International Business Diplomacy: Negotiating an International Business, Issues in Asset Protection; Multilateral Settlements; Consortium Approaches; External Relations Approach.

REFERENCE BOOKS

1. Alworth, Julian S. The Finance, Investment and Taxation Decisions of Multinationals. London, Basil Blackwell, 1988.
2. Bhalla, VK and S. Shivaramu. International Business Environment and Business. New Delhi, Anmol, 1995

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	International Marketing Management	COM 303G17	2017-2018

UNIT-I

International Marketing : Meaning, Importance and Challenges - Evolution from Exporting to Global Marketing - Concept of Trans National Corporations – participation in the Global Supply Chains - Interconnections between Domestic and International Marketing Strategies.

UNIT-II

International Market Selection Decisions: Screening and Evaluation of markets - Selection and Prioritization - International Market Entry: Modes of Entry into Foreign Markets - Selecting the Appropriate Entry Mode - Entry Modes of SMEs, corporate manufacturing and service organizations: The Indian Experience

UNIT-III

International Product Strategy: Global Standardization Versus Localization - Differences in standards, consumer preferences and environmental factors – Glocalization - Building International Brands – Global Branding

UNIT-IV

Pricing Decisions for International Markets: Methods of Export Pricing - Role of Non – Price Factors in International Marketing - Pricing Issues for Developing Countries - Strategies for Managing Competitive Export Pricing ; - International Distribution Decisions: Structure of International Distribution System - Determinants of Distribution Channel - International Retailing - Developing an International Distribution Strategy

UNIT-V

International Communication Decisions: Integrated Marketing Communications for International Marketing - Methods of International Promotion - Trade Fair selection and Participation - Role of technology in International Promotion; - Designing and Implementing International Marketing Plan

REFERENCE BOOKS

1. Jeannet, Jean Pierre and Hennessey, Hubert D. (2001), Global Marketing Strategies, Jaico publishing, Mumbai.
2. Keegan, Warren J., Global Marketing Management. New Delhi: Prentice Hall of India Pvt. Ltd.
3. B. Bhattacharyya, Going International, Response Strategies of the Indian Corporate Sector, Wheeler Publishing, India.
4. Bhattacharyya, B. Export Marketing Strategies for Success, New Delhi: Global Business Press.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	International Human Resources Management	COM 304G17	2017-2018

SYLLABUS

UNIT-I

Basics of IHRM: Definition, Nature, Importance, Objectives & Problems of IHRM, Difference between IHRM and Domestic HRM - Growing interest in IHRM -Three Dimensions of IHRM activities-Cultural issues in IHRM.

UNIT-II

Recruitment, Selection, Staffing and Training in International context: Issues in International Selections, International Staffing Policies, Advantages & Disadvantages of Staffing Policies, Expatriate Selection-Expatriate Failures & Reasons – Need & Importance of Expatriate Training, Cultural Awareness Programs, Current scenario in international training and development.

UNIT-III

International Compensation, Performance Management & Labour Relations: Objectives and Key components of an International compensation program, Approaches to International compensation, Performance Management of Expatriates- International Labour Relations, Key issues in International Labour Relations.

UNIT-IV

IHRM Practices in Selected Countries: HRM practices in different countries- Japan, America, Britain, Germany, China and India.

UNIT-V

Special Issues in IHRM: Information Technology and International HRM, Human Resource Outsourcing, Women Expatriates and their problems, Ethics in IHRM, Future challenges in IHRM.

REFERENCE BOOKS

1. K Aswathappa, Sadhna Dash-- International Human Resource Management Text and Cases -Tata McGraw Hill Publishing Company Ltd. 25

2. S.P.S. Bedi , Minakshi Kishore- - Global Human Resource –Wisdom Publications,Delhi.
3. V.Badi & S.G. Hundekar - International Human Resource Management – Vrinda Publications,Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	III	India's Foreign Trade Management	COM 305G17	2017-2018

UNIT–I: Global trade and its growth– India's relative position in World Trade-Trends in India's Foreign Trade: Direction and composition of India's foreign trade; India's Balance of trade and Balance of Payments- Export–Import policy; Export promotion and institutional set-up; Deemed Exports; Rupee convertibility and impact on foreign Trade.

UNIT–II: Instruments of Export Promotion: Export assistance and promotion measures ;EPCG scheme; Import facilities; Duty exemption schemes; Duty draw back; Tax concessions; Marketing assistance; Role of export the uses, trading houses and state trading organizations;

UNIT–III: Export-Import Procedure and Documentation: Basic documents used in international trade-export letter of credit-processing of an export order-excise duty and sales tax procedure- pre-shipment documentation-standardization procedure for export by sea, inland container depots, container freight stations, export by air, courier service, land and river, export by post, Collection, negotiation of export documents-registration, formalities with export promotion councils, FIEO, export promotion schemes, Registration formalities-opening of letter of credit for import. Retirement of import documents, Customs procedure for clearing of imported goods

UNIT-IV: Export-Import Finance: Export finance and payments-Export credit - advances against collections-discounting trade acceptance-institutional support for export finance in India –RBI guidelines-ECGC guidelines-FEDAI guidelines-International Chamber of Commerce. Stages of export finance-types of pre-shipment and post-shipment finance. Different stages of post shipment finance-New schemes of export financing-rediscounting of export bills-options for exporters -forfeiting and factoring-finance for software exports-Import finance-import letter of credit-exchange control requirements-RBI guidelines-FEDAI&UCPDC provisions.

UNIT-V: Shipping, Insurance and Packaging: Shipping & Marine Insurance –General information on Shipping-Types of Containers and Ships-Containerization-Marine Insurance-Air Transportation –Bill of Lading/AirWay Bill/SeaWayBill-Maritime Fraud-Packaging Introduction-Mechanical tests- Climatic tests-Stretch Wrapping-Cushioning materials-Shrink packaging-packaging cost-Lab testing –International Carelabeling code etc

REFERENCE BOOKS

Gupta, R.K.: Anti-dumping and counter vailing Measures, Sage Publications, NewDelhi. Nabhi's exporter's Manual and Documentation, Nabhi Publication, NewDelhi. SoderstenmO:International economics,cMillan,ondon. Varsheny.L. and B. Bhattacharya: International Marketing Management, Sultan Chand & Sons, NewDelhi Verma, M.L:International Trade, Common wealth Publishers, Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Corporate Governance & Business Ethics	COM 40117	2017-2018

UNIT-1

Conceptual Framework Of Corporate Governance: Concept of corporate governance – importance - Evolution of corporate governance - Corporate governance and agency theory. Benefits of good corporate governance - developments in India; regulatory framework of corporate governance in India-Reforming Board of Directors, Birla committee, Naresh Chandra Committee, Narayana Murthy committee, Corporate Governance code future scenario-Changes in corporate governance issues as per new Companies Act 2013.

UNIT- 2

Ethics in Business: Definition of business ethics – 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.

UNIT– 3

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.

UNIT – 4

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 – creative accounting- hostile takeover tax evasion- corporate crimes; 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.

UNIT – 5

Ethics and Information Technology: Ethical issues relating to computer applications; security threats – computer crime- computer viruses- software piracy- hacking –computer crime prevention – ethical dilemmas and considerations.

REFERENCE BOOKS

1. Theophane A. Mathias: Corporate Ethics, (Ed) Allied. Publishers.
2. BehramKack N: Essays on Ethics in Business and the Professions, Prentice Hall.
3. Beauchamp Tom L: Ethical Theory and Business, Prentice Hall.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	FINANCIAL REPORTING	COM 402A17	2017-2018

UNIT – I : Corporate Financial Reporting – Issues and problems with special reference to published financial statements

UNIT – II : Accounting for Corporate Restructuring (including inter – company holdings)

UNIT – III : Consolidated Financial Statements of Group Companies - Concepts of a Group, purposes of consolidated financial statements, minority interest, Goodwill, Consolidation procedures – minority interests, Goodwill, Treatment of pre-acquisition and post-acquisition profit.

UNIT – IV : Consolidation with two or more subsidiaries, consolidation with foreign subsidiaries, Consolidated profit and loss account, balance sheet and cash flow statement.

UNIT – V: Accounting and Reporting of Financial Instruments – Meaning, recognition, derecognition and offset, compound financial instruments – Measurement of Financial instruments

REFERENCE BOOKS

- 1) RSN Pillai, Bagarathi & s. uma, Fundamentals of Advanced Accounting, Vol 1, S Chand, New Delhi.
- 2) Nehru J. Financial Reporting by diversified companies vision Books, New Delhi.
- 3) Hawkins David Financial Statements corporations Dow Jones- Irwin Homewood 1973.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Advanced Auditing	COM 403A17	2017-2018

UNIT – I: INTRODUCTION: Auditing – Origin, Meaning, Nature & Scope, Definition; Advantages of an Audit, Qualities and Qualifications of an Auditor, Independence of an Auditor; Critical appraisal of Auditing.

UNIT – II : VERIFICATION AND VALUATION OF ASSETS: Meaning and Objectives of Verification; Process of Verification – Auditor’s position as regards valuation of Assets.

UNIT – III : INTERNAL CONTROL, INTERNAL CHECK AND INTERNAL AUDIT:

Objectives of Internal Control – Distinction between Internal Control, Internal Check and Internal Audit - Evaluation of Internal Control Procedures, Techniques, Co-ordination between Internal Audit and External Audit.

UNIT – IV: AUDIT OF LIMITED COMPANIES: Preliminaries to the Audit of a Limited Company, Audit of Pre-incorporation profit, Share Capital, Debentures, Audit of Divisible Profits and Dividends, Special requirements of company audit

UNIT –V: AUDIT OF SPECIAL ENTITIES: Special Audits like, Audit of Banks, Insurance Companies, Educational Institutions, Stock and Commodity Exchanges, Financial Institutions, Mutual Funds and Co-operative Societies.

REFERENCE BOOKS:

1. R.G. Saxena, “Auditing”, Himalaya Publishing House, New Delhi,2011.
2. Basu, S. K., “Auditing Principles and Techniques”, Pearson Education, New Delhi, 2007.
3. Basu, S. K., “Fundamentals of Auditing, Pearson Education, New Delhi,2008.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	GOODS&SERVICE TAX	COM 404A17	2017-2018

Unit-I:Introduction of GST: Limitations of VAT–Need for Tax Reforms-Models of GST- Structure of GST in India-Transactions covered under GST-Registration of Assesses Under GST –Procedure for registration-Deemed registration-GST Rate Structure..

Unit-II: Taxes and Duties: Subsumed under GST-Taxes and Duties outside the purview of GST:Tax on items containing Alcohol, Petroleum products, Tobacco products-Taxation of Services

Unit-III:Inter-State Goods and Services Tax: Major advantages of IGST Model–Transactions with in a Stateunder GST –Interstate Transactions under GST-Illustrations.

Unit-IV: Time of Supply of Goods &Services: Value of Supply- Input Tax Credit – Distribution of Credit-Matching of Input Tax Credit-Availability of credit in special circumstances-Cross utilization of ITC between the Central GST and the State GST.

Unit-V:AdministrationandAssessment:OfficersunderGSTAct:Powersofofficers-Self-assessment-Provisionalassessment–Assessment of Non-filers of returns-Unregistered persons –Levy and Exemption of Tax: Chargeability–Collection at Source–Tax under Central GST and State GST-Taxation of Services–Remission of Tax- Adjustment and Refund of GST.

References:

- 1.GoodsandServicesTaxinIndia–Notifications and different dates.
- 2.GSTBill2012.
- 3.BackgroundMaterialonModelGST Law,SahityaBhawanPublications,HospitalRoad, Agra-282003.
- 4.TheCentralGoodsandServicesTaxAct,2017,NO.12OF2017PublishedbyAuthority, MinistryofLaw and Justice,NewDelhi, the12thApril,2017.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Corporate tax Laws & Practice	COM 405A17	2017-2018

SYLLABUS

Unit I:

Introduction: Nature and Scope of Corporate Tax Management – Need and significance – Problems in Tax Management - Types of Companies - Widely Held Company, Closely held company, Residential Status of a Company and incidence of tax.

Unit II:

Tax Planning – Tax avoidance and Tax evasion. Tax planning with corporate dividend, Dividend policy – Bonus shares. Tax planning with reference to specific managerial decisions – Make or Buy, Own or Lease, Purchase by installment or by Hire, Repair, Replace, Renewal or Renovation, shut down or continue.

Unit III:

Procedure for Assessment – Deduction of tax at Source, Advance payment of Tax, Tax returns, refunds appeals and revision.

Unit IV:

Tax Administration – Concept, Tax administration with reference to setting up of new business, Financial management decisions & Employees remuneration.

Unit V:

Computation of Taxable Income of Companies – Computation of taxable income under different heads of income – House property, Profit and gain from business, Capital gain and income other sources, carry forward and set off of losses in case of companies. Deduction from Gross Total income. Minimum Alternative Tax.

References

1. Corporate Tax Planning & Business tax Procedures – Dr. Vinod K Singhania, D. monica Singhania, Taxman Publication, New Delhi
2. Direct taxes – Dr. H.C. Mehrotra and Dr. S.P. Goyal Sahitya Bhavan New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Indian Financial System	COM 402F17	2017-2018

SYLLABUS

Unit-I:

Introduction –Role of Financial System in Economic Development-Financial Markets and Financial Instruments-Capital Markets–Money Markets–Primary Market Operations–Role of SEBI–Secondary Market Operations–Regulation–Functions of Stock Exchanges–Listing- Formalities-Financial Services Sector Problems and Reforms.

Unit-II:

Financial Services: Concept, Nature and Scope of Financial Services –Regulatory Frame Work of Financial Services–Growth of Financial Services in India-Merchant Banking– Meaning–Types–Responsibilities of Merchant Bankers–Role of Merchant Bankers in Issue Management –Regulation of

Merchant Banking in India.

Unit-III:

Venture Capital – Growth of Venture Capital in India – Financing Pattern Under Venture Capital – Legal Aspects and Guidelines for Venture Capital. Leasing – Types of Leases – Evaluation of Leasing – Lease Vs. Borrowing.

Unit-IV:

Credit Rating – Meaning, Functions – Debt Rating System of CRISIL, ICRA and CARE. Factoring, Forfeiting and Bill Discounting – Types of Factoring – Arrangements – Factoring in Indian Context.

Unit-V:

Mutual Funds – Concept and Objectives, Functions and Portfolio Classification, Organization and Management, Guide lines for Mutual Funds, Working of Public and Private Mutual Funds in India. Debt Securitization – Concept and Application – De-mat Services – need and Operations – role of NSDL and CSDL.

References

1. I.M. Bhole, Financial Institutions and market, Tata McGraw Hill.
2. V.A. Avadhani, Marketing of Financial Services, Himalayas Publishers, Mumbai.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Financial Derivatives	COM 403F17	2017-2018

UNIT-1

Introduction: Financial Derivatives – Products and Participants in Derivative Markets – Forward Contracts – Forward Contracts Vs. Future Contracts – Types of Futures – Other Financial Derivatives - Derivatives Trading in India.

UNIT-2

Options Contracts: Call and Put Options – Determinants of Option Price – Stock and Index Option Properties and Mechanics – Options Trading in India – Warrants and Convertible Securities.

UNIT-3

Option Trading Strategies: Basic of Option Positions – Strategies involving Options – Covered Call, Protective Put, Spread, Combinations and Other Strategies.

UNIT-4 Options Valuation: Binomial Options Pricing Model – The Black-Scholes Options Pricing Model – Log-normal Property of Stock Prices – Volatility – Causes of Volatility.

UNIT-5 Financial Swaps: Currency Swaps – The Structure of Swaps – Interest Rate Swaps – Equity Swap – Valuation of Financial Swaps – Credit Derivatives – Caps and Floors – Hedging & speculation in Futures, Index futures.

REFERENCE BOOKS

1. Bhalla, V.K. Financial Derivatives, Sultan Chand, NewDelhi.
2. BishnuPriya Mishra, Financial Derivatives, Excel Books, NewDelhi.
3. Don M. Chance & Robert Brooks, Derivatives and Risk ManagementBasics, Cengage, NewDelhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Treasury Management	COM 404F17	2017-2018

Unit- 1

Introduction to Corporate Treasury Management - Overview of Corporate Treasury Management, need and benefits, functions and Treasury exposures. Organisation structure of treasury.

Unit 2

Financial Markets: The Money Market - money market, types of financial markets (the other is capital market). Money market instruments and regulation of the market. Financial Markets – Capital Market - type of financial markets viz. capital market. Stock market (both equity and preference) and debt market.Regulation of capital market, commodity markets.

Unit-3

Treasury Products - Treasury products for foreign exchange (forex) markets and forex derivatives. Commodity market instruments

Unit -4

Working Capital Management –Introduction, need for working capital, cash cycle, management strategies for working capital, perspective of the Treasury function.

Unit-5

Treasury Risk Management - Treasury risks, function the market risks role of asset-liability management. Integrated Treasury – Introduction, responsibilities of Treasury. Accounting risks associated with financial reporting and disclosure of treasury exposures in the balance sheet.

Reference Books

1. Treasury Management-Sтивен M. Bragg
2. Treasury Risk Management-S.K.Bagchi.
3. Treasury Fundamentals-Antonio Morelli
4. Treasury Management And Finance Series-William Van Alphen .

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	International Financial Management	COM 405F17	2017-2018

UNIT-I

Multinational Corporations: Features of MNCs, Motives for Going Global, Factors Inhibiting MNCs to Maximize Profits, Complexities and Issues in Financial Decisions of a Multinational Firm – Financial Management Versus International Financial Management – IFM: Features, Objectives, and Importance of IFM.

UNIT-II

International Monetary System: Gold Standard, Interwar Period, Bretton Woods System, Fixed and Floating Exchange Rate System – Foreign Exchange Market: Features and Functions – Exchange Rate: Determination of Exchange Rate – Spot and Forward Rates – International Parity Conditions: Purchasing Power Parity, Forward Rate Parity and Interest Rate Parity – Fisher Open Condition – Exchange Rate Movement and Decision to Invest – Global Financial Markets: International Banks, Euro Currency Market, Euro Bond Market, International Stock Market, and Global Equity Market.

UNIT-III

Management of Exposure: Economic, Transaction, Translation, and Real Operating Exposure – Exposure Management Contractual and Natural Hedging – Interest Rate Risk Assessment and Management – International Capital Budgeting: Multinational Considerations and Calculation of Cash Flows, and Adjusted Present Value Approach.

UNIT-IV

International Portfolio Management: Decision to Invest in Portfolio, International CAPM, and Identification of Optimum Portfolio – International Project Financing: Concepts, Types, Techniques, Page 134 of 162 and Key Elements – Cost of Capital and Capital Structure of Multinational Firms – Long term Financing Sources of MNCs.

UNIT-V

International Working Capital Management: Cash Management, Receivables and Inventory Management – Short-term Financing – International Accounting: Foreign Currency Translation, Multinational Transfer Pricing and Performance Measurement – Consolidated Financial Reporting International Accounting Standards and Practices – International Taxation: Key elements and Issues, International Tax Environment, Bilateral Treaties

Practical Component

- Students should study the documentation in international finance (For example, How the forward contracts are entered into), prepare a report and submit it to concerned faculty).
- Students should take any multinational company and study its cash / credit / loan / working capital management system and give a Public Presentation.
- Students should take up one country such as India and look up its BOPs, Foreign Exchange Rates, Theories of Exchange Rate Determination, Management of Foreign Exchange Exposure, and Exchange Rate Forecasting.

REFERENCE BOOKS

1. S.P.Srinivasan, B.Janakiram, International Financial Management, Wiley India.
2. V.Sharan, International Financial Management, 3rd Edition, Prentice Hall of India.
3. A.K.Seth, International Financial Management, Galgotia Publishing Company.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Advance Banking	COM 402B17	2017-2018

UNIT-I

Central Banking Concept – Central Banking Policy in Developed and Developing Economies – functions – Note issues – Banker to the Government; Banker to Commercial banks – Credit Control – Techniques – Structure and Organization of RBI – Role of RBI as Central bank.

UNIT-II

Structure and Organization of Central bank in India, USA, UK and EU – Central banking Policy in Developed and Less Developed Countries – Banking Sector Reforms – Narasimham Committee.

UNIT-III

Study of Nature and Structure of Commercial Banking in India – Theories of Asset Management – Commercial Banks, Indian Money Market – Capital Money Market – Primary market, Secondary Market.

UNIT-IV

Economic Stabilization Policy: Objectives of Monetary Policy – Choosing Between Conflicting Objectives – Development Banks: ICICI – IFC – IDBI and SFC's.

UNIT-V

Bond Markets: Government Bond Market and its Interface with Capital Market – Debt Market in India and its Interface with Stock Markets, Primary and Secondary Markets, Capital and Money Market – Mutual Fund: Concept, Mechanism Role, etc.

REFERENCE BOOKS

1. Hawtrey, *The Art of Central Banking*, Sugustus M Kelley Publishers, 1970, New York.
2. Narendra Kumar, *Bank Nationalism of India – A Symposium*, Lalvani Publishing House, 1969, Mumbai.
3. Pal Panadlkar & N.C. Mehra, *Rural banking*, National Institute of Bank Management, Mumbai.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	International Banking	COM 403B17	2017-2018

UNIT-I :

Introduction-Global trends and developments in International Banking- Wholesale banking- Retail banking private banking-inter-bank business

UNIT-II :

International Financial Centres-Offshore Banking units-SEZs-Asset Liability Management- Profitability of International Banking Operations

UNIT-III :

Investment Banking: Wholesale Banking- Unit Banking- Federal Banking System- Investment Banking Correspondent Banking- Banking System in UK, USA, Germany and Japan- Global trends and developments in International Banking.

UNIT-IV :

International Financial Institutions; IMF, IBRD, BIS, IFC, ADB, WTO, Treasury and Risk Mitigation

UNIT-V

Regulatory Framework in India and FEMA, Letter of Credit mechanism and UCPDC/URC/URR Buyers'/Sellers' credit-Bilateral trade-counter trade-high seas sales.

References

- International Banking Operations, Libf, Macmillan Publishers India Limited, 2007.
- Domestic and International Banking, M.K. Lewis & K.T. Davis, The MIT Press, 1987.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	CENTRAL BANKING	COM 404B17	2017-2018

UNIT-I

Introduction – Reserve Bank Of India – Nature and scope, Role of RBI as Central Bank , Central Banking policy in developing and developed countries, Structure of Central Bank – Structure of Reserve Bank Of India, Objectives of Central Banking and Reserve Bank Of India.

UNIT-II

Organization of the RBI Internal organisation - Management - Offices and branches - Banking departments - Public accounts dept. - Public debt dept. - Deposit accounts dept. - Securities dept Issue dept. - Administration dept. - Research and Economic intelligence dept. - Economic dept. - Statistics dept. - RB I financial statements. - Reports - Publications.

UNIT-III

RBI as currency authority - Currency chest - Seasonal variations in currency circulation - banker: government - agreement with central government - Agreements with state Governments – Administrative arrangements - Issue of new loans and treasury bill & - Advisor to Govt. - Supervision of banks — Deposit insurance — Licensing of banks — Branch licensing policy — Narasimahan Committee Report — Inspection banks — Credit information service — Education and training of banking personnel.

UNIT-IV

RB and credit granting — RBI & Rural credit — Gadgil Committee Report — Agricultural finance Non-agricultural finance — Agricultural refinance corporation — Industrial finance — Refinance — Direct assistance to industry — direct finance for exports — Rediscount assistance — Credit guarantee scheme Commercial paper.

UNIT-V

Exchange management and control — Exchange rates — Exchange control objectives — regulation — authorized dealers — Rupees convertibility — basket rates — Payment for imports — Other payment Export control — bullion — Jewellery — Currency notes and coins — Foreign investment.

REFERENCE BOOKS

- 1) Deock M.H. Central Banking. London — Granada Publishers, 1974.
- 2) Asishkumar Roy. The Structure of interest rates in India, Calcutta: World Press Private I 1975.
- 3) RBI. The Reserve Bank of India—Functions and Working Bombay, RBI. 1990.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Insurance And Risk Management	COM 405B17	2017-2018

UNIT-I

Risk Management process – Risk Identification, Evaluation -Risk Management Techniques, Selecting and Implementing Risk Management Techniques – Types of Risks – Insurance and risk.

UNIT-II

Commercial Liability Insurance – Commercial Risk Management Applications – Property – Liability – Commercial Property Insurance, Different policies and contracts – Business Liability and Risk Management – Workers compensation and Risk Financing.

UNIT-III

Property and liability Insurance Coverage – Personal Risk Management Applications–Property – Liability – Risk Management for Auto Owners – Risk Management for Home Owners.

UNIT-IV

Risk Management Applications – Loss of Life – Loss of Health – Retirement Planning and Annuities – Employee Benefits – Financial and Estate Planning.

UNIT-V

Risk Management Scenario- Functions and organisation of Insurers – Government Regulation of Insurance Sector – IRDA – Privatization of Insurance – Changes in Insurance Acts – Insurance Intermediaries – Insurance Product pricing and Claim valuation – Bank Assurance – Foreign Insurers in India.

REFERENCE BOOKS

1. McNamara principles of Risk Management and Insurance, Addison-Wesley,
2. Dorfman, Introduction to Risk Management and Insurance, PHI.
3. AnandGanguly Insurance Management PHI, New Delhi, 2005

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	International Accounting	COM 402G17	2017-2018

UNIT – 1: INTERNATIONAL ACCOUNTING: AN OVERVIEW:

Development of International Accounting- Scope of International Accounting-Importance of International Accounting- Difficulties in International Accounting-GAAP – IAS and its adaptation in India.

UNIT - 2 : FOREIGN CURRENCY TRASACTION AND TRANSLATION:

Definition of Foreign Currency transaction and Translation, Need for and issues involved in Foreign Currency Translation, Process of recording foreign (international) Transactions, Accounting Treatment of Forward Currency Translations, Techniques of Foreign Currency Translations, Treatment of Translation Gains and Losses. CONSOLIDATION OF FINANCIAL STATEMENTS: Need for Consolidation- Consolidation Techniques- IAS 27 and Consolidation- Indian Accounting Standard (AS 21) and Consolidation

UNIT – 3: ACCOUNTING FOR PRICE LEVEL CHANGES:

Concepts and Forms of Price Level Changes- Types of Price Level Changes-Common Phenomenon of Price Level Changes-Need for Price Level Changes Adjustments- Factors Causing Distortions to Accounting Profit vis-à-vis Financial statements- Consequences of Distorted Profits- Techniques of Price Level Adjustments. HARMONIZATION OF ACCOUNTING PRACTICES: Concept and Need For Harmonization- Harmonization Process- IAS 7 Vs AS 3- Institutional Efforts in Harmonization- Impediments to Harmonization

UNIT- 4: TRANSFER PRICING:

Need For Transfer Pricing- Factors Governing Transfer Pricing Policy- Methods of Transfer Pricing- Transfer Pricing Methods- Comparison- Transfer Pricing Methods in practice- Fixing a minimum Transfer Pricing - Transfer Pricing Methods for Services- FOREIGN FINANCIAL STATEMENT ANALYSIS: Techniques of Financial Statement Analysis-Process and utility of Horizontal, Vertical and Ratio Analysis- Modern Techniques used in Financial Statement Analysis- Difficulties in Analyzing Foreign Financial Statements

UNIT- 5: SEGMENT REPORTING:

International GAAP on Segment Reporting- Difference between Business, Geographical, Reportable Segment- Disclosure Requirements- Indian GAAP on Segment Reporting- Segment Reporting in Practice- Corporate Disclosure in Practice INTERNATIONAL FINANCIAL REPORTING: Provision of International GAAP on Interim reporting- IAS 34 on Interim Financial Reporting- Disclosures in Interim Financial Reporting- Comparative statements- Indian GAAP on Interim Financial Reporting- SEBI GUIDELINES ON Interim Reporting and Disclosure- Interim Reporting in Practice

REFERENCE BOOKS

- A.K. Das Mohapatra, International Accounting, Prentice Hall of India, 2007.
- Frederick D.S. Choi, Gary K. Meek, International Accounting, Pearson Education, 2007
- Shahrokh M. Saudagaran, International Accounting- A user Perspective, Thomson south-western, 2007

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	International Business Law And Practice	COM 403G17	2017-2018

SYLLABUS

UNIT I : Legal Environment of International business: International Law and the world's legal system – International sales, credits and commercial transaction: sales contracts and excuses for non performance - the documentary sale and terms of trade — Bank collections, trade finance and letters of credit – UN convention on contracts for international sale of goods.

UNIT II : Basic principles of WTO – Laws governing access to foreign markets – regulating import competition and unfair trade – Imports, customs and Tariff law – the regulation of exports – Northern American free trade law – The European Union and other regional trade areas.

UNIT III : Regulations of the international market place : international marketing law – sales representatives, advertising and ethical issues – licensing agreement and the protection of Intellectual property rights – host country regulation : Corporate law, taxation and currency risk – Nationalization – Labour and employment discrimination law – Environmental law

UNIT IV : Anti-Dumping Duties – WTO Provisions on Anti-Dumping-, Anti-Dumping Duties, Procedure and Developments – Regulatory Framework for Anti Dumping in India – Recent Anti Dumping Cases in India

UNIT V : Foreign Collaborations and Joint Ventures – Foreign Direct Investment Policy, Industrial Policy – Kinds of Collaboration and Joint Ventures – Drafting of Agreement – Restrictive Clauses in the Foreign Collaboration/Joint Venture Agreements – International Commercial Arbitration

REFERENCE BOOKS

1. International Business Law and Environment, Schaffer, Agusti and Earle (South – Western, Cengage Learning, 7th Edition)
2. International business law: A transactional Approach “, Larry Dimatto, Lucien. J. Dhooge.
3. International Business Law 5th Edition , Ray .A.August, Don Mayer, Michael Bixby,

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	International Business Negotiations.	COM 404G17	2017-2018

UNITI: Nature of International Business Negotiations: Frame work for international business negotiations- Background factors-Impact of national culture ,organizational culture and personality on buyer-seller interaction–a model of the negotiation process with different strategies and planning–Distributive bargain and integrative negotiations.

UNITII: Cultural aspects of International Business negotiation-Hofstede’s dimension of culture and their influence on International Business negotiation-cross culture communication: Issues and Implications– Theroe of time in International Business negotiation –Theroe of atmosphere in negotiations.

UNITIII:Negotiating sales, export transaction and agency agreements–negotiating licensing agreements– Negotiatinginternationaljointventure–projectnegotiations –Cooperative negotiation for mergers and acquisitions.

UNITIV: Investment negotiations– Negotiating with Europe, Chinan and otherEast Asian countries– eBusinessNegotiationsbetweenJapanesemandAmericans–General Guidelines for negotiating international business.

UNITV: Ethics innegotiations– Communication in negotiations– Negotiation power and relationshipsinnegotiations–Bestpracticesinnegotiations–BusinessEtiquette–Assertive skills –Personality and negotiation skills.

References

1. InternationalBusinessNegotiations, Second Edition-Pervez.N.Ghauri(Editor),Jean-Claude Usunier(Editor),Pergamon,2003.
2. GlobalBusinessNegotiations:APracticalGuide-SubhashJain(Author)ClaudeCellich, South-WesternEducationalPublishing.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Global Logistics And Supply Chain Management	COM 405G17	2017-2018

UNIT-I:Introduction: Scope of SCM–SC Minthe GlobalEnvironment–Consequence of SCM:CreatingValue, Satisfaction, and DifferentialAdvantages-Role of Marketing in SCM-Role of the SalesFunction in SCM-R&DinSCM

UNIT-II:SupplyChainSalesForecasting:Forecastinginthesupplychain-Evolution and growthofSCM-SupplyChainProduction–StandardMethodsofProduction

UNIT-III:Purchasinginasupplychain:Roleoflogisticsinthesupplychain-Evolution andGrowthofinformationsystemsinSCM-FinancialissuesinSCM-Customerserviceina SCM

UNIT–IV:InterFunctionalCoordinationinSCM:Inter-CorporateCorporationinSCM-measuringPerformanceinthe SupplyChain

UNIT–V:ManagingtheSupplyChain:Managerialand ResearchImplications,Reverselogistics

REFERENCE BOOKS

1. John T. Mentzer, Supllychain Management–sagepublicationsNewDelhi, 2008.
2. Rahulv. altekar-Prentice/hallofIndia -Newdelhi-110001,2005
3. Sunilchopra/petermeindl,Prentice/hallofIndiaprivatelimited,Newdelhi-110001,2007.
4. S. SMishra, Taxmann’sPublicationonPvt, Ltd, NewDelhi, 2009.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Soft and Employability Skills	M.Com 407	2017-2018

COM40717) - Soft and Employability Skills

Unit-I: Soft skills: Meaning of Soft skills, global competition, hard skills (technical skills) versus soft skills, interpersonal skills, leadership skills, decision making, negotiation skills, problem solving skills, conflict management, stress management, crisis management, teamwork.

Unit–II : Presentation Skills – Writing Oral Presentations – Using Visual Aids in Oral Communication – Communicating Across Cultures – 7 Cs of Communication – Body Language- Tips on how to Create a Power Point and other Presentations.

Unit–III

Goal Setting – Creating Individual Action Plans – Article Writing – SWOT Analysis – Event Management – (Training Students to Organize Events and present a report on Event organized).

Unit–IV

Case Study – Case Analysis – Discussion and Presentation –Team Building and Team Work – Innovation and Creativity – Emotional Intelligence – Self Management

Unit-V

Business and Corporate Etiquettes – Overview of Interview– Self introduction at Various Forums and During Interview – Mock Interview – CV Preparation-Group Discussion.

REFERENCE BOOKS

1. Bovee, Thill, Schatzman, (2005), Business communication Today, Pearson Education
2. Meenakshi Raman Prakash Singh, Business communication, Oxford University Press.
3. E.H. McGrath, S.J., Basic Managerial Skills, PHI Pvt. Limited

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Disaster Management	M.Com 40817	2017-2018

COM40817

Unit-1

Disaster: Introduction, Types of Disaster-Natural and Manmade, Introduction, causes, important Examples, effects, Management Blizzards- Introduction, causes, important examples, effects, management.

Unit-II

Introduction, causes, important examples, effects and management of famines storms, cyclones, floods.

Unit-III

Introduction, causes, important examples, effects and management of earthquakes, tsunamis, landslides

Unit-IV

Introduction, causes, important examples, effects and management of, volcanic eruptions, lightning strikes, limnic eruption, wildfires/bushfires

Unit-V

Introduction, causes, important examples, effects and management of epidemics, mining nuclear, chemical and biological

REFERENCE BOOKS

1. Harsh K. Gupta, Disaster Management, Universities Press, 2003.
2. Vinod K. Sharma, Disaster Management, Jain Book Agency, 2nd edition, 2013.
3. N. C. Asthana, Disaster Management, Jain Book Agency, 2014.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.COM	IV	Elements of Event Management	M.Com 40917	2017-2018

Unit – I

Introduction to Event Management: Design, Size and Types of Events – Event Team – Code of Ethics.
Concept and Design: Analyzing the Concept – Logistics of the Concept. Feasibility: Keys to Success – SWOT Analysis.

Unit – II

Marketing: Nature and Process of Event Marketing – Marketing Mix – Sponsorship. *Promotion:* Image / Branding – Advertising – Publicity – Public Relations. *Financial Management:* Budget Preparation – Cash Flow Analysis – Income and Expenditure Statement – Balance Sheet – Financial Control Systems – Panic Planning. *Risk Management:* Process of Risk Management– Incident Reporting – Emergency Response Plans – Standards for Risk Management.

Unit – III

Planning: Developing a Mission Statement – Establish the Aim and Objectives – Prepare Event Proposal – Planning Tools. *Protocol:* Titles - Dress for Formal Occasions – Protocol for Speakers – Religious and Cultural Protocol – Protocol for Sporting Ceremonies – Preparing for Dignitaries – Rules of Flag Flying. *Staging:* Selection of Event Site – Developing the Theme – Conducting Rehearsals – Providing Services: Catering, Accommodation – Managing the Environment.

Unit – IV

Staffing: Developing Organizational charts–Job Description–Recruitment and Selection – Drawing Up Rosters–Training–Managing Legal Requirements–Developing Recognition Strategies – Managing Volunteers. *Leadership:* Developing Leadership Skills – Managing Temporary and Diverse Teams – Group Development – Improving Communication – Time Management – Managing Meetings. *Operations and Logistics:* Logistics – Policies – Procedures Performance Standards – Functional Areas – Staff Motivation.

Unit – V

Safety and Security: Security – Occupational Safety and Health – Incident Reporting, *Crowd Management and Evacuation:* Crowd Management Plan – Major Risks Management – Emergency Planning– Implementing Emergency Procedures. *Monitoring, Control and Evaluation:* Monitoring and Control Systems–Operational Monitoring and Control–Evaluation– Broader Impact of Events.

REFERENCE BOOKS

1. Event Management: For Tourism, Cultural, Business and Sporting Events, Lynn Van Der Wagen, Pearson, 2005.
2. Event Marketing & Management - Sanjaya Singh Gaur & Sanjay V. Saggere, Vikas Publication House, 2003.
3. Successful Event Management - Anton Shone: Thomson, 2004.
4. Bhatia A.K. (2001), Event Management, Sterling Publishers, New Delhi.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department Of Mathematics & Statistics

MATHS

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Sc.	I	Differential equations	CBMAT101	2018-19

SYLLABUS

UNIT – I Differential Equations of first order and first degree :

Linear Differential Equations; Differential Equations Reducible to Linear Form; Exact Differential Equations; Integrating Factors; Change of Variables.

UNIT – II Orthogonal Trajectories.

Differential Equations of first order but not of the first degree :

Equations solvable for p; Equations solvable for y; Equations solvable for x; Equations that do not contain x (or y); Equations of the first degree in x and y – Clairaut's Equation.

UNIT – III Higher order linear differential equations-I :

Solution of homogeneous linear differential equations of order n with constant coefficients; Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators.

General Solution of $f(D)y=0$

General Solution of $f(D)y=Q$ when Q is a function of x.

$\frac{1}{f(D)}$ is Expressed as partial fractions

P.I. of $f(D)y = Q$ when $Q = be^{ax}$

P.I. of $f(D)y = Q$ when Q is $b \sin ax$ or $b \cos ax$.

UNIT – IV (12 Hours), Higher order linear differential equations-II :

Solution of the non-homogeneous linear differential equations with constant coefficients.

P.I. of $f(D)y = Q$ when $Q = bX^k$

P.I. of $f(D)y = Q$ when $Q = e^{ax}V$

P.I. of $f(D)y = Q$ when $Q = xV$

P.I. of $f(D)y = Q$ when $Q = X^mV$

UNIT –V (12 Hours), Higher order linear differential equations-III :

Method of variation of parameters; Linear differential Equations with non-constant coefficients; The Cauchy-Euler Equation.

Reference Books :

1. A text book of mathematics for BA/BSc Vol 1 by N. Krishna Murthy & others, published by S. Chand & Company, New Delhi.
2. Ordinary and Partial Differential Equations Raisinghania, published by S. Chand & Company, New Delhi.
3. Differential Equations with applications and programs – S. BalachandraRao & HR Anuradha-universities press.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc.	II	SOLID GEOMETRY	CBMAT201	2018-19

UNIT – I (12 hrs) : The Plane :

Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes, Combined equation of two planes, Orthogonal projection on a plane.

UNIT – II (12 hrs) : The Line :

Equation of a line; Angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; Number of arbitrary constants in the equations of straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance between two straight lines; Length of the perpendicular from a given point to a given line;

UNIT – III (12 hrs) : Sphere :

Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle; Intersection of a sphere and a line; Tangent plane.

UNIT – IV (12 hrs) : Sphere & Cones :

Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres, limiting points of coaxial system of spheres.

Definitions of a cone; vertex; guiding curve; generators; Equation of the cone with a given vertex and guiding curve; Enveloping cone of a sphere; Equations of cones with vertex at origin are homogenous; Condition that the general equation of the second degree should represent a cone; Condition that a cone may have three mutually perpendicular generators;

UNIT – V (12 hrs): Cones & Cylinders :

Intersection of a line and a quadric cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a common vertex; Right circular cone; Equation of the right circular cone with a given vertex; axis and semi-vertical angle.

Definition of a cylinder; Equation to the cylinder whose generators intersect a given conic and are parallel to a given line; Enveloping cylinder of a sphere; The right circular cylinder; Equation of the right circular cylinder with a given axis and radius.

Reference Books :

1. A text book of Mathematics for BA/B.Sc Vol 1, by V Krishna Murthy & Others, Published by S. Chand & Company, New Delhi.
2. A text Book of Analytical Geometry of Three Dimensions, by P.K. Jain and Khaleel Ahmed, Published by Wiley Eastern Ltd., 1999.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc.	III	ABSTRACT ALGEBRA	CBMAT301	2016-17

UNIT – 1 :

GROUPS : - Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group. Composition tables with examples.

UNIT – 2 :

SUBGROUPS : - Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition – examples-criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups. Co-sets and Lagrange's Theorem :- Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

UNIT –3 :

NORMAL SUBGROUPS : - Definition of normal subgroup – proper and improper normal subgroup– Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group – simple group – quotient group – criteria for the existence of a quotient group.

UNIT – 4 :

HOMOMORPHISM : - Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – automorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

UNIT – 5 :

PERMUTATIONS AND CYCLIC GROUPS : - Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem. Cyclic Groups :- Definition of cyclic group – elementary properties – classification of cyclic groups.

Reference Books :

1. Abstract Algebra, by J.B. Fraleigh, Published by Narosa Publishing house.
2. A text book of Mathematics for B.A. / B.Sc. by B.V.S.S. SARMA and others, Published by S.Chand& Company, New Delhi.
3. Modern Algebra by M.L. Khanna. Suggested Activities: Seminar/ Quiz/ Assignments/ Project on Group theory and its applications in Graphics and Medical image Analysis
4. B.A./B.Sc. SECOND YEAR MATHEMATICS

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc.	IV	REAL ANALYSIS	CBMAT401	2016-17

SYLLABUS

UNIT – I :

REAL NUMBERS : The algebraic and order properties of \mathbb{R} , Absolute value and Real line, Completeness property of \mathbb{R} , Applications of supreme property; intervals. No. Question is to be set from this portion. Real Sequences: Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchy's general principle of convergence theorem.

UNIT –II :

INFINITIE SERIES : Series : Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms. 1. P-test 2.

Cauchy's nth root test or Root Test. 3.D'-Alemberts' Test or Ratio Test. 4.Alternating Series – Leibnitz Test. Absolute convergence and conditional convergence, semi convergence.

UNIT – III :

CONTINUITY : Limits : Real valued Functions, Boundedness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits.Limits at infinity. No. Question is to be set from this portion. Continuous functions : Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – IV :

DIFFERENTIATION AND MEAN VALUE THEORMS : The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Role's Theorem, Lagrange's Theorem, Cauchhy's Mean value Theorem

UNIT – V :

RIEMANN INTEGRATION : Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

Reference Books :

1. Real Analysis by Rabert&Bartely and .D.R. Sherbart, Published by John Wiley.
2. A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, Published by S. Chand & Company Pvt. Ltd., New Delhi.
3. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D. Raisingkania Published by S. Chand & Company Pvt. Ltd., New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	V	RING THEORY AND VECTOR CALCULUS	CBMAT501	2017-18

SYLLABUS

UNIT– 1(12hrs) RINGS-I

Definition of Ring and basic properties, Boolean Rings, divisors of zero and cancellation laws Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring –The characteristic of an Integral Domain, The characteristic of a Field. Sub Rings, Ideals

UNIT– 2(12hrs) RINGS-II:-

DefinitionofHomomorphism–HomomorphicImage–ElementaryPropertiesofHomomorphism– KernelofaHomomorphism–FundamentaltheoremofHomomorphisim–MaximalIdeals– Prime Ideals

UNIT–3(12hrs) VECTORDIFFERENTIATION:-

Vector Differentiation, Ordinary derivatives of vectors, Differentiability, Gradient, Divergence, Cur operators, and Formulae involving these operators.

UNIT– 4(12hrs) VECTORINTEGRATION: -

Line Integral, Surface Integral, Volume integral with examples.

UNIT– 5(12hrs) VECTORINTEGRATIONAPPLICATIONS:-

Theorems of Gauss and Stokes, Green's theorem in plane and applications of thesetheorems.

ReferenceBooks:-

1. Abstract Algebra by J. Fraleigh, Published by Narosa Publishing house.
2. Vector Calculus by Santhi Narayana, Published by S. Chand & Company Pvt. Ltd., New Delhi.
3. A text Book of B.Sc., Mathematics by B. V. S. S. Sarma and others, published by S. Chand & Company Pvt. Ltd., New Delhi.
4. Vector Calculus by R. Gupta, Published by Laxmi Publications.
5. Vector Calculus by P. C. Matthews, Published by Springer Verlag publications.
6. Rings and Linear Algebra by Pundir & Pundir, Published by Pragathi Prakashan.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	V	LINEAR ALGEBRA	CBMAT502	2017-18

UNIT– I(12hrs): Vector Spaces-I:

Vector Spaces, General properties of vector spaces, n-dimensional Vectors, addition and scalar multiplication of Vectors, internal and external composition, Null space, Vector subspaces, Algebra of subspaces, Linear Sum of two subspaces, linear combination of Vectors, Linear span Linear independence and Linear dependence of Vectors.

UNIT–II(12hrs): Vector Spaces-II:

Basis of Vector space, Finite dimensional Vector spaces, basis extension, co-ordinates, Dimension of a Vector space, Dimension of a subspace, Quotient space and Dimension of Quotient space.

UNIT–III(12hrs): Linear Transformations:

Linear transformations, linear operators, Properties of L.T, sum and product of L T s, Algebra of Linear Operators, Range and null space of linear transformation, Rank and Nullity of linear transformations – Rank – Nullity Theorem.

UNIT–IV(12hrs): Matrix:

Matrices, Elementary Properties of Matrices, Inverse Matrices, Rank of Matrix, Linear Equations, Characteristic Roots, Characteristic Values & Vectors of square Matrix, Cayley – Hamilton Theorem.

UNIT–V(12hrs): Inner product space :

Inner products spaces, Euclidean and unitary spaces, Norm or length of a Vector, Schwartz inequality, Triangle Inequality, Parallelogram law, Orthogonality, Orthonormal set, complete orthonormal set, Gram– Schmidt orthogonalisation process. Bessel's inequality and Parseval's Identity.

ReferenceBooks:

1. Linear Algebra by J. N. Sharma and A. R. Vasista, published by Krishna Prakashan Mandir, Meerut-250002.
2. Matrices by Shanti Narayana, published by S. Chand Publications.
3. Linear Algebra by Kenneth Hoffman and Ray Kunze, published by Pearson Education (low priced edition), New Delhi.
4. Linear Algebra by Stephen H. Friedberg et al published by Prentice Hall of India Pvt. Ltd. 4th Edition 2007.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	NUMERICAL ANALYSIS	CBMATA601	2017-18

SYLLABUS

UNIT- I: (10hours)

Errors in Numerical computations: Errors and their Accuracy, Mathematical Preliminaries, Errors and their Analysis, Absolute, Relative and Percentage Errors, A general error formula, Error in a series approximation.

UNIT– II:(12hours)

Solution of Algebraic and Transcendental Equations: The bisection method, The iteration method, The method of false position, Newton Raphson method, Generalized Newton Raphson method. Muller's Method

UNIT– III:(12hours)Interpolation-I

Interpolation

: Errors in polynomial interpolation, Finite Differences, Forward differences, Backward differences, Central Differences, Symbolic relations, Detection of errors by use of Differences Tables, Differences of a polynomial.

UNIT– IV: (12hours)Interpolation-II

Newton's formulae for interpolation. Central Difference Interpolation Formulae, Gauss's central difference formulae, Stirling's central difference formula, Bessel's Formula, Everett's Formula.

UNIT– V :(14hours)Interpolation-III

Interpolation with unevenly spaced points, Lagrange's formula, Error in Lagrange's formula, Divided differences and their properties, Relation between divided differences and forward differences, Relation between divided differences and backward differences, Relation between divided differences and central differences, Newton's general interpolation Formula, Inverse interpolation

Reference Books:

1. Numerical Analysis by S.S. Sastry, published by Prentice Hall of India Pvt. Ltd., New Delhi. (Latest Edition)
2. Numerical Analysis by G. Sankar Rao published by New Age International Publishers, New– Hyderabad.
3. Finite Differences and Numerical Analysis by H. C. Saxena published by S. Chand and Company, Pvt. Ltd., New Delhi.
4. Numerical methods for scientific and engineering computation by M. K. Jain, S. R. K. Iyengar, R. K. Jain.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	INTEGRAL TRANSFORMS	CBMATA602	2017-18

UNIT – 1 (12 hrs) Application of Laplace Transform to solutions of Differential Equations : -

Solutions of ordinary Differential Equations.

Solutions of Differential Equations with constant co-efficient

Solutions of Differential Equations with Variable co-efficient

UNIT – 2 (12 hrs) Application of Laplace Transform : -

Solution of simultaneous ordinary Differential Equations.

Solutions of partial Differential Equations.

UNIT – 3 (12 hrs) Application of Laplace Transforms to Integral Equations : -

Definitions : Integral Equations-Abel's, Integral Equation-Integral Equation of Convolution Type, Integro Differential Equations. Application of L.T. to Integral Equations.

UNIT –4 (12 hrs) Fourier Transforms-I : -

Definition of Fourier Transform – Fourier's in Transform – Fourier cosine Transform – Linear Property of Fourier Transform – Change of Scale Property for Fourier Transform – sine Transform and cosine transform shifting property – modulation theorem.

UNIT – 5 (12 hrs) Fourier Transform-II : -

Convolution Definition – Convolution Theorem for Fourier transform – parseval's Identify – Relationship between Fourier and Laplace transforms – problems related to Integral Equations.

Finte Fourier Transforms : -

Finte Fourier Sine Transform – Finte Fourier Cosine Transform – Inversion formula for sine and cosine Transforms only statement and related problems.

Reference Books :-

1. Integral Transforms by A.R. Vasistha and Dr. R.K. Gupta Published by Krishna Prakashan Media Pvt. Ltd. Meerut.
2. A Course of Mathematical Analysis by ShanthiNarayana and P.K. Mittal, Published by S. Chand and Company pvt. Ltd., New Delhi.
3. Fourier Series and Integral Transforms by Dr. S. Sreenadh Published by S.Chand and Company Pvt. Ltd., New Delhi.
4. Lapalce and Fourier Transforms by Dr. J.K. Goyal and K.P. Gupta, Published by Pragathi Prakashan, Meerut.
5. Integral Transforms by M.D. Raising hania, - H.C. Saxsena and H.K. Dass Published by S.Chand and Company pvt. Ltd., New Delhi.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	Advanced Numerical Analysis	CBMATA603	2017-18

SYLLABUS

Unit– I

CurveFitting:Least–Squares curvefittingprocedures,fittingastraightline,nonlinearcurvefitting, Curvefittingbyasumofexponentials

UNIT-II:

Numerical Differentiation: Derivatives using Newton's forward difference formula, Newton's backward differenceformula, Derivatives using central difference formula, stirling's interpolationformula, Newton'sdivideddifferenceformula, Maximumandminimumvaluesofatabulatedfunction.

UNIT-III:

NumericalIntegration:Generalquadratureformulaonerrors,Trapozoidalrule,Simpson's1/3–rule, Simpson's3/8–rule,andWeddle'srules,Euler–MaclaurinFormulaofsummationandquadrature, The Eulertransformation.

UNIT– IV:

SolutionsofsimultaneousLinearSystemsofEquations:Solutionofflinearsystems–Directmethods, Matrixinversionmethod,Gaussieliminationmethods,Gauss-JordanMethod,Methodoffactorization, SolutionofTridiagonalSystems,.Iterativemethods.Jacobi'smethod,Gauss-siedal method.

UNIT– V

Numerical solution of ordinary differential equations: Introduction, Solution by Taylor's Series, Picard's method of successive approximations, Euler's method, Modified Euler's method, Runge-Kutta methods.

Reference Books:

1. Numerical Analysis by S.S. Sastry, published by Prentice Hall India (Latest Edition).
 2. Numerical Analysis by G. Sankar Rao, published by New Age International Publishers, New-Hyderabad.
 3. Find it Differences Numerical Analysis by H. CSaxena published by S.Chand and Company, Pvt. Ltd. New Delhi
 4. Numerical methods for scientific and engineering computation by M.K. Jain S.R.K. Jyengar, R.K. Jain
- Numeric

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	GRAPH THEORY	CBMATB601	2017-18

SYLLABUS

UNIT– I(12hrs) Graphs and Sub-Graphs:

Graphs, Simple graph, graph isomorphism, the incidence and adjacency matrices, sub-graphs, vertex degree, Hand shaking theorem, paths and connection, cycles

UNIT– II (12hrs)

Applications, the shortest path problem, Sperner's lemma.

Trees:

Trees, cut edges and Bonds, cut vertices, Cayley's formula.

UNIT– III(12hrs):

Applications of Trees – the connect or problem.

Connectivity

Connectivity, Blocks and Applications, construction of reliable communication Networks,

UNIT– IV (12hrs):

Euler tours and Hamilton cycles

Euler tours, Euler Trail, Hamilton path, Hamilton cycles, dodecahedron graph, Petersen graph, Hamiltonian graph, closure of a graph.

UNIT– V(12hrs)

Applications of Eulerian graphs, the Chinese postman problem, Fleury's algorithm-the travelling sales man problem

Reference Books :

1. Graph theory with Applications by J.A. Bondy and U.S.R. Murthy published by Mac.Millan Press
2. Introduction to Graph theory by S.Arumugham and S.Ramachandran, published by scitech Publications, Chennai-17.
3. A Text Book of Discrete Mathematics by Dr.Swapan Kumar Sankar, published by S.Chand & Co. Publishers, New Delhi.
4. Graph theory and combinations by H.S.Govinda Rao published by Galgotia Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	APPLIED GRAPH THEORY	CBMATB602	2017-18

SYLLABUS

UNIT-I

Matchings

Matchings–Alternating Path, Augmenting Path-Matching and coverings in Bipartite graphs, Marriage Theorem, Minimum Coverings.

UNIT-II

Perfect matchings, Tutte's Theorem, Applications, The personal Assignment problem-The optimal Assignment problem, Kuhn-Munkres Theorem

UNIT-III

Edge Colorings

Edge Chromatic Number, Edge Coloring in Bipartite Graphs-Vizing's theorem

UNIT-IV

Applications of Matchings, The time tabling problem.

Independent sets and Cliques

Independent sets, Covering number, Edge Independence Number, Edge Covering Number-Ramsey's theorem.

UNIT-V

Determination of Ramsey's Numbers–Erdos Theorem, Turan's theorem and Applications, Sehur's theorem. A Geometry problem.

Reference Books:-

1. Graph theory with Applications by J.A. Bondy and U.S.R. Murthy, published by Mac.Millan Press.
2. Introduction to graph theory by S.Arumugham and S.Ramachandran published by SciTech publications, Chennai-17.
3. A text book of Discrete Mathematics by Dr.Swapan Kumar Sarkar, published by S.Chand Publishers.
4. Graph theory and combinations by H.S.Govinda Rao, published by Galgotia Publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc.	VI	LAPLACE TRANSFORMS	CBMATB603	2017-18

SYLLABUS

UNIT- 1 (12hrs) Laplace Transform I

Definition of – Integral Transform–Laplace Transform Linearity, Property, Piece wise continuous Functions, Existence of Laplace Transform, Functions of Exponential order, and of Class A.

UNIT- 2 (12hrs) Laplace Transform II:-

First Shifting Theorem, Second Shifting Theorem, Change of Scale Property, Laplace Transform of the derivative of $f(t)$, Initial Value theorem and Final Value theorem.

UNIT– 3 (12hrs) Laplace Transform III:-

Laplace Transform of Integrals – Multiplication by t , Multiplication by t^n – Division by t . Laplace transform of Bessel Function, Laplace Transform of Error Function, Laplace Transform of Sine and cosine integrals.

UNIT–4 (12hrs) Inverse Laplace Transform I:-

Definition of Inverse Laplace Transform. Linearity, Property, First Shifting Theorem, Second Shifting Theorem, Change of Scale property, use of partial fractions, Examples

UNIT–5 (12hrs) Inverse Laplace Transform II:-

Inverse Laplace transforms of Derivatives – Inverse Laplace Transforms of Integrals– Multiplication by Powers of 'P' – Division by powers of 'P' – Convolution Definition – Convolution Theorem– proof and Applications– Heaviside's Expansion theorem and its Applications.

Reference Books:-

1. Laplace Transforms by A.R. Vasistha and Dr.R.K.Gupta Published by Krishna Prakashan Media Pvt.Ltd.Meerut.
2. Fourier Series and Integral Transforms by Dr.S.Sreenadh Published by S.Chand and Co.,Pvt.Ltd.,New Delhi.
3. Laplace and Fourier Transforms by Dr.J.K.Goyal and K.P.Gupta, Published by Pragathi Prakashan, Meerut.
4. Integral Transforms by M.D. Raisinghania, -H.C.Saxena and H.K. Dass Published by S.Chand and Co.,Pvt.Ltd.,New Delhi.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

MBA 101: MANAGING PEOPLE AND ORGANISATIONS

UNIT I:

Introduction to Management: Concept, Definition and Nature of Management – Evolution of Management thought – Purpose, Functions, Principles, and Levels of Management – Types and Roles of Managers (Mintzberg), and skills for Managers (Katz)– Management and Environment – Social and Ethical Responsibilities of Managers – Recent Trends in Management Practices in the wake of Globalization.

UNIT-2

Managing People-1: Creating Value through Human Resources – Gaining Competitive Advantage through Managing People – Strategic Approach to Managing People – Managing people at Work Place – Managing People through Persuasion and Motivation – Managing Employee Involvement and Participation – Employment Relationship.

UNIT-3

Managing People-2: Managing Individual and Group Differences – Managing Individual and Group Performance – Coaching and Feedback – Reward Techniques and Practices – Career Development and Progression – Management of Complaints and Grievances – Cross-cultural and Diversity Management – Management by Objectives – Management by Exception – Tipping Point Leadership.

UNIT-4

Managing Organizations-1: Concept, Definition and Characteristics of Organization – Types, Structure and Principles of Organization – Organizational Design – Organization and Environment – Organizational Behavior – Organizational Strategy – Managing Organizational Culture and Identity – Managing Organizational Learning and Transformation – Managing Power, Politics, Influence and Conflicts in Organizations.

UNIT-5

Managing Organizations-2: Managing Individual-Organizational Interface – Managing Group Dynamics in Organizations – Organizational Decision-Making and Strategy-Formulation – Organizational Failure and Pathology – Managing Organizational Change and Development – Managing Sustainability and Effectiveness of Organizations.

REFERENCE BOOKS:

1. Stephen Taylor, Carol Woodhams, *Managing People and Organizations*, First edition, 2012,
2. Jeremy Adams, *Managing People in Organizations -Contemporary Theory and Practice*, Palgrave Macmillan.
3. Clegg, S., Kornberger, M., and Pitsis, T., *Managing and organisations: An introduction to theory and practice*, Sage, London, 2011.
4. Ricky Griffin, Gregory Moorhead, *Organizational Behavior: Managing People and Organizations*, Cengage Learning, 2009.

MBA 102: MANAGERIAL ECONOMICS

UNIT I:

Managerial Economics: Definition, Nature, Scope – Functions and Responsibilities of a Managerial Economist – Law of Demand and its exceptions – Elasticity of Demand – Market Demand Equation – Types of Elasticity of Demand and their Managerial Uses – Demand Forecasting – Methods of Forecasting for Existing and New Product.

UNIT 2:

Production Analysis & Firm Theory: Economic Theory of Firm – Theories of firm-Baumol's Model and Agency Theory – Production Function – Law of Variable Proportions & ISO-Quants & ISO Costs – Least Cost Factor Combination – Returns to Scale – Economies and Diseconomies of Scale.

UNIT 3:

Cost, Profit & Market Structures: Cost Concepts – Short-run and Long-run Cost Curves – Determinants of Short-Term & Long Term Profits, Measurement of Profit – Profit Maximization vs. Wealth Maximization – Demand and Supply: Market Equilibrium – Market Structures – Concept of Price – Pricing and Output Determination under Perfect Competition, Monopolistic Competition and Monopoly.

UNIT 4:

Indian Economic Environment: Overview of Indian Economy – Recent changes in Indian Economy – Macro Economic Aggregates and Concepts - National Income - GDP, GNP, NNP, WPI, CPI – Types of Inflation: Demand Pull and Cost Push Inflation, Philips curve, Stagflation – Measurement of Inflation – Economics of Risk & Finance – Monetary Policy & Fiscal Policy.

UNIT 5:

Trade Cycles: Phases, Theories, and Corrective Measures – Behavioral and Technical Function: Aggregative Demand and Supply, Consumption Function, and Investment Function – Keynesian Theory (overview).

REFERENCE BOOKS:

1. Joel Dean, *Managerial Economics*, Prentice Hall.
2. Mote & Paul, *Managerial Economics*, Tata McGraw Hill.
3. Gupta, *Managerial Economics*, Tata McGraw Hill.
4. Gupta, *Macro Economics, Theory & Applications*, Tata McGraw Hill.

MBA 103: BUSINESS ANALYTICS FOR MANAGERIAL DECISION MAKING

UNIT -I

Introduction: Meaning, Definition and Importance of Business Analytics – Analytics v/s Analysis

–Business Analytics v/s Business Intelligence and Data Mining – Applications of Analytics – Different Kinds of Analytics – Types of Analytical Tools – Identifying Problems & Opportunities through Data Analytics – Framing a Business Problem as an Analytical Problem – Analytical Approaches for Decision Making – Business Analytics as a Competitive Strategy – Effective Communication of Analytics.

UNIT -2

Mathematics and Statistics for Business Analytics: Concept and Definition of Data Science – Data Sources, Types of Data and Data Representations – Mathematics for Business Analytics: Application of Differentiation, Maxima and Minima, Matrices and Matrix Operations using Cramer's Rule and Inverse Method (Problems) – Probability and Counting Techniques: Bayes' Theorem, Binomial, Poisson and Normal Distributions (*Theory and Problems*) – Statistics for Business Analytics: Descriptive Statistics-Measures of Central Tendency, Variability and Shape (*Theory and Problems*).

UNIT-3

Predictive Analytics Tools & Techniques: Concept of Predictive Analytics – Linear Regression and Logistic Regression (*Theory and Problems*) – Factor Analysis (Theory) – Cluster Analysis (Theory) – Econometrics and Time Series Forecasting (*Theory and Problems*).

UNIT-4

Contemporary Analytics: Financial and Risk Analytics, HR Analytics, Customer Analytics for New Product Development, Retail Analytics, Sales force Analytics, Web and Social Media Analytics, and Supply Chain and Logistics Analytics (*Theory*).

UNIT-5

Business Research & Analytics for Decision Making: Introduction to Research and Problem Formulation – Types of Research – Research Process and Research Design – Sampling Theory – Scaling, Measurement Data Collection Techniques (Overview) – Hypothesis Formulation and Testing Techniques – *Non-Parametric Tests* (Mann-Whitney U, Chi-square test, and Spearman R) – *Parametric Tests*: Correlation, t-test and ANOVA – Data Interpretation, Report Writing and Presentation (*Theory and Problems*).

Reference Text Books:

1. Shmueli, Patel and Bruce, *Data Mining for Business Intelligence, Concepts, Techniques and Applications*, Wiley.
2. Powell and Baker, *Management Science: The Art of Modeling with Spreadsheets*, Wiley.
3. Williams, *Data Mining with Rattle and R: The Art of Excavating Data for Knowledge Discovery*, Springer.
4. Ledolter, *Data Mining and Business Analytics with R*, Wiley.

MBA104: BUSINESS, GOVERNMENT & SOCIETY (3L + 1T + 1P)**UNIT- 1**

Introduction: Relationship among Business, Government and Society (BGS) – Importance of Business, Government and Society to Managers – Dynamic Forces Changing Business Environment – Models of BGS Relationships – Market Capitalism Model, Dominance Model, Countervailing Forces Model and Stakeholder Model.

UNIT- 2

Corporate Governance: Definition and Significance of Corporate Governance – Historical Perspective of Corporate Governance – International Perspective on Corporate Governance (Overview) – Theoretical Foundations of Corporate Governance – Elements of Governance in Organizations – Obligation to Stakeholders of Business – Major Corporate Governance Failures in Domestic and MNCs – Whistle-blowing and Corporate Governance.

UNIT- 3

Public Policies: The Role of Public Policies in Governing Business – Classification and Levels of Public Policy – Public Private Partnerships – Government Regulations in Business – Environmental Concerns and Corporations – Laws Governing Environment – New Industrial Policy, 2015 – India's Competitiveness in the World Economy.

UNIT- 4

Business Ethics: Concept and Definition of Business Ethics – Importance of Ethics, Values and Morals for Business Success – Evolution of Business Ethics – Ethical Theories and Approaches – Unethical Issues in Business – Ethical Dilemmas and Decision Making – Managing Ethical Organizations.

UNIT- 5

Corporate Social Responsibility: From Social Responsibility to Shared Value into Social Progress – Types and Nature of Social Responsibilities – Arguments for and Against CSR – CSR Principles and Strategies – Models of CSR – Best Practices of CSR – CSR in Indian Perspective – Movement from CSR to Shared Value and Beyond the Thinking of Social Progress.

Reference Text Books:

1. Douglas E. Geer, *Business, Government and Society*, 3rd Edition, Prentice Hall.
2. John Steiner and George Steiner, *Business, Government and Society: A Managerial Perspective*, TMH.
3. AC Fernando, *Business Ethics: An Indian Perspective*, Pearson publications, 2009.
4. Boatright, *Ethics and the conduct of Business*, fifth edition, Pearson publications, 2007
5. M. Friedman, *The social responsibility of business is to increase its profits*, New York Times Magazine, Sept 13, 1970

MBA 105: MANGERIAL COMMUNICATION

UNIT-1

Introduction: Definition, Role, Purpose & Classification of Communication – Communication Process – Characteristics of Successful Communication – Importance of Communication in Business Organizations – Communication barriers – Communication Structure in Organization – Communication in Conflict Resolution – Communication in Crisis – Communication in a Cross-cultural and Multi cultural Setting.

UNIT- 2

Inter & Intrapersonal and Oral & Nonverbal Communication – Interpersonal Communication Models – Intrapersonal Communication Models – Principles of Successful Oral communication – Barriers to Oral Communication – Types of Managerial Speeches– Principles of Nonverbal Communication – Group Communication: Meetings and Group Discussions.

UNIT- 3

Managerial Writing & Business Correspondence – Purpose of Writing – Clarity in Writing – Principles of Effective Writing – The Seven Cs of Effective Written Communication – Applying the Three Step Writing Process – Planning and Writing Business Reports and Proposals – The Process of Preparing Effective Business Correspondence – The Organization and Composition of Business Messages – Principles of Effective Presentations.

UNIT- 4

Media Management & Meeting Documentation: Press Release, Press Conference & Media Interviews – Notice, Agenda, and Resolution & Minutes – Designing & Delivering Business Presentations – Advanced Visual Support for Managers – Communication and Negotiation – Negotiation Process – Negotiation Strategies.

UNIT- 5

Communication Networks & Employment Communication: Technology-enabled Communication – Communication Networks: Intranet, Internet, e-mails, SMS, Teleconferencing, Videoconferencing, Blogs and Social Media – Composing Application Messages: Writing CVs & Resumes – Interview skills – Listening Skills.

Reference Text Books:

1. Courtland L Bovee, John V. Thill, & Mukesh Chaturvedi, *Business Communication Today*. Ninth Edition. New Delhi: Pearson.
2. Jerry C. Wofford, Edwin A. Gerloff and Robert C. Cummins, *Organizational Communication – The Keystone to Managerial Effectiveness*, New York: McGraw-Hill.
3. Lesikar & Flatley., *Basic Business Communication – Skills for Empowering the Internet Generation*. 9th Edition, McGraw-Hill.

MBA106: ACCOUNTING FOR MANAGERS (4L + 1T + 1P)**UNIT- 1**

Introduction to Financial, Cost and Management Accounting: Basic Accounting Concepts and Conventions – Accounting Records and Systems – Journal – Ledger – Trial Balance – Construction of Profit & Loss Account and Balance Sheet.

UNIT- 2

Understanding Financial Statement: Construction and Analysis of Profit and Loss Account – Accounting for Liabilities – Financial Statement Analysis – Construction and Analysis of Funds Flow Statement, and Cash Flow Statement.

UNIT- 3

Accounting for Capital Issues: Accounting for Issue, Allotment and Forfeiture of Shares, Accounting for Debentures Issues – Conversion – Accounting Procedures for Declaring and Distributing Dividends.

UNIT- 4

Financial Reporting and Auditing: Legal requirements relating to Accounting Disclosure – IFRS – Board's Report, Legal Requirements relating to Auditing (Brief) – Internal Controls, Accounting for Cash and Ethics – Forensic Accounting, Window Dressing – Sustainability Reporting.

UNIT- 5

Cost Management: Understanding and Classifying Costs – Cost Behavior – Planning for profit and Cost control – Cost Management Process – Cost Management Techniques – Marginal Costing – Cost-Volume-Profit Analysis – Performance Evaluation.

REFERENCE BOOKS:

1. Anthony, Robert N and James Reece, *Accounting Principles*, All India Traveler Book Seller, ND.
2. Horngren, Charles T., *Introduction to Management Accounting*, PHI, NJ.
3. Maheswari SNN, *Management Accounting and Financial Control*, Mahavir Book Depot.
4. Noore Carl L and Robert K. Joedicke, *Managerial Accounting*, South Western Pub. Co.

MBA107: BUSINESS COMMUNICATION (1L + 1T + 1P)

UNIT-1

Introduction to Managerial Communication: Principles of Effective Communication – Target Group Profile – Barriers of Communication – Reading skills – Listening Skills – Legal and Ethical Issues in Business Communication.

UNIT-2

Principles of Nonverbal Communication: Professional Dressing and Body Language – Role Playing – Debates – Managerial Speeches: Types of Managerial Speeches.

UNIT-3

Group Communications: Meetings and Group Discussions – Addressing Board Meetings and Annual General Body Meetings – working with Teams & Groups – Group Decision Making.

UNIT-4

Managerial Writing: Business Letters, Routine Letters, Persuasion Letters, Sales Letters, and Business Proposal Writing – Internal Communication through notices, circular, memos, agenda and Minutes – Press Release and Press Notes.

UNIT-5

Effective Presentation and Interview Skills: Principles of Effective Communication – Mastering the art of giving interviews in selection or Placement – Appraisal Interviews – Exit Interviews – Web/Video Conferencing and Tele-meeting.

Reference Text Books:

1. "Effective Group Discussion: Theory and Practice" by Gloria J. Galanes, Katherine Adams, John K. Brillhart.
2. "Effective Presentation", 3rd Edition by Ros Jay, Antony Jay published by Pearson.
3. "Effective Presentation Skills" (A Fifty-Minute Series Book) by Steve Mandel.

MBA108: PERSONALITY DEVELOPMENT

UNIT-1

Introduction to Personality: Concept, Meaning and Definition of Personality – Physical Appearance and Body Language – Voice Modulation and Diction – Communication styles.

UNIT-2

Business Style and Professional Image: Dress Code – Guidelines for Appropriate Business Attire – Multi-cultural Dressing – Personal Grooming for Success – Business Etiquettes, Media Etiquettes, and Table Etiquettes.

UNIT-3

Impression Management: Impression Formation – Tactics – Self presentational Motive – Compass Qualities – Toxic Traits – Social Context: Norms and Roles – Powerful Persuasion Strategies.

UNIT-4

Interpersonal Relations & Conflict Management: Analysis of different Ego States – Analysis of Transactions – Causes of Conflicts – Conflicts Resolution and Management.

UNIT-5

Stress and Time Management: Causes of Stress, Types of Stress – Coping with Stress and stress Management Techniques – Time as a Resource – Individual Time Management Styles – Better Time Management Techniques.

Reference Text Books:

1. Mitra Barun, *Personality Development and Soft Skills*, Oxford University Press.
2. E.H. McGrath, *Basic Managerial Skills for all*, Prentice Hall.

MBA109: EMOTIONAL INTELLIGENCE AND MANAGERIAL EFFECTIVENESS

UNIT-1

Introduction: Emotions and the Tripartite Brain – Emotions and Enneagram – Role of Emotions – Emotions and Attitudes – Fundamentals of Emotional Intelligence – Emotional Intelligence Models and Theories – Managing Emotions.

UNIT-2

Emotional Intelligence at Work: Intrapersonal and interpersonal Emotional Intelligence – Emotional Intelligence and Personality – Importance of Emotional Intelligence at Work – Empathy and Social Skills at Work Place – Individual and Group level Emotional Intelligence at Work.

UNIT-3

Executive Emotional Intelligence: Executive Emotional Quotient – Emotional Competence Framework – Emotional Transformation – Measuring Emotional Intelligence – Benefits of Emotional Intelligence.

UNIT-4

Managerial Effectiveness: Understanding Organizational Goals – Innovation & Creativity – Optimizing Resources – Execution Skills (PDCA Cycle) – Challenges faced by Organizations – Expectations from Practicing Managers

UNIT-5

Emotional Intelligence and Organizational Effectiveness: Sources of EI in Organizations – Role of EI on Organizational effectiveness in the areas of Employ Recruitment and Selection – Team Work – Productivity – Efficiency – Quality of Service.

Reference Text Books

1. The Brain and Emotional Intelligence: New Insights by Daniel Goleman
2. Dalip Singh, *Emotional Intelligence at Work: A Professional Guide*, Response Books, New Delhi.
3. Daniel Goleman, *Working with Emotional Intelligence*, Bloomesbury.

MBA 201: MARKETING MANAGEMENT (3L + 1T + 1P)

UNIT -I:

Introduction: Basic marketing concepts – Understanding Customers – Company Orientation towards Marketing – Transaction Vs Relationship Marketing – Analyzing Markets and Customers – Integrated Marketing Concept – Defining and Delivering Customer Value and Satisfaction – Value Chain – Marketing Environment: Macro and Micro Components and their Impact on Marketing Decisions – Marketing Research and Information – Adapting Marketing to New Liberalized Economy – Digitalization and Customization – Changing Marketing Practices: e-marketing, Tele Marketing, Cause Marketing, Societal Marketing, Rural Marketing, Green Marketing, Emotional Marketing, Guerrilla Marketing.

UNIT 2:

Strategic Marketing Planning – Buyer Behavior – Consumer vs. Organizational Buyers – Market Segmentation and Targeting – Positioning and Differentiation Strategies – Marketing Mix – Product Decisions: Concept of a Product, and Classification of Products – Product Mix and Line Decisions – Product Life Cycle – Strategic Implications – New Product Development and Consumer Adoption Process – Price Setting: Objectives, Factors and Methods, Price Adapting Policies, and Initiating and Responding to Price Changes.

UNIT 3:

Marketing Channel System – Functions and Flows – Channel Design – Channel management – Selection, Training, Motivation, and Evaluation of Channel Members – Channel dynamics: VMS, HMS, and MMS – Distribution Strategy – Market Logistics Decisions.

UNIT 4:

Marketing Communication: Concept, Definition, and Importance – Marketing Communication Mix – Promotion Decisions – Integrated Marketing Communication – IMC Planning Process – Integrated Communications Strategy – Recent trends in Marketing communications.

UNIT 5:

Marketing Organization and Control: Types of Marketing Organization Structures, and Factors Affecting Marketing Organization – Control of Marketing Efforts: Annual Plan Control, Efficiency Control, Profitability Control and Strategic Control – Marketing Audit – Customer Relationship Marketing – Customer Attracting and Retaining Customers – Consumerism – Consumer Rights and Marketers' Responsibilities.

REFERENCE BOOKS:

Philip Kotler, Kevin Lane Keller, Abraham Koshy & Mithileswar Jha, *Marketing Management – A South Asian Perspective*, Pearson Education.

Agarwal, P.K., *Marketing Management – An Indian perspective*, Pragati Prakasham

Kazmi SHH, *Marketing Management Text and Cases*, Excel.

Philip Kotler and Armstrong. G., *MARKETING*, Prentice Hall of India, 12th Edition.

UNIT 1:

Introduction: Meaning, Definition, Nature, scope, and Importance of HRM – objectives and Functions of HRM – Policies, Procedures and Programmes, and Practices of HRM – Organization of HRM – Line and Staff Responsibility – Role of Personnel Manager and HR manager – Models of HRM – HRM in a Changing Environment.

UNIT 2:

Procurement: HR Job Analysis – Human Resource Planning, Objectives, Importance, Factors Affecting HR Planning – Demand Forecasting and Process of HR Planning – Problems and Limitations of HRP – Recruitment: Definition, Objectives, Subsystems, Factors Affecting Recruitment Policy, Centralized and Decentralized Recruitment, Recruitment Organisation, Recruitment Sources, Recruitment Techniques, Recruitment Process, and Recent Trends in Recruitment Practices – Selection: Meaning, Definition, Importance, Types of Selection, Essentials of Selection Procedure, and Process of Selection – Placement, Induction, and Socialization.

UNIT 3:

Development and Performance Management: Objectives of Training, Training Need Assessment, Designing and Administering Training Programme, Executive Development Programmes, Evaluation of Training and Development Programmes –Performance Appraisal: Meaning, Need, Purpose, Objectives, Contents of PAS, Appraisers and Different Methods of Appraisal, Uses of Performance Appraisal, Limitations, Problems of Performance appraisal, and Post Appraisal Feedback.

UNIT 4:

Promotion and Reward Management: Promotion, Transfer, Demotion, and Career planning and Development – Compensation Management: Definition, Need for Sound salary Administration, Objectives, Factors Affecting Wages/ Salary Levels, HRM Approaches to Reward Management, Job Evaluation – Employee Welfare Measures.

UNIT 5:

Maintaining: HRM Approach to Employee – Quality of Work Life (QWL): Meaning, Conditions, Specific Issues in QWL, Strategies for Improvement of QWL – Retirement, Discharge, VRS, and Exit Interviews – Changing Role of HR in Knowledge Era, Mergers and Acquisitions, Outplacement, Outsourcing HR Functions, and Employee Leasing – HRM Changes in Management Control Systems: HRIS, HRM Accounting, and HR Audit – International HRM: Perspectives and Challenges – Grievance and Disciplinary Procedure – HR Research.

Reference Text books:

1. Monappa, A., and Saiyaddin.M., *Personnel Management*, Tata Mc Graw Hill.
2. De Cenzo and Robbins, Stephen, P., *Personnel/ Human Resource Management*, Prentice Hall of India.
3. Dessler, *Human Resource Management*, Pearson Education.

MBA 203- FINANCIAL MANAGEMENT

UNIT 1:

Financial Management: Conceptual Overview, Scope, Functions, Roles, Goals – Changing Role of Finance Managers –Time value for money – Present Value – Risk and Return – Profit maximization Vs. Wealth Maximization – Financial Decisions – Financial Planning and Forecasting: Meaning, Objectives, Process of Financial Planning and Financial Forecasting (*Theory and Problems*).

UNIT2:

Financial Leverages: Types of Financial Leverages-EBIT and EPS analysis – Cost of Capital – Measurement of Specific Costs of Capital – Weighted Average Cost of Capital (*Theory and Problems*).

UNIT3:

Capital Structure: Determinants of Capital Structure, and Optimum Capital Structure – Capital Structure theories: Traditional, NI, NOI and MM Theories – Capital Budgeting: Nature, Scope, Significance, and Risks in Capital Budgeting –Techniques of Capital Budgeting: Traditional and DCF techniques – Risk Analysis in Capital Budgeting. (*Theory and Problems*)

UNIT 4:

Working Capital Management: Meaning, Significance, Types of Working capital, Determinants of working capital, and Methods of Measuring working Capital Requirements – Operating cycle – Financing of Working Capital– Management of Cash, Receivables, and Inventory – *Management of Profits*: Dividend Policy and Dividend Theories (*Theory and Problems*).

UNIT 5:

Financial Analysis: Types of ratios, Classification and analysis through ratios, Advantages and Limitations of ratio analysis (*Theory and Problems*).

References Text books:

1. James C Van Horne & John M. Wachowicz Jr, *Fundamentals of Financial Management*, Prentice Hall of India, New Delhi.
2. Arthur Keown, John Martin, William Petty & David Scott Jr, *Financial Management: Principles and Applications*, Prentice Hall of India, New Delhi.
3. Brealey, Richard and Myers Stewart. C., *Principles of Corporate Finance*, McGraw Hill, New Delhi.

MBA 204 – OPERATIONS RESEARCH

UNIT 1:

Operations Research – Uses, Scope, and Applications of Operation Research in Managerial Decision- making – O.R. Models – Formulation of Models – Using Models for Problem Solving – Techniques of Operations Research – Limitations of Operations Research – Linear Programming: Mathematical Formulations of LP Models for Product-mix Problems – Graphical Method – Simplex Method and its Applications.

UNIT 2:

Duality and Sensitivity Analysis: Duality in Linear Programming – Technical Issues in Simplex Method – Project Management – Network Models: PERT, and CPM and its Applications.

UNIT 3:

Transportation Problem: Introduction – Methods for Finding Initial Solution – Optimum Solution MODI Method – Assignment Problem: Hungarian method.

UNIT 4:

Game Theory – Introduction – Two Person Zero sum games – Pure and Mixed Strategies – Dominance Principles – Graphical method – Decision Theory and its Applications.

UNIT 5:

Queuing model (M / M / I ONLY): Components, Basic Structure, and Assumptions – waiting line

Decision Problem – Simulation: Process of Simulation, Applications of Simulation to Different Management Problems.

REFERENCE BOOKS:

1. Taha M.A., *Operations Research*, Mac Milan.
2. Anand Sharma, *Operations Research*, Himalaya Publishing House.
3. Kantiswarup, P.K.Gupta and Manmohan, *Operations Research*, Sultan Chand & Sons.

MBA 205: ENTREPRENEURSHIP: THEORY AND PRACTICE

Introduction: Fundamentals of Entrepreneurship – Evolution of the Concept–Basic Models and Theories of Entrepreneurship – Psychological Theories of Entrepreneurship – Social, Cultural and Political Dimensions of Entrepreneurship – Functions of an Entrepreneur –Types of Entrepreneur – Different Forms of Enterprises – Entrepreneurial Culture – Stages in Entrepreneurial Process – Intrapreneurship – Entrepreneurship as a Style of Management – Entrepreneurial Challenges.

UNIT-2

Innovation and Entrepreneurship: Cognitive Approaches to Opportunity Recognition, Page 11 of 162

and Moving Innovative Ideas – Entrepreneurship and Creativity – Financing Entrepreneurial Innovation – Protection of Entrepreneurial Rents – Business Innovation – Business Model Change – Creating New Marketing Space – Discovering New Points of Differentiation.

UNIT-3

Small Firms & New Ventures: Dynamics of Small Business Environment – Entrepreneurial Venture and the Entrepreneurial Organization –Types and Characteristics of Small Firms and Ventures – Resource Acquisition for Small Firms and New Ventures –Angel Funding and Venture Capitalists – Causes for Small Business Failure – Success Factors for Small Business – Management of Small Business – Entrepreneurship in the Corporate Environment – Need for and Possible Barriers to Corporate Entrepreneurship – Legal Structures and Regulatory Framework of Entrepreneurship.

UNIT-4

Entrepreneurial Decision Making: Characteristics of Entrepreneurial Leadership – Different Categories of Decisions Taken by an Entrepreneur along the Entrepreneurial process – Differences between the Logic of Causation and the Logic of Effectuation in Explaining Venture Creation – Role of Affect in Entrepreneurial Decision Making – Risk taking in Entrepreneurship.

UNIT-5

Entrepreneurial Life Cycle: Life Cycle of Entrepreneurial Venture – Role of Entrepreneur during various Transition Stages – Requirements for Successful Patent Grants – Protection of intellectual property – Different Approach on Entrepreneurial Research – Emerging trends in Entrepreneurship: Technopreneurship, netpreneurs, agripreneurs, Women entrepreneurship, and Portfolio entrepreneurship.

References

1. Ram Chandran, 'Entrepreneurial Development', Tata McGraw Hill, New Delhi
2. Saini, J. S., 'Entrepreneurial Development Programmes and Practices' , Deep & Deep Publications (P), Ltd.
3. Khanka, S S. 'Entrepreneurial Development', S Chand & Company Ltd. New Delhi
4. Badhai, B 'Entrepreneurship for Engineers', Dhanpat Rai & co. (p) Ltd.

MBA 206: MANAGEMENT INFORMATION SYSTEMS

UNIT - I

Introduction: Managerial Overview of Information Technology – Information as a Strategic Resource – Use of Information for Competitive Advantage – Types of Information Systems used in operational, tactical and strategic level – Modern Organization - IT enabled – Technology Road Map for the Organization, Matching MIS Plan to the Organizational Strategic Plan. Challenges for the IT manager in Networked-Dispersed organizations – Information Systems Architecture – Computer Hardware – Computer Software – Computer Networks – Topologies of Different Networks – Cloud computing.

UNIT-2

MIS Planning & MIS Design: Assessing Enterprise Information requirements – Design and Implementation Concepts – Systems Concept – Acquiring Information Systems – Contemporary Approaches. Systems Development Life Cycle:— Systems Engineering, Analysis and Design, Development, Testing, Implementation and Maintenance – Alternative System Building Approaches.

UNIT- 3

Data Management and Decision Support Systems: Data Management: Importance of Database management, Types of DBMS, Importance of RDBMS – Data Warehousing and Data Mining – Business Intelligence and Analytics – DSS, DSS applications – Group Decision Support Systems – Executive Information Systems – Executive Support Systems – Geographical Information Systems – Expert Systems and Knowledge Based Expert Systems – Artificial Intelligence.

UNIT – 4

MIS in Functional Application and ERP: MIS in Functional Areas – MIS in Accounting, MIS in Marketing-CRM, MIS in HR- Performance Management, MIS in operations- Logistics management – ERP – Emerging IT Trends – Electronic Data Interchange – Extended Enterprise Systems – Managing International Information Systems.

UNIT – 5

Digital Firms and Ethical Issues: MIS Model for a Digital Firm – Organization Structure for Digital Firm – e-Business Models and Applications – Mobile Computing, Call Centers, BPO. Management Issues in MIS: Information Security and Control Systems, Success and Failure, Quality Assurance – Ethical and Social Dimensions – Intellectual Property Rights as Related to IT Services / IT Products.

REFERENCES:

1. Laudon K C and Laudon J P - Management Information Systems: Managing the Digital Firms (Prentice Hall, 1st Ed.)
2. O'Brien James - Management Information System (Tata Mc Graw Hill, 12th Ed.)
3. Jawedkar W S - Management Information System (Tata Mc Graw Hill, 3rd Ed.)

MBA 207 LIFE SKILSS LAB (1L + 1P + 1T)

UNIT-1

Introduction: Definition of Life Skills – Assumptions about Life Skills – Concept of Skill in Life Skills – Concept of Skill in Life Skills – Primary Goal of Life Skills Programme – Life Skills Process Model– Group Development and Group Behaviors.

UNIT-2

Personal Management: Managing Personal Finance – Selecting and Managing a Household –

Caring for Personal Needs – Raising Children and Meeting Marriage Responsibilities – Buying, Preparing, and Consuming Food – Buying and Caring for Clothing – Exhibiting Responsible Citizenship – Using Recreational Facilities and Leisure Time – Getting Around the Community (Mobility).

UNIT-3

Personal-Social Skills: Achieving Self-Awareness – Acquiring Self-Confidence – Achieving Socially Responsible Behavior – Maintaining Good Interpersonal Skills – Achieving Independence, Achieving Problem-Solving Skills – Communicating with Others.

UNIT-4

Occupational Skills: Knowing & Exploring Occupational Possibilities – Selecting and Planning Occupational Choice – Exhibiting Appropriate Work Habits and Behaviors – Seeking, Securing, and Maintaining Employment – Exhibiting Sufficient Physical-Manual Skills – Obtaining a Specific Occupational Skills.

UNIT-5

Coping Strategies: Concept of Coping – Types of coping strategies: 1) appraisal focused (adaptive Cognitive) 2) problem focused (adaptive behavior) 3) emotion focused Empathy – Fundamentals of Moral Development – Interpersonal Influences on Moral Development – Moral Development and Social Exclusion – Morality and Culture – Morality and Intergroup Attitudes – Moral Emotions.

Reference Text Books:

1. Glencoe, *Applying Life Skills*, McGraw Hill, 2010.
2. Louise A. Liddell and Yvonne S. Gentzler, *Building Life Skills*, Goodheart - Wilcox Publishers, 6th Edition
3. Glencoe, *Managing Life Skills*, McGraw Hill, 2010.
Strengthening Entrepreneurial Culture in Indian Schools, Springer Publishers, New Delhi.

MBA 208 INDUSTRY AND BUSINESS DOAMIN ANALYSIS LAB (1L + 1P + 1T)

UNIT-1

Industry Analysis – the Basics: Nature of the Industry, Players in Industry – Nature of Competition from an Economist's Perspective – Market Shares of top 3 & bottom 3 players – Possible Classification of Pplayers into Leaders, Challengers, Followers, Nichers – Positioning & Differentiation Strategies of Key Players – Branding Strategies – Pricing Policies, Cartelization if any and Comments thereon – Capacity Analysis – Total Capacity of the Industry and Break up Capacity Amongst key Players – Planned Future Capacity Additions – Geographical Spread of Plants/Facilities/ Capacities (Domestics as well as Global) – Demand Supply Balance in the Industry – Key Factors Affecting Demand – Key Supply side Constraints – Professional Trade Bodies of the Industry – Business Functions carried out Online by the key Players – Online Presence.

UNIT-2

Promoters & Management Ethos: Background of Promoter Groups of top 3 and Bbottom 3 Players in the Industry – Management Ethos and Philosophy – Brief Profiles of CMDs, CEOs, and Key Top

Management Personnel with their Career Highlights – Detailed Profile of one Distinguished Top Management Personnel each from any Two Players in the Industry – CSR Policy – Corporate Governance Initiatives – Initiatives towards Social Inclusion – Initiatives towards Environment Conservation.

UINT-3

External Environment: Controlling Ministry and / or Regulator if any for the Industry – Regulatory Actions against the Players for e.g. Action by SEBI, Competition Commission of India, MTRP Commission, etc. against Irregularities, Legal Violations if any – Regulatory Policies at the State, National and Global Level and their Impact on the industry as a whole with Analysis of Impact on top 3 Players – Key National and Global Issues Affecting the Industry – Key Initiatives by the Government to Promote the Industry – Environmental Issues.

UINT-4

Financials: Profitability, Revenues, Margins of Top 3 & Bottom 3 Players over the last 3 years and Trends/Changes therein – Sick Players if any and Their Turnaround Strategies, if any – Key Factors Contributing to Costs – Ratio Analysis of Financial Data for last 3 years for Top 5 and Bottom 5 Companies in the Industry.

UINT-5

Recent Developments: Impact of Key Relevant Provisions of the latest Fiscal Policy on the Industry and Various Players therein – Analysis of Key relevant Provisions of Latest Exim Policy in case of Industries that are Focused on Global Markets for Exports or Industries that have significant import Components – Key Alliances in the past 5 years and their Performance & Impact on other Players in the Industry – Mergers & Acquisitions, if any – Technological Developments – Labour Unrest if any – Reasons thereof and Impact on the Particular Player and the Industry as a whole – Emerging first Generation Entrepreneurs, if any, in the Industry – Corporate Wars & Feuds in the Industry, if any.

Learning Resources:

- 1 Supplementary Reading Material Annual reports of various companies
Economic Times Business Standard Business Line Business Today Business India
- 2 Websites Websites of various companies
 Websites of various ministries of the Government of India
 Websites of various trade bodies
 Websites of stock exchanges
- 3 Journals Journals Economic and Political Weekly

MBA 209 LEGAL FRAMEWORK OF BUSINESS LAB (1L + 1P + 1T)

UNIT-1:

The Indian Contract Act – 1872: Nature of a Contract; Essential Elements of a Valid Contract void & Unlawful Contracts, Performance of a Contract, Breach of Contract and its Remedies, and Quasi Contracts. Special Contracts: Contingent Contracts, Indemnity and Guarantee, Contract of Agency, Bailment, and pledge.

UNIT-2:

Sale of Goods Act 1930: General Principles, Conditions and Warranties, Performance of Contract of Sale, Rights of an Unpaid Seller – Negotiable Instruments Act 1881: Negotiation and Assignment, Holder, Holder-in-Due Course, Dishonour and Discharge of a Negotiable Instrument.

UNIT-3

The Companies Act 2013: Key Definitions and Concepts – Setting up of a Company – Management and Administration – Directors – Accounts and Audit – Dividend – Revival and Rehabilitation of Sick Companies – Corporate social responsibility.

UNIT-4

Company Management: Company, Meetings, and Resolutions – Prevention of Oppression and Mismanagement of Company – Winding up of a Company.

UNIT-5

Consumer and Environmental protection – Consumer Protection Act – Environmental Laws: National and International – Environmental Impact Assessment and Evaluation – Cyber Crimes and Laws – IT Act, 2005 – Intellectual Property Rights: Patents and Trademarks

REFERENCE BOOKS:

1. Tuleja S.K., *Business Law for Managers*, Sultan Chand & Sons.
2. Akhileshwar Pathak, *Legal Aspects of Business*, Tata McGraw-Hill.
3. Kapoor, N.D., *Mercantile Law*, Sultan Chand & Sons.

MBA 210 MS EXCEL & ACCOUNTING TALLY LAB

UNIT-1

Introduction: Understanding Excel's Files, Ribbon and Shortcut – Create a workbook – Enter data in a Worksheet – Format a Worksheet, Format Numbers in a Worksheet – Create an Excel Table – Filter Data by Using an AutoFilter, Sort Data by using an AutoFilter – Essential Worksheet Operations: Using Help (F1), Key Board Shortcuts – Working with Cells and Ranges: Formatting Cells, Name Manager – Visualizing Data Using Conditional Formatting: Apply Conditional Formatting – Printing Your Work: Print a Worksheet , Using Print Preview & Other Utilities –

UNIT-2

Lab based Evaluation-1: Working with Dates and Times & Text: Working with Dates & Time, Creating Formulas that Manipulate Text – Upper, Proper, Lower, Concatenate, Text to Column – Creating Formulas That Look Up Values: VLookup, HLookup, Match & Index –

UNIT-3

Lab based Evaluation-2: Creating Formulas for Financial Applications: Introduction to Formulas e.g. PV, PMT, NPER, RATE, Creating Balance Sheet, Investment Calculations, Depreciation Calculations – Creating Charts and Graphics: Chart Your Data, Creating Sparkline Graphics, Using Insert Tab Utilities – Using Custom Number Formats: Right Click, Format Cells Window – Using Data Tab and Data Validation: Getting external Data, Remove Duplicates, Apply Data Validation & using Utilities from Data Tab – Analyzing Data with the Analysis Tool Pak: ANOVA, Correlation, Covariance, Descriptive Statistics, Histogram, Random Number Generation, Rank and Percentile, Regression, t-Test, Z Test.

UNIT-4

Computers and Accounting: Fundamentals of Computerised Accounting – Computerized Accounting Vs Manual Accounting – Features of Tally – Procedure for Creating a New Company – Directory Name / Mailing Name / Address / Groups Creation – Editing and Deleting Groups – Display of Predefined Vouchers – Voucher Creations and Alteration of Vouchers while or after Entering Transaction – Types of Vouchers – Payment Voucher – Receipt Voucher – Sales Voucher – Purchase Vouchers.

UNIT-5

Accounting Tally: Ledger – Groups in Tally – Primary Groups, Sub-groups, Creation of Ledger – process of Creation of Ledger – Balance Sheet at the Gateway of Tally – Method of Showing Trading, Profit and Loss account and Balance Sheet Creation of Inventory Reports – Creation of Stock Categories – Stock Items – Stock Groups.

References:

1. Tally – Accounting software S. Palanivel – Marghan Publications
2. Computer Applications in Business – Dr. Rajkumar

MBA 301: STRATEGIC MANAGEMENT

UNIT-I

Evolution of Strategic Management – Concept, Definition, Need and Scope, Objectives, and Importance of Strategic Management – Types of Strategies – Guidelines for Crafting Strategies – Basic Model of Strategic Management – Strategic Decision Making – Stages of Strategic Management: Strategy Formulation, Strategy Execution and strategy Evaluation and Control – Tailoring Strategies to Fit Specific Industry and Company Situations.

UNIT-II

Strategic Analysis and Choice: Environmental Threat and Opportunity Profile (ETOP), Organizational Capability Profile – Strategic Advantage Profile – Value-Chain Approach – Corporate Level Analysis: BCG, GE Nine-cell Matrix, Bodnet Market Evolution Matrix ,Hofer's Product Market Evolution and Shell Directional Policy Matrix – Industry Level Analysis: Porters' Forces Model – Qualitative Factors in Strategic Choice – Distinctive Competitiveness – Concept of Strategic Business Units (SBUs).

UNIT-III

Resource Allocation (Technological and Demand Forecasting): Budgets, Organization Structure, Matching Structure and Strategy, and Behavioral issues – Leadership Style – Corporate culture – Values – Power – Social Responsibilities – Ethics – Building a Capable organization, and Functional Issues – Functional Plans and Policies – Corporate level (or Grand) Strategies: Stability, Expansion, Divestment and Coordination Strategies

UNIT-IV

Expansion and Growth Strategies: Types of Expansion Strategies – Intensification Strategies: Market Penetration, Market Development and Product Development – Diversification Strategies: Vertically Integrated, Concentric and Conglomerate Diversification Strategies, and their Importance Growth Strategies: Mergers, Acquisitions, Takeover, Joint Ventures, Strategic Alliances, and Collaborative Partnerships – Turnaround Management Strategies.

UNIT-V

Strategy Execution/Implementation: 7S Framework for Understanding Implementation Issues – Organizational Learning – Structures for Strategies – Organizational Leadership and Corporate Culture – The concept of Balanced Score Card – Triple Bottom line Approach – Strategy Evaluation and Control: Purpose of Strategic Control, Strategic, Budgetary and Operational Control – Strategic Control Process – Strategic Audit.

Reference Text Books:

1. J A. Pearce II and R. B. Robinson Jr., *Strategic Management Formulation Implementation and Control*, Tata McGraw Hill.
2. Ansoff H. Igor, *Corporate Strategy: An Analytical Approach to Business Policy for Growth and Expansion*, McGraw – Hill, New York.
3. V.S.P. Rao & V Hari Krishna, *Strategic Management Text & Cases*, Excel Books.

FUNCTIONAL SPECIALISATIONS

MBA 302MKT: CONSUMER BEHAVIOUR AND MARKETING RESEARCH

UNIT-I

Consumer Behavior: Concept, Definition, Scope and Importance and Interdisciplinary – Consumer Environment – Consumer Analysis Framework – Consumer Behavior and Consumer Research – Models of Consumer Behavior: Input-Process-Output Model, Nicosia Model, Howard Sheth Model, Engel-Kollat-Blackwell Models of Consumer Behavior – Application of Consumer Behavior and Knowledge in Marketing – Profile of the Indian Consumer and Understanding their Needs.

UNIT-II

Individual Determinants of CB: Perception: Thresholds of Perception, Subliminal Perception, and Perceptual Process dynamics – Personality: Nature, Theories, self concept, psychographic and life style – Attitude: Structural Model of Attitude, Attitude formation & Change – Motivation: Needs/Motives & Goals, Dynamic Nature of Motivation, Arousal of Motives, and Theories – Learning: Concept, Definition, Learning Theories and their Applications. Group Determinants of CB: Reference Group Influence: Types of Consumer Relevant Groups, Factors Affecting Group

Influence, Application of Reference Group Concept – Family: Functions of Family, Family Decision Making – Environmental Influences on CB: Social Class, Life Style, Profile of Social Class, and Application of CB – Culture: Characteristics, and Cross Cultural Understanding.

UNIT-III

Consumer Decision Making Process: Routinised Response, Limited and Extensive Problem Solving Behavior – Models of CB: Nicosia, Howard & Sheth, Engel-Kollat; Diffusion of Innovation: Elements, Decisions, Adoption Categories and Process.

UNIT-IV

Marketing Research: Meaning, Nature, Significance – Marketing Research as an element of marketing information system – Marketing Intelligence Approaches – Marketing Research during Different Phases; Interaction between Management & Marketing Research – Management uses of Marketing Research – Problem Formulation – Marketing Research Process – Types of Marketing Research.

UNIT-V

Applications of Marketing Research: Product Research, Advertising Research, Copy Testing, Test Marketing, Sales & Marketing effectiveness, Internet Marketing Research, Cool hunting, and Commercial Eye Tracking – Marketing research in India – Ethical Issues Involved in Marketing Research.

REFERENCE BOOKS:

1. Hawkins, Best, Coney., *Consumer Behavior Building Marketing Strategy*, Tata McGraw Hill.
2. Leen G. Schiffman and L.H.Kanuk., *Consumer Behavior*, Pearson Education.
3. Panwar, J.S., *Beyond Consumer Marketing*, Sage Response Books, New Delhi.
4. Deon ., *Buyer Behavior*, Oxford University Press.

MBA 303MKT: PRODUCT AND BRAND MANAGEMENT (3L + 1T + 1P)

UNIT-I

Product: Concepts, Product Levels, Product Hierarchy, and Product Classification – Product Life Cycle – Portfolio Management – Market Potential – Product Demand Pattern and Trend Analysis– New Product: Planning, Development Strategies, and Launching Strategies.

UNIT-II

Product Mix - A Strategic Choice: Product Mix Decisions, Product Line Decision – strategic Decision involving Adding or Pruning Product Lines – Concept of Product Positioning: Elements of Positioning, Positioning Methods, Communicating the Positioning Strategy, and Developing Positioning Strategy – Product Research: Importance, Tools and Analysis.

UNIT-III

Brand: Meaning, Definition, Evolution of Brands, Different Types of Brands, Functions of Brand to Consumer – Role of Brand – Advantages of Brand – Product Vs Brand – Brand Life Cycle – Branding: Meaning, Creation of Brands – Branding Decisions – Brand Management: Meaning and Definition – Strategic Brand Management Process: Meaning, Steps in Brand Management

Process – Concept of Brand Equity: Customer Based Brand Equity, and Models of CBBE – Brand Building and its Implications – Brand Value Chain.

UNIT-IV

Branding Strategies: Multiple Branding, Brand Extension, Co-branding Strategies, Brand Personality, Brand Image Building, Brand Repositioning, Brand Leveraging – Branding Impact on Buyers and Competitors – Methods for Measuring Brand Equity – Methods for Measuring Brand Performance – Brand Audit.

UNIT-V

Brand Rejuvenation and Re-launch – Brand Development through Acquisition, Takes over and Merger – Brand Licensing and Franchising – Role of Packaging and Labeling – Brand Success Strategies – Brand Loyalty Programs – Building Global Brands – Branding Failures.

REFERENCE BOOKS:

1. Kevin Lane Keller, *Strategic brand Management*, Person Education, New Delhi.
2. Jean Noel, Kapferer, *Strategic brand Management*, The Free Press, New York.
3. Paul Tmeporal, *Branding in Asia*, John Wiley & sons (P) Ltd., New York,
4. S.Ramesh Kumar, *Managing Indian Brands*, Vikas publishing House (P) Ltd., New Delhi.

MBA 304MKT: ADVERTISING MANAGEMENT

UNIT-I

Advertising – Concept, Importance, Functions, and Types of Advertising – Reasons for Advertising – Economic, Social, Ethical Aspects of Advertising – Advertising and Marketing Mix – Advertising as a Tool of Marketing Communication – Advertising role in Branding Management of advertising agencies: Functions and Types of Agencies, Structure and Process, Agency Services, and Agency-Client Interface.

UNIT-II

Advertising Objectives and Budgeting: Problems in Setting of Advertising Objectives, Determination of Target Audience, Market Positioning, DAGMAR Approach – Advertising Budget: Factors Influencing Advertising Budget, Establishment and allocation of Resources, Methods and Models of Advertising Budget.

UNIT-III

Message Design and Development: Message Design and Marketing Objectives – Message Design and Positioning – Components of Message Design – Advertising Appeals – Advertising Copy Elements – Layout Principles – Creativity in Advertising – Advertising Copy: Advertising Copy for Print Media, advertising copy for Radio, TV and Outdoor Media.

UNIT-IV

Media Planning & Selection: Concept of Media – Establishing Media Objectives – Types of Media – Media Selection – Media Planning Process – Media Planning and Strategies – Media Mix Decisions – Media Scheduling.

UNIT-V

Advertising Research: Testing Validity and Reliability of Ads – Measuring Impact of advertisements – Market Testing, Testing via Internet, Pre Testing, Post Testing, Laboratory Tests, Field tests, PACT (Positioning Advertising Copy Testing).

REFERENCE BOOKS:

1. Aaker, David and Myers, John, *Advertising Management*, Prentice Hall.
2. Belch, G. and Belch, M., *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 6/e, Mc-Graw Hill.
3. Kazmi, Advertising & Sales Promotion, Excel Books, New Delhi.

MBA 305MKT: SERVICES MARKETING (3L + 1T + 1P)

UNIT-I

Introduction: Meaning, Nature, Scope, Characteristics, Classification and Growing Significance of Services Marketing – Difference between Goods and Service in Marketing – Environment of Service Marketing (Micro as well as Macro) – Concept of Service Marketing Triangle and its Implications – The Service Marketing Mix Framework– Myths about Services Marketing – Recent Trends & Opportunities in Services Marketing.

UNIT-II

Consumer Behavior in Services: Search, Experience and Credence Property, Customer Expectation of Services, Two levels of Expectation, Zone of Tolerance, Factors influencing Customer Expectation of Services, The Three-Stage Model of Consumer Behavior Applied to Services – Customer Perception of Services: Factors influencing Customer Perception of Service, and Strategies for Influencing Customer Perception – Market Segmentation and Positioning Services in Competitive Markets.

UNIT-III

Services Marketing Mix: Product-Service Continuum, product Differentiation and Product Levels, and Service Life Cycle – Pricing of Services and Revenue Management: Pricing Concepts, Pricing Strategies for Services – Communications Mix for Services – Service Distribution: Components of Service Delivery System, and Distribution Strategies for Services – Role of Employees and Consumers in Services – Integrated Communication and Service Branding – Concept of Service Encounter – Moment of Truth – Concept of Servicescapes and Physical Evidence – Concept of Process – Types of Process – Role of Process in Various Services – Customer Role in Service Process – Developing and Managing Service Processes.

UNIT-IV

Customer Satisfaction & Service Quality Management: Concept of Customer Satisfaction, Determinants of Customer Satisfaction, Monitoring, and Measuring Customer Satisfaction – Service Quality Models: Parsuraman- Zeithamal-Bitner (PZB) Gaps Model, SERVQUAL, and SERVPERF – Gronroos Model – Technology & Service Strategy: Applying Technology to Service Settings, e-services.

UNIT-V

Relationships, Complaining & Service Recovery: Building and Managing Customer Relationships, Human Service Interfaces, Services Marketing Effectiveness, Service Deficiencies, Service Failure, and Recovery Services Strategies – Service Innovation and Design – Cost-Effective Service Excellence – Customer Profitability and Lifetime Value – Managing Customer Loyalty – Churn Diagnostic and Customer Retention – Service Audit.

REFERENCE BOOKS:

1. Lovelock. Christopher H., *Services Marketing*, Pearson Education, New Delhi.
2. Valeri Zeithmal and Mary Jo Bunter, *Services Marketing*, Tata McGraw Hill, New Delhi.
3. Ravi Shankar, *Services Marketing*, Excel Books, New Delhi.

MBA 306MKT: INDUSTRIAL (B2B) MARKETING

UNIT-I

Introduction: Concept of B2B Marketing, Why and how is Industrial Marketing Different?, B2B Environment: Customers, Organizations, & Markets, Environment Analysis in Business Marketing, Business versus Consumer Marketing, Nature and Characteristics of Industrial Marketing, Economics of Industrial Demand, Types of Industrial Markets, Types of Business Customers, Industrial Customers Purchase Orientations, Models of B2B Marketing (Read Case: Marketing at Bain and Co.)

UNIT-II

Organizational Buying Behavior: Organizational Buyer Behavior, Buying Process, Types of Purchases/Buying Situations, Buy Grid Framework, Role of Buying Centre, Phases in Purchase Decision Making Process.

UNIT-III

B2B Strategies: Market Opportunities in B2B, Creating Marketing Strategies in B2B, Segmenting, Targeting, & Positioning of Business Market — Business-to-Business Sales Organizations — Customer Value & Product Development in B2B: Developing and Managing Products, Industrial Product Life Cycle, Product Mix, Service Component and Value of the Offering — Pricing issues in Business to Business Marketing.

UNIT-IV

Promotion and Channel Strategies:

Communicating with Customers (IMC), Advertising, PR and Trade Shows, Personal selling, designing a Direct Marketing Plan — Business Marketing Channels, Creating B2B Channel Strategies, Channel Design and Management, Logistics and Supply Chain issues and challenges in B2B marketing.

UNIT-V

Contemporary B2B Marketing and Marketing performance: Metrics for B2B Marketing Performance Measurement, Analytics in B2B Marketing, B2B through E-Commerce, Relationships, Networks & CRM, Customer Retention Strategies, Business Ethics and Crisis Management in B2B.

REFERENCE BOOKS:

1. Alexander, R.S. Cross, J.S. & Hill, M.: Industrial Marketing, Richard Irwin, Homewood, Illincies.
2. Reeder & Reeder : Industrial Marketing, Prentike Hall, India.
3. Cox. F. (Jr.): Industrial Marketing Research, John-Willey & Sons, New York, 1971.
4. Fisher, L.: Industrial Marketing, Business Books, 196

MBA 302HRMOB: HUMAN RESOURCE PLANNING

UNIT-I

Human Resource Planning: Concept, Importance, Objectives, Types of HR Plan, Factors Affecting Human Resource Planning, Need for Human Resource Planning, Dimensions of Human Resource Planning, Five Steps in Human Resource Planning, Importance of Human Resource Planning, Obstacles in Human Resource Planning, Approaches to Human Resource Planning (Social Demand Approach, Rate of Return Approach and Manpower Requirement Approach).

UNIT-II

Human Resource Forecasting and Developing HR Planning Process: Necessity for Forecasting, Steps in Forecasting, Demand and Supply Forecasting, Demand Forecasting Techniques, Forecasting Accuracy, Benefits of Forecasting, Methods of Demand Forecasting and Supply Forecasting at Micro Level, Macro Level and National Level, Managing Surplus and Shortages, Evaluating human resource planning Effectiveness – Developing a HR Plan: Qualitative Side of HR Planning, Behavioral Event Interviewing, Standard Interviews, Competency Mapping (Skill Inventory), Problems in HR Planning, Sample HR Plan

UNIT-III

Talent Development and Engagement: Policies and Approaches, Organizational Training, Role of Training Managers in Talent Development – Talent Engagement and Fully Engaged Talent, Importance of Talent Engagement, Driving Factors of Talent Engagement, Engagement Levels, Talent Engagement Model, Process for Improving Talent Engagement. , Talent Engagement vs. Performance and Retention, Talent Engagement, Entrepreneurship, Intrapreneurship

UNIT-IV

Career Management: Introduction, Career management process, Career dynamics, Career management policies, Career planning process, Tips for successful career planning, Talent management, Succession planning.

UNIT-V

Human Resource Accounting: Introduction, Definition of Human Resource Accounting, Need, Significance, Objectives for HRA, Advantages of HRA, Methods of HRA, Objections to HRA, Controlling Manpower Costs, True Costs of Planning and Recruitment, Human Resource Accounting in India – Human Resource Information System – Emerging Trends and Issues in Human Resource Planning – Manpower Planning in 21 century – Impact of Globalization on Manpower Planning policies and practices.

Reference Text Books

1. James W. Walker, Human Resource Planning, McGraw-Hill.
2. Cascio., Managing Human Resources, Mc Graw-Hill.
3. Mirza S Saiyadain & Tripti Pande Desai, Emerging Issues in Human Resource Management, Excel Books.
4. Noe & Raymond., Fundamentals of Human Resources, Mc Graw-Hill.

MBA 303 HRMOB: PERFORMANCE AND REWARD MANAGEMENT

UNIT-I

Performance Management: Concept and Objectives, Prerequisites, Principles, and Characteristics of an Ideal PM Systems – Dimensions of Performance Management – Factors Affecting Performance Management – Pitfalls of Poorly Implemented PM systems – Performance Management Process – Performance Management and Strategic Planning – Performance Management and Performance Appraisal Concept.

UNIT- II

Performance Appraisal System: Concept, Defining Performance, Determinants of Performance, Performance Dimensions – Approaches to Measuring Performance, Diagnosing the Causes of Poor Performance – Differentiating Task from Contextual Performance – Choosing a Performance Measurement Approach: Traditional Methods and Modern Methods – Measuring Results and Behaviors – Gathering Performance Information, and Implementing Performance Management System.

UNIT- III

Performance Management and Employee Development Plan: Components and Process of Personal Development Plans – HR Score Card – Performance Reviews – Conducting performance review meetings – Mentoring – Coaching – Role Efficacy – Performance Consulting: Concept, the Need for Performance Consulting, designing and Using Performance Relationship Maps – Contracting for Performance Consulting services – Organizing Performance Improvement Department.

UNIT- IV

Performance Management & Reward Systems: Performance Linked Remuneration System, Performance Linked Career Planning & Promotion Policy – Reward Management: Objectives and Criteria – Statutory Provisions Governing Different Components of Reward Systems – Competitiveness and Equity – Designing Compensation – Wage Levels and wage Structures – Determining Individual Pay – Executive Compensation Systems in Multinational Companies and IT companies.

UNIT -V

Performance pay – Incentives, Individual, Group, Short-term and Long-term – Compensation of Special Groups, Supervisors, Executives, Directors, Sales Force, Technical Professional, and Women Executives – Fringe Benefits – Retirement Benefits including VRS / Golden Handshake Schemes.

Reference Text Books

1. TV Rao, Performance Management and Appraisal Systems, Sage Response Books
2. G.K.Suri., Performance Measurement and Management, Excel Publications
3. Michael Armstrong, Employee Reward, Universities Press (India) Ltd.
4. D.K.Srivastava, Strategies for Performance Management, Excel Publications.

MBA 304 HRMOB: TRAINING AND DEVELOPMENT

UNIT-I

Introduction: Concepts and Rationale of Training and Development; overview of training and development systems; organizing training department; training and development policies; Linking training and development to company's strategy Requisites of Effective Training Role of External agencies in Training and Development.

UNIT- II

Training Needs Assessment (TNA) and Development Methodologies: Training Needs Analysis: Meaning and significance of training needs types of needs, components of needs, data collection, analysis and interpretation. Meaning and significance of training design and development, principles of training design, design process, identifying the training objectives, determining structure, content, duration, method, learning activities.

UNIT- III

Designing Training and Development Programs: Organization of Training and Development programs, Training design, kinds of training and development programs - competence based and role based training; orientation and socialization; Preparation of trainers; developing training materials; E - learning environment; Flexible learning modules; Self development; Training process out sourcing.

UNIT- IV

Training Evaluation: Meaning, Reasons for Evaluating Training and Significance of Training Evaluation, Donald Kirkpatrick's Evaluation Model, Return on investment in Training, Types of Evaluation Designs, Considerations in Choosing an Evaluation Design, Data Collection for Training Evaluation, Threats to Validity, Determining Costs, Evaluation Practices in different organizations, Measuring Human Capital and Training Activity

UNIT- V

Executive Development/ Management Development: Need, factors affecting MDP, Methods, Process, Administration, Delivery, Costing & Pricing, Company Strategies for Providing Development, Increased Use of New Technologies for Learning, Increased Demand for Learning for Virtual Work Arrangements, Increased Use of Training Partnerships & Outsourcing Training - Emerging Trends in Training and Development: Team training and six sigma training; Electronic Enabled Training Systems (EETS).

Reference Text Books

1. Prior, John, Handbook of Training and Development, Jaico Publishing House, Bombay.
2. Trvelove, Steve, Handbook of Training and Development, Blackwell Business.
3. Warren, M.W. Training for Results, Massachusetts, Addison-Wesley.
4. Craig, Robert L., Training and Development Handbook, McGraw Hill.

MBA305 HRMOB: ORGANIZATION DEVELOPMENT AND CHANGE

UNIT-I

Introduction to organizational Development: Definition, growth and relevance, history and evolution. Theories of planned change, general model of planned change, different types of planned change and critique of planned change. OD practitioner role, competencies and professional ethics.

UNIT-II

OD process: Initiating OD relationship, contracting and diagnosing the problem, Diagnosing models, open systems, individual level, group level and organizational level diagnosis collection and analysis for diagnostic information, feeding back the diagnosed information.

UNIT-III

Designing OD interventions: Human process interventions:- coaching, training and development, process consultation, third part intervention, and team building. Organization confrontation meeting, intergroup relations intervention, and large group intervention, work design, Socio technical systems approach.

UNIT-IV

HR and Strategic interventions: HRM interventions: performance management, goal setting, performance coaching, appraising and rewarding. Career planning, workforce diversity interventions, wellness and work-life balance, Strategic interventions: Competitive strategies, collaborative strategies, organizational transformation, culture change, self designing organizations, learning and knowledge management.

UNIT-V

Organizational Change- Introduction, Nature of Change, Internal & External Changes, Types of Change, Models of Change- Lewis's Force Field, Systems Model, Action Research Model, Organizational Vision and Strategic Planning; Resistance to Change- Reasons for the Resistance, Overcoming Resistance for the Change, Change and Person and Manager, Systematic Approach to Making Change- Factors for Effective Change, Skills of Leaders in Change Management, Designing the Change.

REFERENCE BOOKS

1. Palmer, I., Dunford, R., & Akin, G. (2009). Managing organizational change (2nd Ed.), McGraw-Hill: Irwin, NY. ISBN: 978-0-07-340499-8.
2. Kotter, J. and Cohen, D. (2002). The Heart of Change : Real-Life Stories of How People Change Their Organizations. Boston: Harvard Business School Press. ISBN: 1578512549 or 9781578512546.

MBA306 HRMOB: INDUSTRIAL RELATIONS AND EMPLOYMENT LAWS

UNIT-I

Industrial Relations: Definition, Nature, Scope, Determinant, and Significance of IR– Factors Influencing IR in Changing Environment – IR Approaches – Causes and Consequences of Industrial Disputes – Recent Trends in Industrial Relations – Trade Union: Function of Trade Union, Types & Structure of Trade Union, Impact of Globalization on Trade Union Movement.

UNIT-II

Collective Bargaining: Meaning, Characteristics, Need, Importance, Essential Conditions for Success of Collective Bargaining, Process of Collective Bargaining, Causes for Failure of Collective Bargaining – Workers Participation in Management: Concept, Pre-Requisites, Levels of Participation, and Benefits of Participation.

UNIT-III

Machinery to Solve IR Disputes: Negotiation, Mediator, Arbitration, Work Committees, Conciliation, Board of Conciliation, Court of enquiry, Labor Court, Industrial Tribunal, National Tribunal – Role of Judiciary and its Impact on IR.

UNIT-IV

Salient Features of Labor Legislations-I: The Factories Act, 1948, Industrial Disputes Act, 1947, Trade Union Act, 1926, and Employment Standing Order Act, 1946.

UNIT-V

Salient Features of Labor Legislations-II: Workmen's Compensation Act, 1923, Payment of Minimum Wages Act, 1948, Payment of Bonus Act, 1965, Employees' State Insurance Act, 1948, and Maternity Benefit Act, 1961.

Reference Text Books

1. Monappa, Industrial Relations, Tata McGraw Hill.
2. B.D. Singh, Industrial Relations, Excel Books.
3. C.B. Mamoria, Industrial Relations, Himalaya Publishing House.
4. Kochan, T.A. and Katz Henry, Collective Bargaining and Industrial Relations, Homewood.
5. Mamkoottam, K., Trade Unionism: Myth and Reality, New Delhi, Oxford University Press.

MBA 302FIN: FINANCIAL INSTITUTIONS & MARKETS

UNIT-I

Financial Institutions – Banks & Non-banking Financial Institutions – Genesis and Development – New Financial Institutions like the Discount Finance House of India, stock Holding Corporation of India Limited, Industrial Leasing and Financial Services Limited etc., – Indian Banking System: An Overview, Recent Developments, Role of Reserve Bank of India, Finance Ministry and Control Mechanism.

UNIT-II

Development Banks: Objectives and Scope of Development Banks – Industrial Development Bank of India, Industrial Finance Corporation of India, Industrial Credit Investment Corporation of India, National Bank for Agricultural and Rural Development, Export and Import Bank, Small Industrial Development Bank of India, Industrial Reconstruction Bank of India, State Financial Corporations and State Industrial Development Corporation; Investment institutions: LIC. GIC, UTI, Mutual Funds and Pension Funds.

UNIT-III

International Financing Institutions: Objectives of International Financial Institutions. Source of Funds, Priority Areas – IBRD, International Finance Corporation, International Development Agency, Asian Development Bank and International Monetary Fund.

UNIT-IV

Financial Markets: Government Economic Philosophy and financial market, structure of financial market in India – Capital market: Capital Market Theory, Critical Evaluation of the Development, Future Trends – Primary Market System and Regulations in India – Primary Market Intermediaries: Commercial Banks, Development Banks, Merchant Bankers, Rating Agencies – Secondary Market System and Regulations in India: Stock Exchanges, Stock Exchange Regulations – Regulations and Regulatory Agencies (Primarily SEBI): for Primary Markets and Secondary Markets

UNIT-V

Bond Markets: Government Bond Market and its Interface with Capital Market – Debt Market in India and its Interface with Stock Markets, Primary and Secondary Markets, Capital and Money Market – Mutual Fund: Concept, Mechanism Role, etc.

Reference Text Books

1. L.M.Bhole – Financial Market and Institutions
2. M.Y.Khan – Indian Financial System
3. Vasant Desai – Development Banking—Issues and Options, Himalaya Pub.
4. M.Y.Khan – Industrial Finance, Tata Mc Graw Hill Publishers.
5. L.C.Gupta – The Changing Structure of Industrial Finance in India, Oxford University Press
6. Avadhani – Marketing of Financial Services, Himalaya Publishing House.

MBA 303FIN: CORPORATE FINANCE

UNIT-I

Introduction: Concept, Meaning and Nature of Corporate Finance; Goals of Corporate Financial Management; Strategic Corporate Decisions, Conflicts between Company Stakeholders, and Financial Markets — Financing of Corporations.

UNIT-II

Project Valuation and Risk & Return: Hirschleifer analysis and Fisher separation; the NPV rule and IRR Rules of Investment Appraisal; Comparison of NPV and IRR ‘wrong’ Investment Appraisal rules: Payback and Accounting rate of Return; *Risk and Return*: Introduction to Risk and Return in Security Market, CAPM and APT: mathematics of Portfolios; Mean-Variance Analysis; Two-fund Separation and the CAPM Roll’s Critique of the CAPM; Factor Models; Arbitrage Pricing Theory; Recent Extensions of the Factor Framework.

UNIT-III

Cost of Capital & Capital Structure: Concept of Cost of Capital, Determination and valuation of Cost of Capital, Capital Structure: the Modigliani–Miller Theorem: Capital Structure Irrelevancy; Taxation, Bankruptcy Costs and Capital Structure; Weighted Average Cost of Capital; Modigliani–Miller 2nd Proposition; the Miller Equilibrium; Asymmetric Information: 1) the under-Investment Problem, Asymmetric Information; 2) the Risk-Shifting Problem, Asymmetric Information; 3) Free cash-flow Arguments; 4) Pecking Order Theory; 5) Debt Overhang — WACC and Equity, FCF Models, APV Valuation and Capital Structure, Optimal Capital Structure, Private Equity.

UNIT-IV

Valuation and Corporate Value Creation: Understanding Fundamentals and Principles of Financial Valuation, Corporate Financial Strategy and Corporate Value, Corporate Governance and Corporate Value, Valuation Techniques (Market cap and book value, Discounted Cash Flow analysis, Trading Multiples, Transaction Multiples, Others (e.g. Real options, Trade Buyer’s Approach).

UNIT-IV

Market Efficiency: Efficient Markets – Theory and empirical Evidence: Underpinning and Definitions of Market Efficiency; Weak-form tests: Return Predictability; Joint Hypothesis Problem; Semi-strong Form Tests: Event Study Methodology and Examples; Strong Form Tests: Tests for

Private Information; Long horizon Return Predictability, Role of Efficient Market Hypothesis in Corporate Analysis, Capital Market Benchmarking.

Reference Text Books:

1. Corporate Finance, 10th Edition, by Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe, McGraw-Hill Corporate Finance, 3rd Edition, by Jonathan Berk and Peter DeMarzo, Pearson
2. Grinblatt/ Titman. Financial Markets and Corporate Strategy. McGraw Hill.- G&T
3. Brealey/ Myers. Principles of Corporate Finance.6th Edition. - B&M

MBA 304FIN: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

UNIT-I

Investment: Meaning, Characteristics, Objectives of Investment, Investment Vs. Speculation and Gambling, Types of Investors – Investment Avenues: Traditional and Modern – Risk: Meaning, Elements of risk, Systematic and Unsystematic Risk – Capital Allocation Between Risky & Risk Free Assets – Utility Analysis – Measurement of Risk: S.D, Variance, Correlation, Regression and Beta coefficients – Risk Returns Trade-off.

UNIT-II

Valuation of Shares and Bonds: Concept of Present Value, Share Valuation Model, Constant Growth Model, Multiple Growth Model, Discount Rate, Multiplier Approach to Share Valuation, and Regression Analysis – Bond Valuation: Bond Returns, Bond Prices, Bond Pricing Theorems, Bond Risks and Bond Duration.

UNIT-III

Fundamental Analysis & Technical Analysis of Equity Stock: Economic, Industry and Company Analysis Framework, Economic Forecasting Techniques – Technical Analysis (Case Study: Coca Cola): Basic Principles and Assumption of Technical Analysis, Chart Patterns, and Technical Indicators – Dow Theory, Elliot Wave theory, Confidence Index RSA, RSI, Moving Average Analysis, and Japanese Candlesticks.

UNIT-IV

Portfolio and Management: Random walk Theory, Efficient Market Hypothesis (Case Study: EBay-Stock Market Efficiency), and Forms of Market Efficiency – Portfolio Management: Process of Portfolio Management, Portfolio Analysis, Portfolio Risk and Return Calculation –Diversification of Risk – Portfolio Selection – Feasible Set of Portfolio – Efficient Frontier – Security Market Line – CML –Selection of Optimal portfolio using Markowitz and Sharpe Single Index model. (Case Study: Vanguard - Mutual Funds and Taxes).

UNIT-V

Capital Market Theory: CAPM-Arbitrage Pricing Theory – Methods of Portfolio Performance Evaluation: Sharpe, Traynor, and Jensen – Measures Portfolio Revision: Need for Revision, Constraints in Revision, Revision Strategies, Formula Plans, and Portfolio Management in India.

REFERENCE BOOKS:

1. Reilly and Brown, *Investment Analysis & Portfolio Mgmt*, Thomson Learning.
2. Fisher and Jordan, *Security Analysis & Portfolio Management*, Pearson, PHI.
3. David G. Luenberger, *Investment science*, Oxford.
4. Alexander, Sharpe, Bailey, *Fundamentals of Investment* – Pearson / PHI.

MBA 305FIN: INVESTMENT AND COMMERCIAL BANKING

UNIT-I

Introduction: Investment: Concept, Nature and Scope of Investment analysis, Elements of Investment: Return, Risk and Time; Objectives of investment; Security Return and Risk Analysis, Measures of Return and Risk; Approaches to Investment Analysis; Sources of Financial Information – Factors Influencing Selection of Investment Alternatives – Investment Avenues: Bank Deposits, Post Office Schemes, PF, Public deposits, Mutual Funds, Shares, Debentures, Government Securities, Warrants and Convertibles, Derivatives; Options and Futures; Non-financial Investment: Real estate, Gold/Bullion and their Characteristics; Valuation of Fixed Income Investments and Equity Shares.

UNIT-II

Investment Planning & Risk-Return Relationship: Attributes, Economic vs. Financial Investment, Investment and Speculation; Basic Principles of Portfolio Management, Construction, Monitoring and Review – Meaning of risk - Types of risk – Systematic and Unsystematic risk - Measurement of Risk: Meaning of Beta, Standard Deviation and Variance - What is a Portfolio – Expected Return of a portfolio – Risk of Portfolio – Reduction of Portfolio risk through Diversification.

UNIT-III

Commercial Banking: Overview of Commercial Banking in India – Role and Functions of Commercial Banks – Indian Banking in Pre-nationalization and Post-nationalization Phases – Banking Sector Reforms and their Implications on Indian Banking Sector – Changing Role of Indian Banks – Reforms and Restructuring of Bank Management – Management of Private Sector Banks and Public Sector Banks – Management of Banks in Rural Areas – Modern Banking: Banking Services and Current issues in Banking, Asset Structure, Asset Quality Review and Revenue Sources in Investment Banking.

UNIT-IV

Bank's Investment Policy – SLR Requirements – Non-SLR Investments – Nature and Significance of Investment Management in Commercial Banks – Fundamental Principles of Security Investment – Management of Security Investment – Reviewing Investment Portfolio – Organization of Investment Function in Bank – Management of Non-Performing Assets (NPAs) – Classification of NPAs – Debt Restructuring – SARFAESI Act, 2002.

UNIT-V

Management of Banking Organisations: Loan and Credit Management, Investment Management, Liquidity Management, Profit and Growth Management, Asset Liability Management using Traditional GAP and Modern Techniques; Mergers and Acquisition, Bancassurance and Universal Banking; Financial and Technological innovations in Banks, International Banking: Opportunities and Challenges; International Banking and Financial Services, Structure and Competitive Advantage in Global Investment Banking.

REFERENCE BOOKS:

1. Investment Analysis and Portfolio management – Prasanna Chandra, 3/e, TMH, 2010.
2. Investments – ZviBodie, Kane, Marcus & Mohanty, 8/e, TMH, 2010.
3. Investment Management – Bhalla V. K, 17/e, S.Chand, 2011

MBA 306FIN: MERGERS AND ACQUISITIONS

UNIT-I

Introduction: Types of Merger – Theories of Mergers- Operating, Financial and Managerial Synergy of Mergers – Value Creation in Horizontal, Vertical and Conglomerate Mergers – Internal and External Change Forces contributing to M & A Activities - Impact of M & A on Stakeholders.

UNIT-II

M & A – A strategic perspective- Industry Life Cycle and Product Life Cycle Analysis in M&A Decision, Strategic Approaches to M&A- SWOT Analysis, BCG Matrix, Porter’s Five Forces Model – Dynamics of M & A Process - Identification of Targets – Negotiation – Closing the Deal. Five-Stage Model – Due Diligence: Types, Due Diligence Strategy, Process, Due Diligence Challenges – Process of Merger Integration: Organizational and Human aspects – Managerial Challenges of Mergers and Acquisitions

UNIT-III

Methods of Financing Mergers – Cash Offer, Share Exchange Ratio – Mergers as a Capital Budgeting Decision – Synergies from M&A: Operating and Financial Synergy – Accounting for Amalgamation: –Amalgamation in the Nature of Merger and Amalgamation in the Nature of Purchase.

UNIT-IV

Takeovers & Restructuring: Concept of Takeover, Types, Takeover Strategies - Takeover Defenses – Financial Defensive Measures – Methods of Resistance – Anti-takeover Amendments – Poison Pills – Corporate Restructuring – Significance - Forms of Restructuring – Joint Ventures – Sell off and Spin off – Divestitures.

UNIT-V

Legal aspects of Mergers/Amalgamations and Acquisitions/Takeovers - Combination and Competition Act- Competition Commission of India (CCI) - CCI Procedure in Regard to the transactions of Business Relating to combination of Regulations 2011- Scheme of Merger/Amalgamation-Essential Features of the Scheme of Amalgamation-Approvals for the Scheme-Step wise Procedure- Acquisitions/Takeovers- Listing agreement-The SEBI Substantial Acquisition of Shares and Takeover Code.

REFERENCE BOOKS:

1. Mergers, Restructuring and Corporate Control, Fred Weston, Kwang S Chung, Susan E Hoag, 4/e, Pearson Education.
2. Corporate Finance-Theory And Practice – Aswath Damodaran – John Wiley & Sons.
3. Takeovers, Restructuring And Corporate Governance, Weston, Mitchell And Mulherin - 4/e, Pearson Education, 2003.
4. Mergers and Acquisitions, Rajinder S. Aurora, Kavita Shetty and Sharad R. Kale, Oxford University Press, 2011.

MBA 302OPS: MANUFACTURING SYSTEMS MANAGEMENT

UNIT-I

Manufacturing systems: Concept, objectives, challenges of Manufacturing, Various manufacturing methodologies, FMS, Cellular Manufacturing, World class manufacturing, Technological evolution of CAD/CAM and CIM.

Layout of Manufacturing Systems: Plant layout-Definition-Objectives-Principles-Factors influencing layout-Types of layout - Cellular layout- Tools and tooling system for cellular manufacturing,

UNIT-II

Development and implementation of an FMS: Planning phase, Integration, System configuration, FMS layouts, Simulation – *Automated Material Handling & Storage*: Functions, Types, Analysis of material handling equipments, Design of Conveyor & AGV Systems – Problems and Development of Total Material Handling Systems.

UNIT-III

High -Volume Production Systems: Automated flow lines, methods of work part transport, transfer mechanisms, buffer storage, analysis of flow lines without storage and with storage buffer, assembly systems, automated assembly system and its types, single stage and multistage assembly machines.

UNIT-IV

Computer Aided Quality Control (CAQC): Introduction, QC inspection and testing, the computer in QC, Automated inspection principles and methods, sensor technologies for automated inspection – contact and non contact types, computer aided testing.

UNIT-V

Role of information systems: Information requirements of manufacturing, group technology, computer aided process planning, computer integrated production planning systems, material requirements planning, capacity planning, shop floor control, automatic identification techniques, Computer networks for manufacturing, Database requirements of Computer Integrated Manufacturing.

REFERENCE BOOKS:

1. Groover, M.P; "Automation, Production System and CIM" - Prentice-Hall of India.
2. Vajpayee, "Principles of CIM" - Prentice-Hall of India.
3. Ranky, Paul G; "Computer Integrated Manufacturing" - Prentice-Hall of India.

MBA303OPS: SERVICES OPERATIONS MANAGEMENT

UNIT-I

Service Operations Concept: Difference between Manufacturing and Service Operations, Service Operations Characteristics, Classification of services and analyzing service operations, Different Pure Service Organizations and their peculiarities, Field Service and its impact on manufacturing organizations, Field Service and Customer satisfaction. Service Operation Strategy: Service objectives and goal formulation, Service organization: In house Vs. Outsourcing, Centralized vs. Decentralized, Creating Customer Connection, Enhancing customer satisfaction, Service Operations as Profit Centre.

UNIT-II

Service Design and Strategy: Introduction to Service Strategy, Competitive Service Strategies, - New service Design and Development – Design Elements – Service Blue Print – Process Structure – Generic Approaches – Value to Customer; Retail Design Strategies – Store Size – Network Configuration; Managing Service Experience – Experience Economy, Key Dimensions; Vehicle Routing and Scheduling.

UNIT-III

Service Quality: Defining Service Quality, Dimensions, Service Process Control, Service Quality Gap Model; Measuring Service Quality – SERVQUAL– Walkthrough Audit; Quality Service by Design; Service Recovery – Service Guarantees; Service Encounter – Triad, Creating Service Orientation, Service Profit Chain; Front office, Back Office Interface – Service Decoupling.

UNIT-IV

Service Facility : Servicescapes – Behavior – Environmental Dimensions – Framework; Facility Design –Nature, Objectives, Process Analysis – Process Flow Diagram, Process Steps, Stimulation; Service Facility Layout; Service Facility Location – Considerations, Facility location decision factors, Facility Location Techniques.

UNIT-V

Demand and Capacity Management in Services: Forecasting Demand in Services – Smoothing Customer Demand in Services – Service Capacity Management – Yield management – Resource and Workforce Scheduling in Services – Inventory Management in Services – Managing Waiting Lines.

REFERENCE BOOKS:

1. Heskett, J.L.(1991),"Lessons in the service sector" in The Service Management Course: Cases & Reading, Free Press, 47-64 2.
2. B. Fitzsimmons, James A., and Mona J. Fitzsimmons,Service Management: Operations,Strategy, and Information Technology, 6th Ed., Irwin/McGraw-Hill, 2007.
3. C. Haksever, Render B., Russel S. R. and Murdick R. G.,Service Management and Operations, 2nd Ed.,Prentice Hall, 2007.

4. Johnston, R.(2005),"Service operations management: from the roots up" International Journal of Operations & Production Management, 25, 12, 1298-1308.

MBA304OPS: LOGISTICS AND DISTRIBUTION MANAGEMENT

UNIT- I

Introduction- Definition of Logistics and Logistics Management, Types of Logistic Activities, Nature of logistics and Importance of Logistics Management, Integrated Logistics and its Support
Logistics activities: Receipt of raw materials, equipment, and supplies; types of production stores arrangements—the closed and open system, different ways to store materials, the difference between expediting and tracing, strategies to bring lost shipments in on time.

UNIT-II

Logistic system: Determinants of Designing Logistical System. Elements of logistic system-
Transportation- the scope and function of physical distribution, study of carrier transportation modes and methods; Basic transportation documents-Bill of lading and freight bill Warehousing- planning, setting up, and operating a warehouse; Techniques of controlling inventories: EOQ and ABC Analysis – Packaging- dimensions of packaging; Order entry, and customer service (order fulfillment).

UNIT-III

Channel management- Introduction, Marketing Channels, Designing Channels, Selection and Recruitment of Channel Partners, Channel Motivation, Channel Relationships Management, Channel Evaluation, Information Systems for Channels

UNIT- IV

Wholesaling: Definition of Wholesalers, Functions of Wholesalers, Types of Wholesalers, Strategic Issues in Wholesaling, Technology in Wholesaling, Trends in Wholesaling, Wholesaling Challenges, Future of Wholesaling – *Retailing*: Definition of Retailing, Origin of Retailing, Scope of Retailing, Retailing Scenario: An Overview, Retailing: Importance and Success Factors, Retail Format

UNIT- V

Emerging Concepts in Distribution Management: Indian Distribution Scenario at Present, Vertical Marketing System, Horizontal and Multi-Channel Marketing Systems, Understanding Distribution of services.

REFERENCE BOOKS

1. Handbook of Logistics and Distribution Management – John Gattorna
2. Logistics Management – P. Fawcett, R. McLeish and I Ogden
3. Strategic Logistics Management – D.M. Lambert & J R Stock, Richard D Irwin Inc.
4. Ballou, R.H. Business Logistics Management. Prentice-Hall Inc.
5. Bowersox D.J. , Closs D.J. , Logistical Management, McGraw-Hill, 1996
6. Johnson J., and D.Wood, Contemporary Logistics , Prentice Hall

MBA305OPS: SUPPLY CHAIN MANAGEMENT

UNIT-I

The Basics of Supply Chain Management: Definition of Supply Chain Management, Evolution of the Concept of Supply Chain Management, Key Drivers of Supply Chain Management, Typology of Supply Chains, Cycle View of Supply Chain, Problems in SCM and Suggested Solutions

UNIT- II

Planning Demand and Supply-Three Components of SCM, Demand Management, Demand Forecasting – Planning Demand and Supply: Introduction, Supply Management, Evolution of ERP, Concept of ERP in SCM, Quick Response and Accurate Response System in SCM, Use of Other Planning Strategies.

UNIT- III

Procurement and Inventory Management: Introduction, Supply Chain Operations: Procurement Cycle, Inventory Management, Inventory Costs, Types of Inventory Models, Inventory Control Systems, Tools of Inventory Management.

UNIT- IV

Supply Chain Benchmarking- Understanding the Benchmarking Concept, Benchmarking Process, Benchmarking Procedure

UNIT- V

Recent Trends in Supply Chain Management: New Developments in Supply Chain Management, Outsourcing Supply Chain Operations, Co-Maker ship, The Role of E-Commerce in Supply Chain Management, Green Supply Chain Management, Distribution Resource Planning, World Class Supply Chain Management

Case Study (Not Exceeding 300 words)

REFERENCE BOOKS

1. R.B. Handfield and E.L. Nichols, Jr. Introduction to Supply Chain Management. Prentice Hall, 1999.
2. Sunil Chopra and Peter Meindel. Supply Chain Management: Strategy, Planning, and Operation, Prentice Hall of India, 2002.
3. Jeremy F. Shapiro. Modeling the Supply Chain, Duxbury Thomson Learning, 2001.
Sahay,B;Supply chain management :For global competitiveness, Macmillan publishers

MBA306OPS: OPERATIONS RESEARCH APPLICATIONS (3L + 1T + 1P)

UNIT-I

Introduction: Operations Research and Management Science, OR History – Linear Programming Formulations: Introduction and solutions, Linear Programming Applications, Duality and Sensitivity analysis.

UNIT-II

Transportation Problem: Introduction and solutions, Variants of Transportation problem– Assignment Problem: Introduction and solutions, Related Problems and Variants.

UNIT- III

Loading and Machine Scheduling: Introduction and Single Machine Problems, Flow shop and other Scheduling Problems – *Flow and Path Problems*: Introduction and Shortest Path Problems, Flow Problems and Minimum Spanning Trees

.UNIT- IV

Packaging Problems: Introduction and one dimensional bin packing, two dimensional and three dimensional bin packing problems – *Distribution Problems*: Introduction and Travelling Salesmen Problems, Variants of travelling salesmen problems, Vehicle Routing problems.

UNIT-V

Applications of Operations Research: Applications of OR in Workforce Planning, Applications in Healthcare Systems, Applications in Education, Applications in Airlines

REFERENCE BOOKS:

- 1.Taha M.A., *Operations Research*, Mac Milan.
2. Anand Sharma, *Operations Research*, Himalaya Publishing House.
3. Kantiswarup, P.K.Gupta and Manmohan, *Operations Research*, Sultan Chand & Sons.
4. Kalavarthy, S. *Operations Research*, Vikas Publishers House Pvt Ltd.

MBA 302 ENT: BUSINESS OPPORTUNITIES IN EMERGING ECONOMIES (3L + 1P + 1T)

UNIT-I

Introduction: What are Emerging Economies and why are they so important? – Strategic Ideas of Emerging Markets — Different Perspectives for Evaluating Emerging Market Potential –Financial, Business, Economic, Legal and Political approaches to Emerging Economies — Influence of Global Trends on the Emerging Economies — Unique Challenges of Emerging Economies (Case Study: Novartis in India: Innovation versus Affordability) — Emerging Markets Today: BRIC Group.

UNIT-II

Growth & Development of Emerging Market Economies: Political Disintegration, Economic Reintegration, Privatization, Regional Decentralization, Internationalization, Deficit of Investments and its effect on the Expanding Business World – Stages of Development of National Economies in the Global Marketplace — Economies in Transition — Internationalization and Strategic Alliances – Prospects for Companies from the Emerging Markets — Pursuing Different Strategies from the Developed Country Multinationals.

UNIT-III

Business Models and Strategies for Success in Emerging Markets: Competing in Emerging Markets - A Developed Country Perspective — International Business Strategy in Emerging Markets: Exporting, Market Entry and Relationship Management — New Business Models in Emerging Markets.

UNIT-IV

Foreign Investments in Emerging Economies: Wholly-Owned Foreign Companies, International Joint Ventures and its Management System, Strategic Management of International Joint Ventures, Economic and Special Technologic Zones, International Trade and the Global Emerging Market.

UNIT-V

Competing in Emerging Markets: Evolution of emerging market MNCs, competition in newly industrialized contexts — Strategies for Winning in Home Markets — Emerging Market Companies Going Global — Developed Country Companies Going to Emerging Markets.

Reference Books:

1. Case Study and Article Reading: Eyring and Johnson (2011) “New Business Models in Emerging Markets”, Harvard Business Review - (Product Code: R1101E-PDF-ENG)
2. Washburn and Hunsaker (2011) “Finding Great Ideas in Emerging Markets” Harvard Business Review – (Product Code: R1109J-PDF-ENG).
3. Berman, J. (2013), “Seven Reasons Why Africa’s Time is Now” Harvard Business Review, October (F1310Z-PDFENG)

MBA 303 ENT: BASIC MANAGEMENT ASPECTS OF STARTUPS AND SMEs

UNIT-I

Introduction: Definition and Meaning of Startups and SMEs — Role, Importance and their Present Status in Indian Economy — Factors Influencing their Emergence, Govt. Policies for Startups and SMEs in India — Problems and Challenges of Startups and SMEs — Managing Business Environment for SMEs — Management of Small Business Vis-à-vis Large Business.

UNIT-II

Managing Organization and Infrastructure: Design and Development of Organization Structure — Organization policies and processes – Managing Structure of a Successful Startup – Managing Ethics and Governance – Procurement of land and Building – Managing Expansion of Land and Building, Modernization and Technology up gradation, Management of Capital Expenditure – Management of advanced Technology.

UNIT-III

Managing Marketing and Human Resource: Scanning of Internal and External Environment — New Business Model Development Process — Identifying New Market Segment, New Distribution Channels, Promotional Tools, Managing New Age Marketing Tools, and Managing Digital Marketing — Recruitment of Key Individuals — Manpower Planning and Sourcing — Developing and Managing Startup Team – Talent Management Practices in SMEs and Startups— Learning and Development of Productive employees in SMEs and Startups.

UNIT-IV

Managing Finance: Sources of Finance — Challenges of Managing Finance, Taxation and Costing (traditional costing versus activity based costing) — Financing by Commercial Banks — Institutional Support to SMEs and Startups — Managing Finance from Venture Capitalists, Angel Investors and Private Equity — Managing Common Problems in Raising Finance.

UNIT-V

Managing Production and Operations: Production in Small Businesses Vis-a Vis Production in large Business, Size of the Plant, Process, Planning and Control of Production in SMEs and Startups – Managing Cost of Production – Managing the Utilization of Production Capacities – Managing Technical Knowhow – Managing Lean Startups – Risk Management Framework in SMEs and Startups.

REFERENCE BOOKS

1. Ram Chandran, 'Entrepreneurial Development', Tata McGraw Hill, New Delhi
2. Saini, J. S., 'Entrepreneurial Development Programmes and Practices' , Deep & Deep Publications (P), Ltd.
3. Khanka, S S. 'Entrepreneurial Development', S Chand & Company Ltd. New Delhi
4. Badhai, B 'Entrepreneurship for Engineers', Dhanpat Rai & co. (p) Ltd.

MBA 304 ENT: STARTUP AND NEW VENTURE MANAGEMENT

UNIT-I

Introduction: A Typology of Entrepreneurs — Entrepreneur & Entrepreneurship — Entrepreneurial Competencies — Factor Affecting Startup and New Venture — Innovation and Entrepreneurship – Reward, Challenges and Myths of Entrepreneurship - Entrepreneur and Corporate Manager – Entrepreneurship and Economic Growth – New Venture Management: Significance, Challenges and Options — Venture Management versus Corporate Management — Five Critical Success Factors for New Ventures.

UNIT-II

Identifying and Evaluating opportunities – The Entrepreneurial Process – Opportunity Identification – Market Research for Entrepreneurship – Evaluating Opportunities — The Business Plan – The concept and Business Plan – The need for Business Plan – Contents of a Business plan – Making the Business plan – Presenting the Business plan .

UNIT-III

Starting Up – Legal Issues: The Legal Environment – Forms of Startup Organization – Approval for New Venture – Taxes or Duties Payable – Intellectual Property – Franchising Starting Up – Financial Issues: Types of Finance – Estimating Capital Cost of Project – Securing Finance – Sources of Finance – What lenders and investors look for.

UNIT-IV

Starting Up – Human Angle: Individual or Team Start-up – Acquiring Influence by Networking – Leadership – Designing the organization – organization culture. Venture Survival and Growth: Venture Life patterns – Start-up Phase – Early Growth – Changes in Management Style and Organization Design – New venture failures.

UNIT-V

Harvesting: Venture Harvesting/Exit Strategies – Handing over to family Member – Selling the business – Going Public (IPO) – Liquidation.

REFERENCE BOOKS:

1. Ram Chandran, 'Entrepreneurial Development', Tata McGraw Hill, New Delhi
2. Saini, J. S., 'Entrepreneurial Development Programmes and Practices' , Deep & Deep Publications (P), Ltd.
3. Khanka, S S. 'Entrepreneurial Development', S Chand & Company Ltd. New Delhi

MBA 305 ENT: VENTURE CAPITAL AND PRIVATE EQUITY

UNIT-I

Introduction to Venture Capital - Overview of Entrepreneurial Finance – Financing choices for startups – Alternative Forms of Venture Capital – Venture Capitalists Decision Making: An Information Processing Perspective – Banks Versus Venture Capital in the Financing of New Ventures – Corporate Venture Capital – Venture Capital Funding – Angel Finance: The Other Venture Capital – Business Incubation and its Connection to Venture Capital – Philanthropic Venture Capital: A New Model of Financing for Social Entrepreneurs.

UNIT-II

Venture Capital Funding and Valuation: The Structure of Venture Capital Investments – Financial Contracts and Venture Capitalists' Value-Added - Venture Capitalists, Monitoring and Advising – Project Externalities and Moral Hazard – Doing It Not Alone: Antecedents, Dynamics, and Outcomes of Venture Capital Syndication.

UNIT-III

Venture Capital Value-Added and Conflicts: Time to Grow Up: Large Sample Evidence on the Maturation Dynamics of Private Venture-Backed Firms – How Do Venture Capitalists Create Value for Entrepreneurial Firms? Venture Capital and Innovation – Reputation in Financial Intermediation: Evidence from Venture Capital – Investor Opportunism, and Governance in Venture Capital – Conflicts of Interest and Litigation in the Venture Capital Industry – Venture Capital Exits and Returns

UNIT-IV

Private Equity and Angel Funding: Difference between Venture Capital, Private Equity and Angel Investing — Fund Organization and Structure of Private Equity companies (Overview) — Private Equity Activity, Growth, and Performance in India — Role of VC and PE for Innovation and Development of SMEs – Structure and Terms of Venture Capital and Private Equity Fund — Life Cycle of Private Equity Fund – Identifying Opportunities and Investment Decisions: Key Tools for Assessment, Valuation, Structuring and Terms – Interactions between Private Equity Investors and Entrepreneurs – Angel Financing for Entrepreneurs: Basics about Angel Investors, Looking for Angels and What Angels Are Looking for.

UNIT-V

Financing the Growth and Achieving Liquidity: Private Equity Funding Sources, Private Equity Funding Rounds, and Process of Financing Growth of their Portfolio Companies, Private Equity Investment Strategy —Constraints for private Equity Financing of Small and Medium Enterprises— Growth Financing and Exits — Collaborations with other Private Equity Firms — Emerging Trends in Private Equity Funding—Funds of Funds.

REFERENCE BOOKS:

1. Douglas J. Cumming, 2010, VENTURE CAPITAL - Investment Strategies, Structures, and Policies, JohnWiley & Sons, Inc.USA.
2. Susan L. Preston, 2007, Angel Financing for Entrepreneurs – Early Stage Funding for Long-Term Success – John Wiley & Sons, Inc. USA.

MBA 306 ENT: ENTREPRENEURIAL ECOSYSTEM IN INDIA (3L + 1P + 1T)

UNIT-I

Introduction: Concept, Definition – Critical role of entrepreneurship in shaping India's future – Evolution and Growth of Ecosystem in India (brief history) – Startups and Entrepreneurs – Key Elements of Entrepreneurial Ecosystem – Opportunities and Challenges – Changing Business Landscape in India during 2000-2015 – Nurturing the Early Stage Ecosystem – Success and failed startup ventures in India – Women & Startups.

UNIT-II

Enabling the Ecosystem: Understanding the Entrepreneurial Ecosystem – Entrepreneurial Motivation, Performance and Reward – Government Policy & Regulations – Industrial policy Resolution-2013, 2015 and 2016 – Ease of Doing Business Initiatives – Startup India, Standup India – Access to Fund: India Aspiration Fund (IAF), SIDBI Make in India Loan for Small Enterprises (SMILE), Micro Units Development and Refinance Agency (MUDRA Bank) – Income Tax Credits – Incentives and Subsidies – Support Entrepreneurship through Entrepreneurship Hubs (E-Hubs) – Listing Rules for Startups.

UNIT-III

Support to Startup and Indian Venture Ecosystem: Registration: Institutional Support – Financing for Startups – Types of Business Funding: Venture capitalist, Angel Investor, Venture Debt – Industry Associations – Non-Govt. Initiatives – Indian Venture Ecosystem: Evolving landscape during 2010-2015, Venture Funds, Private Equity Funds, Public Markets – Venture Capital Investments and Angel Investments – Gaps in Ecosystem– Obstacles and Constraints in Ecosystem.

UNIT-IV

Sustaining Competitiveness: Disrupt Startup Ecosystem – Ways of Sustaining Competitive Advantage (Case: Twitter's sustainable competitive advantage) – Maintaining Competitive Advantage (Case: Amazon's sustainable competitive advantage) – Evaluation of Open Sources for Competitive Advantage – Changing role of Entrepreneur – Harvesting Strategies versus go for Growth.

UNIT-V

Entrepreneurship-education and Mentoring: National Policy for Skills Development and Entrepreneurship 2015 – Education & Capacity Building – Research & Development Activities – Incubation & Technical Services – Technology Incubation Platforms – Accelerator Programmes – Co-working Spaces – Industry Bodies, Facilitators & Networks – Innovative Incubators and Industry-Incubator Collaborations and Mentor Networks (The Indus Entrepreneurs (TiE)).

REFERENCE BOOKS:

(1) Bains (2015) India Private Equity Report 2015

- (2) InnoVen Capital (2015) India Angel Report 2015
- (3) Nasscom and Zinnov (2015) Start-up India - Momentous Rise of the Indian Start-up Ecosystem
- (4) Niti Aayog (2015) Report of the Expert Committee on Innovation and Entrepreneurship

MBA 308 LEADERSHIP LAB

UNIT-I

Introduction to Leadership: Importance of leadership, Roles of a Leader – Leadership Theory Paradigms, Levels of Analysis of Leadership Theory – Leadership Traits and Ethics: Personality Traits and Leadership, Traits of Effective Leaders, Leadership Attitudes, Ethical Leadership.

Practical component: Each class participant will be assigned to a leadership development group (LDG) with five other people. Discuss with your LDG the people and the relationships that have been most important to you. Describe for your group a specific situation you have faced where these relationships were especially important for your leadership. To whom did you turn for counsel and advice? How did you use these relationships in this case? Discuss these relationships with your Development group, and solicit their feedback and insights about the role relationships play in your life. Then discuss the kind of support network you plan to establish in the future and discover your authentic leadership.

Discussion questions:

What can you learn from their experiences that will help you in thinking about your life story's influence on your leadership trajectory?

UNIT-II

Leadership Behavior and Motivation: Leadership Behavior and Styles, University of Michigan and Ohio Studies, Leadership Grid – Leadership and Motivation – Content and Process Theories: Reinforcement Theory, Contingency Leadership Theories and Models, Leadership Continuum theory, normative leadership theory, and Leadership Substitute Theory (discuss them in brief)

Practical component: Discuss your extrinsic and your intrinsic motivations with the group, and solicit their feedback. Discuss how you are balancing your motivations, and the challenges you face. Share the results of the “Motivated Capabilities Exercise” with your group, and solicit feedback about whether others see your motivated capabilities the same way you do. The purpose of this session is to glean insights from your peers to see yourself as others see your motivations and motivated capabilities and why leaders lose their way.

Discussion questions:

What are the root causes of leaders losing their way? Can you identify leaders from your personal experience who have lost their way or are in danger of doing so? What can leaders, including you, do to avoid these temptations, stay grounded, and be authentic in their leadership? What is motivating true leaders? What are their unique capabilities that have made them so successful?

UNIT-III

Team Leadership, Organizational Leadership: The Use of Teams in Organizations, Types of Teams, Decision Making in Teams – Leadership Skills for Effective Team Meetings – Ginnet’s Team Effectiveness Leadership Model.

Practical component: Each class participant will be assigned to a leadership development group (LDG) with five other people to build his/her support team with values, principles and ethical boundaries. Describe your leadership style to your group and solicit their feedback. Talk about the role of power in your leadership and how you deal with your power and the power of people you work with.

Discussion questions:

How are efficient leaders utilizing support resources to help them deal with any kind of crisis in typical business organisations? What resources should he/she call upon in determining a course of action?

UNIT-IV

Leadership Development and Succession: Development through Self Awareness and Self Discipline, Development through Education, Experience, and Mentoring – Succession Policy – Leadership Development Programs

Practical component and discussion questions: Identify any three effective and efficient leaders in Indian and Western business organisations?

How well they build an integrated leadership in their organisations? How did they optimize their leadership effectiveness?

How well do they use their personal leadership to empower others?

In what ways do you want your leadership (assumed) to change to improve your effectiveness?

REFERENCE BOOKS:

1. George, B. with Sims, P. True North: “Discover Your Authentic Leadership”
2. George, B. McLean, A. and Craig, N. “Finding Your True North: A Personal Guide”

MBA 309 CREATIVITY AND INNOVATION LAB (1L + 1P + 1T)

UNIT-I

Introduction to Creativity: Concept- Convergent and Divergent Thinking-Creativity Intelligence-Creativity Techniques -Brainstorming; lateral Thinking; Forced Relationship; Morphological Analysis; Attribute Listing Creativity Techniques -Brainstorming; lateral Thinking; Forced Relationship; Morphological Analysis; Attribute Listing Enhancing Creativity Intelligence-Determinants of Creativity-Creativity Process, Creative thinking as a skill Introduction – Characteristics of creative of creative organization – Valuing diversity in thinking: Thinking preferences and creativity styles – Creativity in problem solving: problem definition, understanding and representing.

UNIT-II

Fundamentals of Innovation – Invention, Creativity, and Innovation – Invention vs. Innovation – Creative and Lateral Thinking Management – Drivers of Innovation – Characteristics of Innovation – Types of Innovation – Sources of Innovation – Designing the process of Innovation – Managing Innovation Process Introduction to Innovation: Components of Innovation – Types of Innovations – Key drivers of Innovation, Factors influencing Innovation.

UNIT-III

Measures of Innovation: Input measures, output measures, and econometric analysis Types of Measures of Innovation: Firm Level, Organizational Level, and Political Level – Innovation Measurement Tools: Index of Corporate Innovation, and Balanced Score Card (Customer Perspective and Developmental Perspective).

UNIT-IV

Innovation Culture within Organizations: Creative Climate for Innovation, Building an Innovation Factory, Creating Breakthroughs – 3M, Designing and sustaining a Winning Innovative Culture – Social Media and Building Innovations into Organizations – Creating Innovative Capabilities – Government's Role in Promoting Innovation – Implementing Innovation: Principles and Practices for Implementing Innovation.

Reference Text Books:

1. The Seven Habits of Highly Effective People, by Stephen R. Covey
2. Ten Faces of Innovation, by Tom Kelley
3. The art of Innovation, by Tom Kelley and the Deep Dive story
4. Five Dysfunctions of a Team, by Patrick M. Lencioni
5. The Five Temptations of a CEO: A Leadership Fable, by Patrick M. Lencioni.

MBA 310 MOOCS (1L + 1P + 1T)

About MOOCS: MOOCs are the natural evolution of Open Courseware, first created by the Massachusetts Institute of Technology (MIT) in 2001. A massive open online course (MOOC) is an online course aimed at large-scale interactive participation and open access via the web. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs provide interactive user forums that help build a community for the students, professors, and teaching assistants (TAs). MOOCs are a recent development in distance education.

Further, A MOOC is an online course with the option of free and open registration, a publicly-shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests.

Typical Structure of a MOOC: The common duration of a MOOC is from 6 to 12 weeks. A MOOC is accessible 24 hours a day, 7 days a week. The majority of the content is delivered

asynchronously (meaning students can access it in their own time and at their own pace). However, sometimes there can be optional synchronous events such as 'live' webinars (interactive sessions) which require participants to join in at specific dates/times.

A standard class becomes in a MOOC a set of videos of 5-10 minutes each.

The learning of students in a MOOC is usually assessed by multiple-choice questions.

An important component of MOOCs is assignments. Students have to upload assignment solutions into the MOOC platform.

Assignments can be evaluated and graded:

- Automatically when possible.
- Peer-to-peer: students evaluate and grade themselves.

Another component is the forum, where students post questions that other students can answer.

Usually, there are no pre-requisites for taking a MOOC, apart from having access to a computer with an internet connection. Most of the time, the educational or academic background of students isn't important.

Students usually don't need to buy any books for these courses, because all reading is either be provided within the MOOC content or is linked to open access texts.

Institutes/Universities/Organisations offering MOOCs in India:

(1) Indian Institute of Management, Bangalore MOOCs

- Healthcare in India: Strategic Perspectives
- Introduction to Banking and Financial Markets-I
- Introduction to Banking and Financial Markets-II
- Statistics for Business-I
- Statistics for Business-II
- Do your Venture: Entrepreneurship for everyone.
- Introduction to Investments
- Innovation and IT Management
- Predictive Analytics
- Strategy and sustainable Enterprise
- Introduction to Corporate Finance

(2) IIT, Bombay

- Inferential and Predictive Statistics for Business
- Corporate Strategy
- Exploring and Producing data for Business Decision Making
- Accounting for Business Decision Making: Strategy Assessment and Control
- New Models of Business in Society
- Digital Analytics for Marketing professionals: Marketing Analytics in Theory
- Engagement and Nurture Marketing Strategies
- Leadership through design Innovation
- Brand and Product Management
- Finance for Everyone: Markets

- Financial Evaluation and Strategy: Corporate Finance
 - Managing the Company of the Future
 - Creating and Develop a tech startup
 - Understanding Financial Statements: Company Performance-I
 - Understanding Financial Statements: Company Performance-II
- (3) Indian HRD Ministry's MOOC Platform – SWAYAM
- (4) National Programming on Technology Enhanced Learning (NPTEL), IITMadras
- Applied Multivariate Statistical Modeling
 - Bank Management
 - Commercial Banking Credit Risk Modeling & Management
 - Consumer Behaviour
 - Econometric Modelling
 - Global Supply Chain Management
 - Entrepreneurial Finance
 - Infrastructure Finance
- (5). IRDA Certified courses in Insurance and Risk Management
- (6) NISM Mutual Fund Certification Course
- (7) NSE-NCFM Modules (any one module).

MBA 401: INTERNATIONAL BUSINESS (1L + 1T + 1P)

UNIT-I

International Business: An overview, Elements of International Business, Types of International Business – International Business Environment – Globalization: Forces, Meaning – The External Environment: National Differences in Economic, Political, Socio-cultural, and Technological Environment – Ethics in International Business

UNIT-II

Global Trade and Investment Environment : International Trade Theories, Investment Theories – Political Economy of International Trade – Barriers to Trade – Regional Economic Integration – Trading Blocks – Foreign Direct Investment – WTO

UNIT-III

Global Monetary System : International Monetary System – Foreign Exchange Market – Global Capital Market - Balance of Payments Problems – Macro Economic Management – Role of IMF

UNIT-IV:

Strategy and Structure of International Business: Strategy of International Business - Country Selection – Market Entry Strategies and Strategic Alliances – Organization Structures of International Business

UNIT-V

International Business Operations: Export and Import Management – Government Support - Global Production – Out sourcing, and logistics – Global Marketing and R&D – Global Human Resource Management –Accounting in the International Business – Financial Management in International Business – Export Financing

REFERENCE BOOKS:

1. Francis Cherunilam, *International Business*, Prentice Hall of India private Ltd.
2. John D.Daniels & Lee H. Radebaugh., *International Business*, Pearson Education.
3. Vyuptakesh Sharam, *International Business*, Pearson Education.
4. Bhattacharya, *International Business*, Excel Books.
5. K.Awathappa, *International Business*, Tata McGraw Hill.

MBA 402MKT: STRATEGIC MARKETING

UNIT-I

Introduction and Overview: Fundamentals of Strategic Marketing – Business Strategy and its Relationship with Strategic Marketing – Objectives & Basic Concepts of Strategic Marketing Management – Creating an Effective Marketing Plan and Decision Making Process – Strategic marketing planning in the Contemporary Environment – Components of a Strategic Marketing Plan – Use of Market Research for Marketing Strategy Decisions.

UNIT-II

Analytical Approaches to Strategic Marketing: Organization for Marketing – Strategy Environment & Competitive Analysis- Strategic Analysis (SWOT Analysis, GAP Analysis – Competitive Analysis – Porter's 5 forces Model of competition, BCG Matrix, GE 9 Cell Model as basic foundation of Strategic Marketing – Strategic options: Value, Focus, Innovation and Customer Relationships – Strategic Positioning, Position Options, Development and Selection of a Strategic Position.

UNIT-III

Marketing Strategy Formulation: Developing Competitive Marketing Strategies: Role of Marketing Mix – Diversification Strategies (related and unrelated diversification, synergy, entry strategies) – Strategies for Growth Markets (Penetration, Product-Market Expansion, Vertical Integration and the Big Idea – Strategies for Mature, Declining and Hostile Markets (creating growth, right strategy, milk or harvest, divestment or liquidation) – Turnaround Strategies – Strategies for New Economies – Competitive Positioning Strategies: Competitive Advantage through Innovation and Managing Customer Relationships – Global Marketing Strategies.

UNIT-IV

Marketing Strategy Implementation: A Framework for Going to Market – Prerequisites for Effective Implementation – Constraints in Marketing Strategy Implementation – Organizational Issues – Channel Tactics, New Product Development best Practices – Integration of Marketing Strategies and their Application to Different Business Sectors: FMCG, Industrial, & Services.

UNIT-V

Marketing Strategy Evaluation and Control: Measurement of Marketing Performance and its feedback to next year's Marketing Strategy Formulation – Types of Control – Strategic Marketing Audit & Scope – Corrective Measures.

REFERENCE BOOKS:

1. Carol H. Anderson : Strategic Marketing, Houghton Mifflin Harcourt
2. D. W. Cravens & N. F. Piercy : Strategic Marketing, McGraw Hill/Irwin
3. O.C. Ferrell, Michael D. Hartline: Strategic Marketing, South-Western Cengage
4. Boyod Wlker, Mullins Larrech : Marketing Strategy, McGraw Hill
5. Colin, David J. : Strategic Marketing Management; Planning, Implementation & Control: Pearson Richard M. S. Wilson; Gilligan, Oxford, Butterworth-Heinemann

MBA 403MKT: SALES & DISTRIBUTION MANAGEMENT

UNIT-I

Sales Management: Concept, Nature and Scope, Objectives and Functions –Interface of Sales with different functions – Theories of Selling – Organization Framework of the Field Sales Force – Types and Methods – Field Sales Manager: Tasks and Responsibilities, Relation with Salesman, and Relationship with Top Management – Coordinating and Controlling the Marketing Mix –Trends and Challenges – Selling Through Different Media.

UNIT-II

Sales Forecasting & Operations: Methods and Procedural Steps in Forecasting – Prospecting for Customers – Modes of Sales Presentation – Designing and Delivering of Sales Presentation — Sales Budgeting – Allocation of Field Sales Resources – Design Sales Territories – Sales Quota – Control of Sales – Sales Meeting.

UNIT-III

Sales force Management: Planning Manpower Requirements – Recruiting and Selecting Sales Personnel – Methods and Administering Selection Procedures – Developing Sales Training Programs, Executing and Evaluating Sales Training Programs, Motivating Sales Personnel, Compensating Sales Personnel – Designing and Administering Various Compensation Plans, Controlling Sales Personnel and Managing, Sales Evaluation Programs, Comparing Standards with Actual Performances of Sales Personnel – Sales Audit and Analysis.

UNIT-IV

Distribution Management: Role of Distribution in Marketing Mix – An Overview of Marketing Channels – Structure, Functions, and Relationships of Channels of Distribution – Channel Planning and organizational Patterns in Marketing Channels – Channel Design Process and Channel Management Decisions – Channel Intermediaries: Role and Types – Wholesaling: Types of Wholesalers, and Wholesaler marketing decisions – Retailing: Types of Retailers, and Retailer Marketing Decisions – Channel Dynamics and Conflicts.

UNIT-V

Market Logistics & Supply Chain: Logistics Objectives, Market Logistics Decisions for Distribution Channels – Transport and Handling: Economic of Transportation – Modes of Transport, Organizing Transport Facilities – Supply Chain Operations – New Developments in Supply Chain Management.

REFERENCE BOOKS

1. Krishna K. Havaldar & Vasant M Cavale : *Sales & Distribution Management: Text & Cases*, Tata McGraw Hill.
2. Still, Cundiff and Govani , *Sales Management - Decisions, Strategies and Cases*, Prentice Hall.
3. Gupta S.L., *Sales & Distribution Management (Text and Cases)*, Excel Books, New Delhi.

MBA 404MKT: RETAIL MANAGEMENT

UNIT-I

Introduction to Retailing: Concept, Meaning, Nature, Scope and Importance, and Functions of Retailing – Overview of Indian & Global Retailing – Theories of Retail Development – Retail organization Structure – Types of Retailing: Store Based and Non-store Based Retailing – Retail Customers and Consumers – Changing Trends of Consumerism and Consumer Buying Behavior Retail Consumer Purchase Decision Making Process – Concepts of Cross-shopping, and Cross-buying Behavior – Opportunities and Challenges of Retailing in India – Innovative Business Models in Indian Retailing: e-tailing.

UNIT-II

Retail Market Strategy: Concept, Definition, and Need for Retail Market Strategy – Developing a Sustainable Competitive Advantage – Strategic Retail Planning Process – Retail Growth Strategies: Opportunities and Challenges for Domestic and International Expansion – Retail Location: Concept, Types, and Importance of Retail Location – Retail Location Theories – Retail Location Process – Retail Location and Retail Strategy – Retail Site Selection: Local, Legal, and Market Potential Considerations.

UNIT-III

Retail Management: Concept, Scope and Process of Retail of Management – Retail HRM: Policies, Practices, and Managing of Human Resources in Retailing Business – Financial Strategies in Retailing: Objectives and Goals – Strategic Profit Model – Financial Performance Assessment in Retailing – Retail Merchandising: Process of Merchandise Planning, and Methods of Merchandise Procurement – Category Management – Emergence of Private Labels (Store Brands).

UNIT-IV

Retail Pricing & Promotion: Policies, and Strategies of Retail Pricing – Techniques for Increasing Retail Sales – Retail Promotion Mix: Retail Advertising and Sales Promotions – In-store Price-promotions – Retail Communication Budget: Process and Methods of Budgeting – Emergence of Multichannel Retailing: Issues and Challenges – Integrating and Controlling Retail Strategy.

UNIT-V

Store Management: Concept, Scope and Importance of Store Management – Store Layout, Design, Atmospherics, and Visual Merchandising – Retail Customer Service: Managing Service Quality, Complaint Handling, and Service Recovery Strategies – Customer Relationship Management: CRM Process and CRM Programs – Retail Customer Satisfaction, Loyalty, and Retention Strategies – CRM Measurements: Customer Life Time Value and Customer Equity – Retail Information System – Supply Chain Management in Retailing – Ethical Issues in Retailing – Retail Audit – Retailing Research in India.

Reference Books

1. Levy & Weitz, *Retailing Management*, TMH.
2. Swapna Pradhan, *Retailing Management Texts & Cases*, McGraw Hill Companies.
3. A.J.Lamba, *The art of Retailing*, TMH.

MBA 405MKT: RURAL & AGRI MARKETING (3L + 1T + 1P)

UNIT-I

Rural Markets in India: An overview: Nature, Definition, Scope, Importance, and Characteristics of Rural Markets – Classification of Rural Markets – Rural vs. Urban Markets – Rural Marketing Environment: Demographic, Economic, Socio-cultural and Psychological Factors – other factors like Population, Land Distribution & Use, and Infrastructure – Rural Demand and Rural Market Index – Changing Trends of Rural Marketing – Future of Rural Marketing in India.

UNIT-II

Rural Consumer Behavior & Marketing Strategy: Characteristics of Rural Consumer – Factors Affecting Rural Consumer Behavior – Rural Consumers Vs Urban Consumers: a Comparison, Relevance of Marketing Mix for Rural Market/Consumers – Problems in Rural Market – Segmentation, Targeting & Positioning for Rural Market – Product and Pricing Decisions for Rural Markets: Product Developments, Product Adoptions, Modification Decisions (including packaging) Branding, Decisions of Product Augmentation for Rural Marketing and Rural Pricing Elements and Decisions.

UNIT-III

Managing the Rural Promotions – Understanding Rural Communication Media (Traditional Vs. Current Opportunities) – Designing & Developing Rural Market Promotions, Build Relationship & Events – Accessing Rural Indian Markets: Distribution, Dynamics of Distribution Process, Participants in the Channel, Types of Intermediaries, Role of IT in Rural Marketing (e-choupals) – Understanding the Rural Marketing Process.

UNIT-IV

Understanding Agricultural Markets: Nature & scope, Objectives of Agriculture Marketing, Challenges in Agriculture Marketing, Agriculture Marketing & its Economic importance, Agricultural Produces and their Market – Profiling of Indian agricultural produces marketing – challenges in marketing of agricultural produce – Strategies to promote marketing of agricultural produce – Marketing of rural artisan products – Characteristics of Indian handicrafts industry– Challenges for rural artisan sector – Government policy towards handicrafts sector – marketing strategies for the development of rural artisan sector.

UNIT-V

Corporate Sector in Agri-Business: Reasons for Increased Interest of Corporate Sector in Agribusiness – Opportunities in the Agri-Business – Benefits of Corporate driven Agri-Business – Digitalizing the Indian Agri & Rural Markets-e-rural Marketing: Select Live Case Studies-ITC e-choupal, TARA haat, EID Parry’s Indiaagriline, Kandhamal Apex Spices Association for Marketing (KASAM) – Export Potential for Agri-products – Major of Government and Non-Govt. Agencies in the Development of Rural and Agricultural Sector.

Reference Text Books

1. Rural Marketing - Pradeep Kashyap & Siddhartha Raut, Biztantra.
2. Rural Marketing - Gopal Swamy T. P, 3/e, Vikas Publishing House.
3. Rural Marketing - Dogra & Karminder Ghuman, 1/e, TMH.
4. Rural Marketing - Sanal Kumar Velayudhan, 2/e, Response Publication, 2007.
5. Rural Marketing – Krishnamacharyulu C. G & Lalitha Ramakrishnan, Pearson Education.
6. Rural Marketing – Habib Ur Rahman, 1/e, HPH, 2004.

MBA 406MKT: E-MARKETING (3L + 1T + 1P)

UNIT-I

E-Marketing-An Overview – Introduction, Objectives, Definition, History and, Features of E-Marketing – Scope, Benefits and Problems in E-Marketing – E-Customers – E-marketing Tools & Techniques – Types of E-Markets and Marketing

UNIT-II

Marketing Plan: Introduction, Objectives, Definition of E-Marketing Plan – Situational Analysis, Setting Objectives, Marketing Mix Decision, Budget Allocation, Action Plan, Measuring Success – E-Marketing Mix Strategy: Objectives, the 4Ps in E-Marketing, Additional 3Ps in E-Marketing of Services, the 2P+2C+3S Formula in E-Marketing.

UNIT-III

Applications of E-Marketing: Introduction, Objectives, Online Advertising, Direct Response Medium, Role of Distribution in E-Marketing, Lead Generation Platform, Customer Service

Mechanism, Relationship Building Medium – Strategic Advantages of E: Creating New Sources of Competitive Advantage, Direct Distribution Model, Re-engineering the Supply Chain, Targeting Underserved Segments, Lower Price Barrier, Delivery Systems for Digital Products, Creates an Efficient Marketplace, Creates a Virtuous Cycle.

UNIT-IV

E-Metrics: Introduction, Objectives, E-Metrics: An Overview, Monitoring E-Marketing Activities, User Surveys and Usability Testing, Tracking and Site Analysis Tools – E-Customer Relationship Management: Objectives, Concept of E-CRM, Prerequisites for the Implementation of E-CRM, Transition from CRM to E-CRM, E-CRM and Community Building, E-CRM and Customer Lifecycle, E-CRM versus E-Loyalty, Conversion Optimization.

UNIT-V

Legal and Ethical Issues in E-Marketing: Introduction, Objectives, Need for E-Business Legal Protection, Legal and Ethical Issues in E-Marketing, Privacy, Digital Property, Online Expression, Emerging Issues.

Recommended Text Books:

1. E-Marketing, Judy Strauss and Raymond Frost, Prentice Hall, 6th Edition, 2013
2. Internet Marketing: Integrating Online and Offline Strategies. M. L. Roberts and Debra Zahay, 3rd edition, Cengage Publishing, 2013
3. Digital Marketing: Strategy, Implementation and Practice, Chaffey D., Ellis-Chadwick, 5 th Edition, F., Pearson, 2012.

Reference Text Books

1. The Essential Guide to Online Marketing, Rob Strokes, Quirk, ISBN: 9781936126323
2. The New Rules of Marketing and PR: How to Use Social Media, Blogs, News Releases, Online Video, and Viral Marketing to Reach Buyers Directly, David Meerman Scott, 2nd Edition, Jan 2010.

MBA 402HRMOB: HUMAN RESOURCE DEVELOPMENT (3L + 1T + 1P)

UNIT-I

Human Resource Development: Concepts, Goals, Importance, Challenges of HRD – Macro and Micro Perspectives of HRD - HRD Climate and Culture – HRD Process – HRD Approaches for Coping with Organizational Changes – HRD Departments and their Tasks – HRD as A Profession – Duties and Responsibilities of HRD Manager – Present Status of HRD in India – HRD Matrix.

UNIT-II

Interventions of Human Resource Development: Behavioral Factors in HRD – Performance Management, Performance Appraisal, Potential Appraisal, Coaching, Counseling and Mentoring, Career Planning and Development – Organizational Development Process – Organizational Development Interventions: Concept and Role of HRD Interventions –TQM and HRD Strategies.

UNIT-III

Training and Development: Need for Training, Concept of Learning and Learning Principles, Training Process, Training Need Analysis, Training Methods, and Evaluation of Training Methods – HRD and Employee Engagement – Management Development: Concept, Meaning, Importance and Scope of Management Development.

UNIT-IV

HRD in Practice: HRD in Strategic Organizations – HRD Experiences in Indian Public and Private Sector Industries – HRD in Government and Service Sectors – HRD in Voluntary Organizations – Global Developments and Implications for HRD in India.

UNIT V

HRD Audit & Research: HRD Audit: Concept and Objectives of HRD Audit, Methodology, Preparation of HRD Audit, HRD Score Card, HRD Audit Failures – Current Status of HRD Audit in India- Future of HRD – Research on HRD.

Reference books

1. Nadler Leonard., *Corporate Human Resource Development*, Van Nostrand, Rinhold/ASTD.
2. TV.Rao., *Human Resource Development Audit*, Sage Publications.
3. Werner J. M., DeSimone, R.L., *Human resource development*, South Western.
4. Nadler, L., *Corporate human resources development*, Van Nostrand Reinhold.
5. Mankin, D., *Human resource development*, Oxford University Press India.

.MBA 403HRMOB: LEADERSHIP

UNIT- I

Introduction to Leadership: Definition, Importance of advanced leadership, Roles of a leader – Leadership theory paradigms, levels of analysis of leadership theory – Leadership Traits and Ethics: Personality Traits and Leadership, Traits of Effective Leaders, Leadership Attitudes, Ethical Leadership – Achievement Motivation Theory – Leadership as Responsibility – Thought Leadership

UNIT-II

Leadership Behavior and Motivation: Leadership Behavior and Styles, University of Michigan and Ohio Studies, Leadership Grid – Leadership and Motivation – Content and Process Theories: Reinforcement Theory, Contingency Leadership Theories and Models, Leadership Continuum theory, Normative leadership theory, and Leadership Substitute Theory

UNIT-III

Team Leadership, Organizational Leadership: The Use of Teams in Organizations, Types of Teams, Decision Making in Teams – Leadership Skills for Effective Team Meetings – Ginnet’s Team Effectiveness Leadership Model – Virtual and Self Managed Teams – Changing Role of Leadership in Self Managed Teams – Charismatic and Transformational leadership – Stewardship and Servant Leadership – Leadership of Culture and Diversity, Creating High Performance Culture – Strategic

Leadership.

UNIT-IV

Leader-follower Relations: Followers, Evolution of Dyadic Theory – Leader Member Exchange Theory, Fellowship, Delegation, Coaching, and Managing Conflict – Leadership and Change Management.

UNIT-V

Leadership Development and Succession: Development through Self Awareness and Self Discipline, Development through Education, Experience, and Mentoring – Succession Policy – Leadership Development Programs – Evaluation of Leadership Development Efforts-Leadership in Indian Business.

Reference Text Books:

1. Lussier/ Achus, *Effective Leadership*, Thomson SouthWestern.
2. Hughes, Ginnet, Curphy, *Leadership-Enhancing the Lessons of experience*, TMH.
3. Andrew J Durbrin, *Leadership-Research findings, Practice, and skills*, Biztantra.

MBA 404HRMOB: STRATEGIC HUMAN RESOURCE MANAGEMENT (3L + 1T + 1P)

UNIT-I

SHRM Framework :SHRM: Meaning, Nature and Scope of SHRM – Strategic Framework for HRM– Process of Strategic HRM – Corporate Strategy and SHRM – SHRM Approaches- Business Strategy and Organizational Capability – Developing SHRM Plans and Strategies – Strategic HR Planning – Acquisition and Development.

UNIT-II

Strategy Formulation: Strategic planning – Multinational Strategies – Strategic alliance – Sustainable global competitive advantage – Assessment of strategic alternatives – Managerial issues in strategic formulation – Importance and methods of forecasting the supply of HR – Key HR activities in Mergers and Acquisition (M & A) – Ensuring alignment – Ensuring strategic flexibility for the future – An investment perspective of Human Resources – HR investment consideration.

UNIT-III

HR Strategy Implementation: Human Aspects of Strategy Implementation: Behavioral Issues in Strategy Implementation, Matching Culture with Strategy – Leadership, Power and Politics, Employee Morale – Personal Values and Business Ethics – Retrenchment Strategies: Downsizing, Voluntary Retirement Schemes (VRS), HR Outsourcing, Early Retirement Plans, and Project Based Employment.

UNIT-IV

Recruitment and Retention Strategies: Online Recruitment, Employee Referrals, Recruitment Process Outsourcing, Head Hunting, Executive Education, Flexi Timing- Telecommuting – Work–life Balance Practices – Employee Empowerment –Employee Involvement – Autonomous Work

Teams – *Training, Development and Performance Strategies*: Creating a Learning Organization, Competency Mapping, Multi-Skilling Succession Planning, Cross Cultural Training.

UNIT-V

HR Strategy Evaluation: HR evaluation process – Overview– Scope – Strategic Impact – Level of Analysis – Criteria – Level of Constituents – Ethical Dimensions – Approaches to Evaluation - Balanced score card perspective – Bench marking – Evaluating Strategic Contribution of Traditional areas such as selection, Training, Compensation – Evaluating Strategic Contribution in Emerging areas such as Management of Diversity and Quality Readiness.

Reference Text Books:

1. Gangaram Singh, R. Nandagopal and R.G. Priyaadarshini, Strategic Human Resource Management in a Global Economy, Excel Books, 2007.
2. Jeffrey A. Mello, Strategic Human Resource Management, Cengage Learning Indian Pvt. Ltd., New Delhi, 2008.
3. Monica. Belcourt and Kenneth J. Mc Bey, Strategic Human Resource Planning (Second Edition), Cengage Learning India Pvt. Ltd. New Delhi, 2008.

MBA 405HRMOB: INTERNATIONAL HUMAN RESOURCE DEVELOPMENT (3L + 1T + 1P)

UNIT-I

Basics of IHRM: Definition, Nature, Importance, Objectives & Problems of IHRM, Difference between IHRM and Domestic HRM - Growing interest in IHRM -Three Dimensions of IHRM activities-Cultural issues in IHRM.

UNIT-II

Recruitment, Selection, Staffing and Training in International context: Issues in International Selections, International Staffing Policies, Advantages & Disadvantages of Staffing Policies, Expatriate Selection-Expatriate Failures & Reasons – Need & Importance of Expatriate Training, Cultural Awareness Programs, Current scenario in international training and development.

UNIT-III

International Compensation, Performance Management & Labour Relations: Objectives and Key components of an International compensation program, Approaches to International compensation, Performance Management of Expatriates- International Labour Relations, Key issues in International Labour Relations.

UNIT-IV

IHRM Practices in Selected Countries: HRM practices in different countries- Japan, America, Britain, Germany, China and India.

UNIT-V

Special Issues in IHRM: Information Technology and International HRM, Human Resource Outsourcing, Women Expatriates and their problems, Ethics in IHRM, Future challenges in IHRM.

Reference Books:

1. K Aswathappa, Sadhna Dash-- International Human Resource Management Text and Cases -Tata McGraw Hill Publishing Company Ltd.
2. S.P.S. Bedi , Minakshi Kishore- - Global Human Resource –Wisdom Publications, Delhi.
3. R.V.Badi & S.G. Hundekar - International Human Resource Management – Vrinda Publications, Delhi.

MBA 406HRMOB: STRESS MANAGEMENT (3L + 1T + 1P)**UNIT-I**

Introduction to Stress: Nature, Meaning – Symptoms – Work Related Stress – Individual Stress – Reducing Stress – Sources of Stress –Consequence of Stress Burnout – Symptoms of Burnout – Stress Vs Burnout-Model of Stress-Strategies for Coping Stress (individual and organizational strategies)

UNIT-II

Frustration, Meaning of Frustration, Causes of Frustration, Some General Frustration of Our Culture, Conflict, Meaning of Conflict, Types of Conflict, General Conflict of Our Society, Pressure, Meaning of Pressure, Causes of Pressure, General Pressure of Our Society.

UNIT -III

Stress Framework-Sources of Managerial Stress, Stress and Thought Processes - Learning, Stress and Personality - Behavioral and Situational Modifiers, Stress and Motivation, Managerial Implications of Stress-Leadership Styles in Stressful and Non-Stressful Situations, Decision Making under Stress.

UNIT-IV

Stress-related Disorders and Treatment Methods: Cardiovascular, Gastrointestinal and– convulsion, Pain and hypochondriacs, Eating disorders – Anorexia nervosa, Bulimia Nervosa, obesity Substance use related disorder.

UNIT-V

Stress Management Techniques: Coping with Resources and Processes — Assertiveness Training, Stress and Social Support, Group Processes and Changing Values for Understanding and Coping with Stress, Behavioral techniques for stress control, Behavioral assignments, Risk taking, Shame-Attaching, Relaxation techniques, Techniques of Relaxation, Yoga, Vipasyana.

Reference Text Books:

1. Patel ,M.K. and Other Authors, (2006), 1stEd.“ Stress, Emotions, Coping and Health”, Saurashtra University, Rajkot .

2. Patel ,S.T.and Other Authors, (1992), 1stEd.“ Psychology and Effective Behaviour”,Liberty Publication , Ahmedabad.
3. Shah ,K.N.(2001), 1stEd.“ Psychology and Effective Behaviour”,University Book Production Bord, Ahmedabad.

MBA 402FIN: FINANCIAL RISK MANAGEMENT (3L + 1T + 1P)

UNIT-I

Introduction to Risks: Financial Risk: An Overview, Evolution, and the Environment-Risks definition (market, credit, liquidity, operational), more specifically on the identification of different forms of risk (currency, interest rate, equity, commodity)–Market Data Analysis, Probability and distributions of asset prices, measuring return and risk, Modeling Risk Factors, Using implied volatility in Value-at-Risk measures

UNIT-II

Risk and volatility Measurement: Risk and volatility Measurement, the issue of time aggregation, different measures of volatility such as EWMA, ARCH & GARCH processes, volatility clusters and the issue of time varying volatility-Measuring risk using Value-at-Risk, concept and computation of Var using variance-covariance approach, Calculating portfolio risk of more than one assets – Historical simulation & multifactor Var, marginal and relative var, expected shortfalls, treasury applications Stress testing and back-testing, Forecasting correlation & Volatility during market crash, Extreme Value Theory – Basic Principles, Extreme Value Theory methods in measuring financial risk , Monte Carlo simulation, issues in generating price process (Brownian Motion, Ito Process), Cholesky decomposition in computing multi-asset VaR – Risk & Forecasting issues in asset prices (exchange rates & interest rates), modeling interest rates such as Cox-Ingersoll-Ross Models, ARMA processes in generating currency forecasts and using in decision making.

UNIT-III

Currency Risk Analysis: Currency Risk Analysis in global Investing – Interest Rate Parity (covered and uncovered), yen-carry Trade Syndrome – risk Environment in Indian forex Markets, Forwards and Non deliverable Forwards, Cross-currency Risk Analysis – Value at Risk for Fixed Income portfolio – Cash Flows Mapping in Fixed Income Portfolios – Relation of Var measures with duration – Comparing with yield vs Price Volatility, etc.

UNIT-IV

Credit Risk Basics: Probability of Default – Credit ratings & Transition Matrix analysis, Contingent claim approach and the KMV Model, Credit Risk Management and Credit VaR. Indian environment in VaR applications (NSE, BSE, NCDEX, CCIL), RBI guidelines for credit & market risk management – VaR based margining

UNIT-V

Integrated Risk Management framework: Operational, An integrated approach to risk management considering issues such as operational, supervisory, legal, Accounting – Issue of Governance Ratings and Risk in Institutions, the Role of Risk Management Offices (front, middle and back offices), Risk reporting, Risk Budgeting and Setting Risk Limits, limits using notional, Stop Loss and Var based Limits, Establishing Trading Limits.

Reference Books

1. Christoffersen, P.F. (2003), Elements of Financial Risk Management, Academic Press, London
2. Hull, John C. (2015), Risk Management and Financial Institutions (4th edition), Pearson
3. Saunders, Anthony and Linda Allen (2nd edition 2002): Credit Risk Measurement, Wiley 1st edition, 1999.
4. Duffie, Darrell and Kenneth J. Singleton (2003): Credit Risk, Princeton UP

MBA 403FIN: COMMODITY MARKETS & DERIVATIVES (3L + 1T + 1P)

UNIT-I

Commodities Market: Introduction – Meaning, History & Origin – Types of Commodities Traded – Structure of Commodities Market in India,-Participants in Commodities Market –Trading in Commodities in India (Cash & Derivative Segment) - Commodity Exchanges in India & Abroad – Reasons for Investing in Commodities

UNIT-II

Financial Derivatives: Meaning, Definition, Purpose and Types of Derivatives –Derivatives Market in India and other Countries

UNIT-III

Futures and Forwards: Forward and Future Contracts-Future Markets-the Mechanism of Future Markets– Long and Short of Financial Futures – Clearing House Arrangement–Futures Price-Spot Price – Forward Price –Trading Future Positions.

UNIT-IV

Options: Meaning of Options, types – Options Contract–Options Trading–Differences between Futures and Options Contract–Market Participations and Motivations.

UNIT-V

Swaps: Meaning, Types-Interest Rate Swap-Currency Swaps – Valuation – Mechanism of Operation–Credit risk and Swap.

Reference Books

1. John C. Hull & Basu -Futures, options & other derivatives
2. Robert McDonald, Derivatives market, Pearson education
3. John Hull, Fundamentals of futures & options
4. Ankit Gala & Jitendra Gala, Guide to Indian Commodity market, Buzzingstock publishing house

MBA 404FIN: INTERNATIONAL FINANCE

UNIT-I

Multinational Corporations: Features of MNCs, Motives for Going Global, Factors Inhibiting MNCs to Maximize Profits, Complexities and Issues in Financial Decisions of a Multinational Firm – Financial Management Versus International Financial Management – IFM: Features, Objectives, and Importance of IFM.

UNIT-II

International Monetary System: Gold Standard, Interwar Period, Bretton Woods System, Fixed and Floating Exchange Rate System – Foreign Exchange Market: Features and Functions – Exchange Rate: Determination of Exchange Rate – Spot and Forward Rates – International Parity Conditions: Purchasing Power Parity, Forward Rate Parity and Interest Rate Parity – Fisher Open Condition – Exchange Rate Movement and Decision to Invest – Global Financial Markets: International Banks, Euro Currency Market, Euro Bond Market, International Stock Market, and Global Equity Market.

UNIT-III

Management of Exposure: Economic, Transaction, Translation, and Real Operating Exposure – Exposure Management Contractual and Natural Hedging – Interest Rate Risk Assessment and Management – International Capital Budgeting: Multinational Considerations and Calculation of Cash Flows, and Adjusted Present Value Approach.

UNIT-IV

International Portfolio Management: Decision to Invest in Portfolio, International CAPM, and Identification of Optimum Portfolio – International Project Financing: Concepts, Types, Techniques, and Key Elements – Cost of Capital and Capital Structure of Multinational Firms – Long term Financing Sources of MNCs.

UNITV

International Working Capital Management: Cash Management, Receivables and Inventory Management – Short-term Financing – International Accounting: Foreign Currency Translation, Multinational Transfer Pricing and Performance Measurement – Consolidated Financial Reporting International Accounting Standards and Practices – International Taxation: Key elements and Issues, International Tax Environment, Bilateral Treaties, and Page 54 of 57 Tax Heavens – Dividend Policy for Multinational Corporations: Issues, Challenges, and Dividend

REFERENCE BOOKS

1. S.P.Srinivasan, B.Janakiram, International Financial Management, Wiley India.
2. V.Sharan, International Financial Management, 3rd Edition, Prentice Hall of India.
3. A.K.Seth, International Financial Management, Galgothia Publishing Company.
4. P.G.Apte, International Financial Management, Tata McGraw Hill, 3rd Edition.

MBA 405FIN: STRATEGIC INVESTMENT & FINANCIAL DECISION MAKING

Practical Component	01 Hour/Week	Exam Hours	03
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UNIT-I

Investment Decisions: Project Investment Management Vs Project Management – Introduction to Profitable Projects – Evaluation of Investment Opportunities – Investment Decisions under Conditions of Uncertainty – Risk Analysis in Investment Decision – Types of Investments and Disinvestments.

UNIT-II

Critical Analysis of Appraisal Techniques: Significance of Information and data bank in project selections – Investment Decisions under Capital Constraints – Capital Rationing, Portfolio – Portfolio Risk and Diversified Projects.

UNIT-III

Strategic Analysis of Selected Investment Decisions: Lease Financing – Lease Vs Buy Decision – Hire Purchase and Installment Decision – Hire Purchase Vs Lease Decision – Mergers and Acquisition – Cash Vs Equity for Mergers.

UNIT-IV

Financing Decisions: Capital Structure – Capital Structure Theories – Capital Structure Planning in Practice.

UNIT-V

Financial Distress: Consequences, Issues, Bankruptcy, Settlements, Reorganization and Liquidation in Bankruptcy.

Reference Text Books

1. Prasanna Chandra, Financial Management, 7th Edition, Tata McGraw Hill, 2008.
Bodie, Kane, Marcus: Investment, Tata McGraw Hill, New Delhi 2002.
2. Prasanna Chandra, Projects : planning, Analysis, Financing implementation and review, TMH, New Delhi, 2008
3. Brigham E. F & Houston J.F. Financial Management, Thomson Publications, 2003.

MBA 406FIN: STRATEGIC COST MANAGEMENT (3L + 1T + 1P)

UNIT-I

Designing Costing Systems for Job and Process Oriented Manufacturing Environments – Cost Estimation and Regression Analysis – Linear Programming and Cost Volume Profit Analysis – Learning Curves.

UNIT-II

Cost as a Source of Competitive Advantage – Value Chain Concept – Cost Driver Concept – Strategic Positioning Concept – Profit Variance Analysis – Target Costing – Life Cycle Costing.

UNIT-III

Activity Based Costing – Drawbacks of Conventional Costing Systems – Hidden Factory – Merits and Demerits of ABC – Implementation of ABC.

UNIT-IV

Cost of Quality – Understanding, Analysis and Measurement of COQ.

UNIT-V

Business Process Reengineering – Total Quality Management, Just in Time and Flexible Manufacturing Systems as Enablers of Low Cost Strategy – Implications for Costing Systems.

Reference Textbooks

1. Vijay Govindarajan, “Strategic Cost Management”
- 2 Roert S.Kaplan and Anthony A Atkinson, Advanced Management Accounting
3. Druly,Colin,Management Accounting and Control, Thomson Learning

MBA 402OPS: ADVANCED DATA ANALYSIS FOR MANAGEMENT

UNIT-I

Introduction: Basic Concepts – Uni-variate, Bi-variate and Multi-variate Techniques – Types of Multivariate Techniques – Classification of Multivariate Techniques – Guidelines for Multivariate Analysis and Interpretation – Approaches to Multivariate Model Building.

UNIT-II

Preparing for Multivariate Analysis: Conceptualization of Research Problem – Identification of Technique – Examination of variables and Data – Measurement of Variables and Collection of Data – Measurement of Errors – Statistical Significance of Errors. Missing Data – Approaches for Dealing with Missing Data – Testing the Assumptions of Multivariate Analysis – Incorporating Non-metric Data with Dummy Variables.

UNIT- III

Multiple Linear Regression Analysis, Factor Analysis, and Canonical Correlation Analysis: Multiple Linear Regression Analysis – Introduction – Basic concepts – Multiple linear regression models – Least square estimation – Inferences from the estimated regression function – Validation of the model. Factor Analysis: Definition – Objectives – Approaches to factor analysis – methods of estimation – Factor rotation – Factor scores - Sum of variance explained – interpretation of results – Canonical Correlation Analysis - Objectives – Canonical variates and canonical correlation – Interpretation of variates and correlations.

UNIT-IV

Multiple Discriminant Analysis, Cluster Analysis and Conjoint: Multiple Discriminant Analysis – Basic concepts – Separation and Classification of two populations - Evaluating Classification functions – Validation of the Model. Cluster Analysis – Definitions – Objectives – Similarity of measures – Hierarchical and Non –Hierarchical Clustering Methods – Interpretation and validation of the Model. Conjoint Analysis – Definitions – Basic Concepts – Attributes – Preferences – Ranking of Preferences – Output of Conjoint Measurements – Utility - Interpretation.

UNIT-V

Multi Dimensional Scaling and Advanced Techniques: Multi-Dimensional Scaling – Definitions – Objectives – Basic Concepts – Scaling Techniques – Attribute and Non-Attributes based MDS Techniques – Interpretation and Validation of models – Advanced Techniques – Structural Equation modeling – Basic Concepts – Stages in SEM – Application of SEM in Business Research.

Reference Text Books

1. Joseph F Hair, Rolph E Anderson, Ronald L. Tatham & William C. Black, Multivariate Data Analysis, Pearson Education, New Delhi, 2005.
2. Barbara G. Tabachnick, Linda S.Fidell, Using Multivariate Statistics, 6th Edition, Pearson, 2012.
3. Richard A Johnson and Dean W.Wichern, Applied Multivariate Statistical Analysis, Prentice Hall, New Delhi, 2005.

MBA 403OPS: STRATEGIC SOURCING

UNIT-I

Introduction to Strategic Sourcing and Supply Management: The State of Supply Management – Introduction to Strategic Sourcing – Strategic Sourcing Process –Sourcing Plan – Sourcing Optimization - Supply Chain Strategy and Roles – Supply Chain Management

UNIT-II

The P2P Process, Purchasing Organization, and Commodity Strategy Development: The Procure-to-Pay Process – Purchasing Organization and Structure – Commodity Strategy Development: Introduction – Commodity Strategy Development: Process – Commodity Strategy Development: Considerations

UNIT-III

Supplier Evaluation and Selection and the Analytic Hierarchy Process: Supplier Evaluation and Selection – The Analytic Hierarchy Process: Overview and Examples – The Analytic Hierarchy Process: Exercise and Extensions – Assessing Supply Chain Risks through AHP

UNIT-IV

Supplier Performance Management, Quality Management, and Supply Base Integration: Supplier Performance Management – Quality Management for Strategic Sourcing - Supply Base Integration and Development - Electronic Procurement, Focus on Reverse Auctions - Strategic Cost Management

UNIT-V

Contemporary Issues in Strategic Sourcing: Global Sourcing – Outsourcing – Negotiations – Sourcing Business Models – Purchasing Law and Contract Management – Purchasing Ethics–Green Procurement – Future of Purchasing

Reference Text Books:

1. David Burt, Sheila Petcavage, and Richard Pinkerton, Supply Management, McGraw-Hill/Irwin; 8th edition (January 5, 2009)
2. Fred Sollish, John Semanik, The Purchasing and Supply Manager's Guide to the C.P.M. Exam, John Wiley & Sons, Feb-2006
3. Fred Sollish, An Overview of Global Strategic Sourcing, John Wiley & Sons, May-2011.

MBA 404OPS: QUALITY ASSURANCE MANAGEMENT

UNIT-I

Introduction to Quality: Quality: Definition, History, Importance – Cost of Quality, Approaches of Quality Management – Hierarchy of Quality Management: Inspection & Test – Quality Control – Quality Assurance.

UNIT-II

Statistical Quality Control: SQC Tools– Benefits of SQC– Concept of Variation– Assignable & Chance Causes– Attributes & Variables– Frequency Distribution Curve & its Types– Normal Distribution curve– Problems on FD curve & ND Curve.

UNIT-III

Control Chart for Variable: Definition, Formulae & its Problems – Control Chart Patterns – Process Capability – Problems on X & R Chart and Process Capability – Control Chart for Attribute: Definition, Formulae & its Problems – Problems on P, C Charts – Sampling: Definition, Types of Sampling, Importance, Benefits and Limitations of Sampling

UNIT-IV

Quality Management Systems-1: Quality Assurance (QA): Introduction, Definition, Management Principles in QA, Forms of QA, QA in Different Stages–Quality Planning, QA Program, QA Aspect, Quality in Material Management, Vendor Selection & Development –ISO: Introduction, ISO 9000 Series of Standard, ISO 9001 clauses, Registration Process, Benefits of ISO – ISO 9001 Clauses, Registration Process, Benefits of ISO.

UNIT-IV

Quality Management Systems-2: Quality survey– Scope, Types of Audit – Inspection Methods, Quality Budget, Vendor Quality Rating Quality Improvement Programme: Histogram, Charts, Brain-Storming, Cause & Effect Diagram, Pareto Analysis –Total Quality Management: Definition, Models of TQM, Elements of TQM, Principles of TQM – Deming’s Approach, PDCA Cycle, Juran’s Approach, JIT, Training for Quality Management.

References Textbooks

1. Bedi, K; Quality Management; Oxford University Press, 2006
2. Feigenbaum : Total Quality Control; McGraw Hill, 4th edition, 2005
3. References:
4. Juran & Gyra : Quality Planning & Analysis; McGraw Hill, 3rd edition, 1993

MBA 405OPS: LEAN MANUFACTURING (3L + 1T + 1P)

UNIT-I

Introduction: Types of Production Systems; World Class Manufacturing, Agile Manufacturing; Objectives of Lean Manufacturing - Key Principles and Implications of Lean Manufacturing - Traditional Vs Lean Manufacturing – Value Creation and Waste Elimination – Types of Waste – Continuous Flow – Continuous Improvement / Kaizen- Worker Involvement - Cellular Layout.

UNIT-II

Lean Manufacturing-5S Principles, Lean Manufacturing Steps – Value Stream, Flow, Creating PULL Systems Cellular Manufacturing, Standard Work, Total Cost of Quality, Changeover/setup Time (SMED) - Batch Size Reduction – Production Levelling – Failure Mode and Effect Analysis (FMEA) – Line Balancing – Poka-yoke - Information Technology aids: Tools and Methodologies

UNIT-III

Pull Systems: Principles of Pull – Lean Production System for Pull – Bad old days of distribution – Lean Distribution for Pull – Theory into Practice Cellular Manufacturing Systems: One-piece Flow – Large Lot Production – Problems – Understanding the Process and Operations – Benefits of Cellular Manufacturing – Creating U Shape Cells – Use of Multi-skill / multi Machine Operations – Cross Training for Maximum Flexibility – Moving with the Work – Using Small and

UNIT-IV

Value Stream Mapping - Current State Map – Future State Map – VSM Symbols – Mapping Tips - Comparison of CSVSM and FSVSM– Use of e-VSM Software Flow: Definition – World of Batch and Queue – From Batch to Continuous flow, Developing Continuous Flow – Techniques Design using the Lean Approach, Continuous flow Production – Make it Flow – Feed the Flow – Link the Flow – Layout Flow Lines – Line / U shape.

UNIT-V

Integrated Reliability: Role of Maintenance – Integrated Productive Maintenance – Total Productive Maintenance – Downtime – Lean Production – Benchmarking; Computerized Maintenance Management Systems– Reliability – TPM Implementation. Lean Supply Chain: Forecasting Systems – Supply Chain Management Concepts – Aggregate Planning – Master Production Schedule – Make the Vendors Lean – Rules for Lean Cell Design – Product Knowledge and Functions.

Reference Text Books

1. Ronald G Askin, “Design and Analysis of Lean Production system”, John Wiley and Sons, New York, 2003.
2. Black J T and Steve L Hunter, “Lean Manufacturing Systems and Cell design”, Society of Manufacturing Engineers, USA, 2003.
3. Bedworth D. D, “Integrated Production Control Systems Management, Analysis, Design”, John Wiley and Sons, New York, 1987.
4. Vollman T E, “Manufacturing Planning and Control Systems”, Galgotia Publication (P) Ltd., New Delhi, 2004.

MBA 406OPS: TOTAL QUALITY MANAGEMENT

UNIT-I

Introduction – Need for quality – Evolution of quality – Definitions of quality – Dimensions of product and service quality – Basic concepts of TQM – TQM Framework – Contributions of Deming, Juran and Crosby – Barriers to TQM – Quality statements – Customer Focus – Customer Orientation, Customer Satisfaction, Customer Complaints, Customer Retention – Costs of quality.

UNIT-II

TQM Principles: Leadership – Strategic quality planning, Quality Councils – Employee involvement – Motivation, Empowerment, Team and Teamwork, Quality Circles Recognition and Reward, Performance appraisal – Continuous Process Improvement – PDCA Cycle, 5S, Kaizen – Supplier Partnership – Partnering, Supplier Selection, Supplier Rating.

UNIT-III

TQM Tools and Techniques: The Seven Traditional Tools of Quality – New management tools – Six Sigma: Concepts, Methodology, applications to manufacturing, Service Sector Including IT – Bench Marking – Reason to Bench Mark, Bench Marking Process – FMEA – Stages, Types.

UNIT-IV

TQM Tools and Techniques II: Control Charts – Process Capability – Concepts of Six Sigma – Quality Function Development (QFD) – Taguchi Quality Loss Function – TPM – Concepts, Improvement Needs – Performance Measures.

UNIT-V

Quality Systems: Need for ISO 9000 – ISO 9001-2008 Quality System – Elements, Documentation, Quality Auditing – QS 9000 – ISO 14000 – Concepts, Requirements and Benefits – TQM Implementation in Manufacturing and Service Sectors.

Reference Text Books:

1. James R. Evans and William M. Lindsay, “The Management and Control of Quality”, 8th Edition, First Indian Edition, Cengage Learning, 2012.
2. Suganthi.L and Anand Samuel, “Total Quality Management”, Prentice Hall (India) Pvt. Ltd., 2006.
3. Janakiraman. B and Gopal .R.K., “Total Quality Management – Text and Cases”, Prentice Hall (India) Pvt. Ltd., 2006.

MBA 402ENT: FAMILY BUSINESS MANAGEMENT (3L + 1T + 1P)

UNIT-I

Family Business Uniqueness: Definitions of Family Business – What Constitutes a Family business – Succession and Continuity – Economic Impact – What Makes it Unique – Nature, Importance, and Uniqueness of Family Business – Special Strengths – Family Business Culture and Values, Predictable Problem Resolution, Commitment, Knowledge, Flexibility in Work, Time and Money, Long-range Thinking, A stable Culture, Speedy Decisions, Reliability and Pride – Dilemmas and Challenges for Family Business – Resistance to Change, Business challenges, Succession, Emotional Issues, Leadership.

UNIT-II

Family Business Dynamics: People, System and Growing Complexity: Family Culture, Organizational Culture, and Cultural Blur in family Firms, A System Perspective on Continuity Resulting from Generational Conflict and Culture Change, Family Business People – Founders, women in Family Businesses, Husband wife Teams, In-laws, Multifamily Ownership, Non-family employees, Managing conflicts in family firms – Family Unity and a Positive Family-business Interaction as a Resource in the Creation of Inimitable Competitive Advantages. Family Business Systems – Seeking a Balanced Approach, Introducing the Ownership dimensions. Family Business Life Cycles: a story of Growing Complexity – Life-Cycle Stages, A customer-Active Paradigm,

Continuous evolution- not Revolution-and Family Business continuity, Ownership transitions – Erosion of the future entrepreneurial culture – Need to preserve the entrepreneurial spirit and promote a Positive– Great Family Businesses.

UNIT-III

The family's Relationship with Business: Developing a Strategic Vision and Building Team work: Articulating Values and Shared Vision, Effective Business Families – How families add Value – The Family Business Interaction Factor – Ingredients of Successful Planning –Family Emotional Intelligence, Establishing Open Communication– Family communication: Family meetings, The Benefits of family Meetings, Family Councils, and Family Offices, family Retreats, family Constitutions, Family Meetings, the use of Facilitators and Advisors, the Family Employment Policy, Ownership and Family Policy Making, Guidelines for Policy making, the family contribution, creative versus destructive conflict, building family team work – Unifying Plans, Processes and Structures – Designing Family Governance.

UNIT-IV

The next Generation: Human Resource Management and Leadership Perspective: To Join or not to join? – The Importance of Outside Experience – Self-esteem and Confidence – Wider Business Experience, Credibility with non-family Employees – Systems Overlap and Human Resource Management Issues-recruitment, Training and development, Remuneration, Performance Appraisal and Promotion. Working in the Business – Seek out a Mentor, Gain the Respect of Employees, Tread Carefully, beware Sibling Rivalry, work at Establishing Personal Identity, Relationship with the Senior Generation.

UNIT-V

Getting Help: Making the most of Outside Resources – The perspective of Non- family Managers, Career Opportunities for Non-family Managers, Non-family Managers-Relationship with the Family – Introducing External Executives, Motivation and Rewards, Incentive Design and delivery. Extending the family culture to non-family managers, motivating and retaining non Family Managers, Non- executive Directors – Selecting the Right Candidate, Board Practices – Professional Advisors and Consultants – a Non-family Manager as a Bridging President or CEO, Outsider Advisors.

Reference Text Books

1. Ernesto J. Poza, Family Business, Cengage Learning, 2009.
2. Keanon J. Alderson, Understanding The Family Business, Business Expert Press, 2011.
3. Kelly LeCouvie, Jennifer Pendergast, Family Business Succession: Your Roadmap to Continuity, Palgrave Macmillan, 2014.
4. John L. Ward, Craig E Aronoff, Stephen L. McClure, Family Business Succession: The Final Test of Greatness, Palgrave Macmillan, 2011.

UNIT-I

Introduction: The Need for and Concept of MDGs and SDGs – Global Development Organizations – Examples and Descriptions – Social Enterprises (SEs) and Entrepreneurship – An Overview: Basic Definitions and Concepts; Morphology of SEs – History and Evolution of Social Entrepreneurship – Social Entrepreneurship and Enterprises – Past and Emerging Trends; Anticipating the Future – International and National Examples of Pioneers – Hybrid Spectrum of SEs – Business Models, Legal and Organizational Manifestations – Types and Functions of SEs such as Fair Trade Organizations, Cooperative Organizations, etc. – SEs in Different Sectors

UNIT-II

SEs' Conception, Design and Incubation: Social Entrepreneurial Initiatives – Opportunity Analysis and Idea Generation Tolls and Approaches – The Use of Market Research Tools – Design Thinking for SEs and Innovations in their Lifecycles – Issues in the Early Stages of SEs' lifecycles – Organizational Launch and Development Processes in Social Entrepreneurship.

UNIT-III

Management of SEs – Functions and Issues; Management – Purpose, Concepts, Functions and Resources – Types and Sources of Finance – Resource Mobilization Strategies – Core Issues in Management – Value, Risk, Returns and Cost.

UNIT-IV

BOP Markets: Definition, Examples, the Impact of Culture – the Poor as Consumers, Business Models at the BOP – Designing Products that will Create Value for the BOP – Providing Access to Credit – Providing Access to Information and Financial Services through technology– Providing Access to Health Care, Education

UNIT-V

Newer Business Models at the BOP: Social Entrepreneurs, Challenges for Social Entrepreneurs– Creating a Successful Business Model and Finding Funding, Generating Income, Scaling and Replicating to Increase Impact, social Entrepreneur's Point of View, New Opportunities for Collaborative Ventures at the BOP – Evaluating the Social Impact of BOP Ventures.

Reference Text Books

1. Beverly Schwartz, Rippling: How Social Entrepreneurs Spread Innovation Throughout the World, Jossey-Bass, 2012
2. David Bornstein, How to Change the World: Social Entrepreneurs and the Power of New Ideas, Oxford University Press, 2004.
3. Arthur C. Brooks, Social Entrepreneurship: A Modern Approach to Social Value Creation, 1st edition,

UNIT-I

Introduction: Understanding Corporate Entrepreneurship: Nature, meaning, definition and Importance of Corporate Entrepreneurship – Obstacles in the Corporate Environment – How Innovation Actually Happens – Crucial roles of Innovation – Entrepreneurial Orientation (EO) – Entrepreneurial Intensity – Forms of Corporate Entrepreneurship – Levels of Corporate Entrepreneurship – HR in the Entrepreneurial Organization – Human Resource Capabilities.

UNIT-II

Organizing the Venture: Diagnosing organization for Climate for Innovation –The Internal Policies of Venturing – Developing Intrapreneurial Business Plan – Building an Organizational Environment Conducive to Entrepreneurial Endeavors: Resources, Process and Priorities – Selecting, Evaluating, and Compensating Corporate Entrepreneurs – Funding the Venture.

UNIT-III

Corporate Strategy and Entrepreneurship: Behavioral Aspects of Corporate Entrepreneurship –Role of the Intrapreneur – How to Succeed As an Intrapreneur – Entrepreneurial Structure and Culture in Organization – Identifying, Evaluating & Selecting Opportunity – Corporate Entrepreneurship In the Social Sector – Understanding & Managing the Entrepreneurial Process – Locating the Venture in the Organization.

UNIT-IV

Implementing Corporate Venturing in Organization – Constraints on Entrepreneurial Performance & Leading the Entrepreneurial Organization – Intrapreneuring within a Structured Development Process – Managing Corporate Venture Capital Investments – Corporate Entrepreneurship via Acquisition, Investment and Partnership Managing Corporate Venture Capital Investments

UNIT-V

Assessing & Controlling of Corporate Entrepreneurship: Facilitators of Entrepreneurial Performance – Improving Climate for Innovation – Managing and Sustaining Entrepreneurial Performance in the 21st Century – The Future of the Intrapreneurial Organization –Corporate Entrepreneurship in Developing Economies.

Reference Text Books:

1. Donald F. Kuratko, Michael H. Morris, Jeffrey G. Covin, 'Corporate Innovation & Entrepreneurship, International Edition 3e, Cengage Learning, 2011.
2. Michael H. Morris, Donald F. Kuratko, Jeffrey G Covin, Corporate Entrepreneurship & Innovation', Cengage Learning, 2010.
3. Donald F. Kuratko, [Corporate Entrepreneurship](#), Now Publishers Inc, 2007

UNIT-I

Introduction: Nature, Definition and Characteristics of Entrepreneurial Leadership – Images and Forms of Entrepreneurial Leadership – Types of Entrepreneurial Leaders – Business Ethics in a Global Context – Critical Link between Leadership and Entrepreneurial Success – Entrepreneurial Leadership in Diverse Contexts: Family Business, Social and Sustainable Entrepreneurship – Entrepreneurial Dreams and Aspirations.

UNIT-II

Leadership Traits, Characteristics and Motives – Charismatic and Transformational Leaders in Entrepreneurship – Leadership Styles in Entrepreneurship – Situational Leadership and Social Responsibility – Influence, Power, Politics and Ethics for Entrepreneurial Leadership – Developing Teamwork.

UNIT-III

Motivation and Coaching Skills of the Entrepreneurial Leader – Entrepreneurial Culture and Leadership – Entrepreneurial Leadership and Governance – The Creative, Innovative Leader – Communicating, Negotiating and Resolving Conflict and Sustainability – Cross-Cultural Management.

UNIT-IV

Entrepreneurial Leadership Process: Challenges for Entrepreneurial Leadership in Organization – Corporate Entrepreneurship – Decision Making and Entrepreneurial Leadership – Entrepreneurial Growth Strategies and Leadership.

UNIT-V

Strategic Leadership in Entrepreneurship: Leadership in a Diverse World – Developing Leaders and Planning Succession – Contemporary Issues in Entrepreneurial Leadership – Leadership Issue for Future Entrepreneurs – Women’s Entrepreneurial Leadership.

Reference Text Books

1. [Richard J. Goossen](#) and R. Paul Stevens, ‘Entrepreneurial Leadership: Finding Your Calling, Making a Difference, Kindle Books.
2. Richard J. Goossen, ‘Entrepreneurial Excellence: Profit from the Best Ideas of the Experts’, Kindle Books.
3. Danna Greenberg, Kate McKone-Sweet, and H. James Wilson, ‘The New Entrepreneurial Leader: Developing Leaders Who Shape Social and Economic Opportunity’, Berrett-Koehler Publishers; September 2011. (full text book available at <http://wtf.tw/ref/greenberg.pdf>).

MBA 406ENT: GLOBAL ENTREPRENEURIAL ECOSYSTEM (3L + 1T + 1P)

UNIT-I

Introduction: International Entrepreneurship and International Business – Nature, Meaning and Scope of Global Entrepreneurship – Globalization and Global Entrepreneurship – Environment Entrepreneurial Opportunities and Challenges on a Global Perspective – Drivers of Global Entrepreneurial Ecosystems – Competencies and Characteristics of Global Entrepreneur – Approaches to Global Entrepreneur Ecosystem – Models of Global Entrepreneur Ecosystem.

UNIT-II

Motivation and Promotion to Global Entrepreneurship: Motivation, Types of IE, Foreign Country Selection – Collaborative Innovation at Global – Policies to Promote Global Entrepreneurial Ecosystems – Key Success Factors of Global Entrepreneurship – Immigrant and Ethic Entrepreneurship.

UNIT-III

Opportunity Assessment & Market Selection: Business Model Analysis –Global Business Planning – Global Venture Idea Feedback – Bottom of the Pyramid, Disruptive Innovation, & Industry/Market Analysis – Incubators and Entrepreneur Ecosystem in an International Context– IP Protection, Social Entrepreneurship, and International Ventures.

UNIT-IV

Global Entrepreneurial Strategy: Accessing Global Resources – Various Ways to Enter Global Markets – Global Franchising – Issues in Exporting – International Pricing & Payment Options – Cross-Cultural Customs and Communication Styles in Global Entrepreneurship – Implementing a Global Entrepreneurial Strategy – Legal and Ethics Issues in Global Entrepreneurship.

UNIT-V

Managing Global Entrepreneurial Enterprise: Management Issues in Global Entrepreneurship – Global Marketing Management– Global Human Resource management – Global Monetary System – Global Entrepreneurial Ecosystems (Overview) in Europe, China, Latin America, and Africa – Crisis Management in Global Entrepreneurship.

Reference Text Books:

1. Stephen Spinelli and Rob Adams, "New Venture Creation: Entrepreneurship for the 21st Century", McGrawHill/Irwin 9 edition, 2011.
2. Wang, H and Yipeng, Lieu, Entrepreneurship and Talent Management from a global perspective, Global Returnees New Horizons in Management series Edward Elgar Publishing
3. Zoltan J Acs, Global Entrepreneurship Institutions and Incentive, Edward Elgar Publishing.
4. Jonathan Ortman, Building One Global Entrepreneurial Ecosystem, Publication of Kauffman foundation.

MBA 409 EMPLOYABILITY SKILLS LAB (1L + 1P + 1T)

UNIT-I

Communication–Meaning and Significance for Managers–Public Speaking–Speaking in Meeting– Workplace Communication–One to one Communication–Different Styles of Communication– Interpersonal and Intrapersonal Skills–Reading ability–Importance of Listening in Communication.

UNIT-II

Presentation Skills – Writing Oral Presentations – Using Visual Aids in Oral Communication – Communicating Across Cultures – 7 Cs of Communication – Body Language- Tips on how to Create a Power Point and other Presentations.

UNIT-III

Goal Setting – Creating Individual Action Plans – Article Writing – SWOT Analysis – Event Management – (Training Students to Organize Events and present a report on Event organized).

UNIT-IV

Case Study – Case Analysis – Discussion and Presentation –Team Building and Team Work – Innovation and Creativity – Emotional Intelligence – Self Management

UNIT-V

Business and Corporate Etiquettes – Overview of Interview– Self introduction at Various Forums and During Interview – Mock Interview – CV Preparation-Group Discussion.

Reference Text Books

1. Bovee, Thill, Schatzman, (2005), Business communication Today, Pearson Education
2. Meenakshi Raman Prakash Singh, Business communication, Oxford University Press.
3. E.H.McGrath,S.J ,Basic Managerial Skills, PHI Pvt. Limited

MBA 410 SELLING & NEGOTIATION SKILLS LAB (1L + 1P + 1T)

UNIT-I

Nature and Role of Selling: Importance of Selling – Role in the Context of Organization – survival and growth – Types of Selling: Differences in Selling Situations, New Business Versus Service Selling – Newton's Classification of Sales Types – McMurry and Arnold's classification of selling Types – Consumer Indirect Selling, industrial Selling, Missionary, Sales team/group Selling Merchandising, Telesales, Franchise selling, International selling.

UNIT-II

Attributes of a Good Salesperson: Personality and Physical

Characteristics, Enthusiasm, Confidence, Intelligence, Self-Worth, Knowledge-product, Competition, Organization, Market, Customer, Territory: Communication Skills, Persuasive Skills. (to be supplemented by live exercises on personal selling)

UNIT-III

Personal Selling Skills: The opening – Need and problem identification–the Presentation and Demonstration – Dealing with Objections – Negotiations – Closing the Sale -follow up (to be supplemented by live exercise on personal selling)

UNIT-IV

Negotiation Skills: Goal, Collaborative/Win-Win not Compromise – Pyramid of Success: Power, Time, and Information– Opponent: Visceral or Idea, (To be supplemented by live exercises on personal selling)

UNIT-V

Different Phases of Negotiation: Pre-Negotiation – Opening-Information Sharing– Problem solving – Agreement– Breakdown in Negotiation– Barriers that Create Impasse- Overcoming Barriers- People Problem-Mediation- Arbitration-Ethics.

Reference Text Books

1. Roy J. Lewicki, David M. Saunders, Bruce Barry, *Negotiations*, 5/e, Mc Graw Hill, 2005.
2. George Seidel, *Negotiating for success* : Essential strategies and skills, University of Michigan.
3. Patric Forsyth, *Negotiation skills for rookies*.

MBA 411: STATISTICAL SOFTWARE APPLICATIONS LAB LAB (1L + 1P + 1T)

UNIT-I

An Overview of Statistical Software: Introduction to SPSS/SAS/ Systat – Introduction to various menus, Data file, Output file, Frequently used dialog boxes, Editing output, Printing results. Creating and editing a data file – Variable and data view, Value Labels – Managing Data: Listing cases, replacing missing values, computing new variables, recording variables, exploring data, selecting cases, sorting cases, merging files, splitting files, Visual Binning.

UNIT-II

Frequencies: Frequencies, bar charts, histograms, percentiles – *Descriptive statistics:* Measures of central tendency, variability, deviation from normality, size and stability. Cross Tabulation and chi-square analyses – The means Procedure – Graphs: Creating and editing graphs and charts.

UNIT-III

Bivariate Correlation: Bivariate Correlation, Partial and the Correlation Matrix – T-test Procedure: Independent – Samples, Paired Samples, and one Sample Tests – Non Parametric Tests: ChiSquare Test, 1 sample test, 2 Independent samples tests, k independent samples, 2 Related Samples Test – K-Related Samples.

UNIT-IV

ANOVA Procedure: One-way Analysis of Variance – General Linear model: Two-way Analysis of Variance, General Linear Model: Three-way Analysis of Variance and Influence of Covariates

UNIT-V

Advanced Tools: Simple Linear Regression, Multiple Regression Analysis – Multidimensional Scaling – Reliability Analysis – Factor analysis – Cluster Analysis.

Reference Text Books:

1. Mathew J. Zagumny, A student Guide to the statistical package for the social sciences,
2. Allan C. Elliot., Wyner. A., Woodward, AS Essentials Mastering SAS for Data Analytics, 2nd Edition, Wiley Publishers.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)**MCA 10117: COMPUTER FUNDAMENTALS****SYLLABUS**

UNIT I: Computer: Definition, Characteristics of Computers, Basic Applications of Computer, Generations of computers. Components of Computer System: Central Processing Unit (CPU), input/output Devices, computer Memory: primary and secondary memory, magnetic and optical storage devices, Concepts of Hardware and Software. Data processing: concepts of data processing, Definition of Information and data, Basic data types, Storage of data/Information as files, Representation of data/Information, Operating system: Definition, functions of OS and types of OS

UNIT II: Introduction to C Language – Background, Simple C Programme, Identifiers, Basic data types, Variables, Constants, Input / Output, Operators. Expressions, Precedence and Associativity, Expression Evaluation, Type conversions, Bit wise operators, Control flow Statements-Selection Statements – if and switch statements, Repetition statements – while, for, do- while statements, Loop examples, other statements related to looping – break, continue, go to.

UNIT III: Designing Structured Programmes, Functions, basics, user defined functions, inter function communication, Standard functions, Scope, Storage classes-auto, register, static, extern, scope rules, type qualifiers, recursion- recursive functions, Pre-processor commands, **Arrays** – Concepts, using arrays in C, inter function communication, array applications, two dimensional arrays, multidimensional arrays

UNIT IV: Derived types – Structures – Declaration, definition and initialization of structures, accessing structures, nested structures, arrays of structures, structures and functions, pointers to structures, self-referential structures, unions, typed Of, bit fields, enumerated types

UNIT V: Pointers – Introduction (Basic Concepts), Pointers for inter function communication, pointers to pointers, compatibility, memory allocation functions, array of pointers, programming applications, pointers to avoid, pointers to functions, command –line arguments..

Input and Output – Concept of a file, file streams, standard input / output functions, formatted input / output functions, text files and binary files, file input / output operations, file status functions (error handling).

REFERENCE BOOKS:

1. Yeswanth Karitkar Title Let us C Purblisher 12th edition BPB Publication.
2. Programming in C Bala guru swamy 4th edition Tata Mc Graw Hill
3. C Programming and Data Structures JNV Ramesh Reem publication.

MCA 10217: COMPUTER ORGANISATION

UNIT I : Digital Logic Circuits: Digital Computers, Logic Gates, Boolean algebra, ap simplification, Combinational Circuits, Flip-flops, Sequential Circuits.

Digital Components: Integrated Circuits, Decoders, Multiplexers, Registers, Shift Registers, Binary Counters, Memory Unit.

UNIT II : Data Representation: Data types, Complements, Fixed-point Representation, Floating-point representation, other binary codes, Error detection Codes. **Register Transfer and Micro operations:** Register transfer language, Register transfer, Bus & memory Transfers, Arithmetic micro operations, logic micro operations, Shift micro operations, Arithmetic Logic Shift Unit **Basic Computer Organization and Design:** Instruction Codes, Computer registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory- Reference Instructions, Input-output Interrupt.

UNIT III: Micro programmed Control: Control memory, Address Sequencing, Micro program Example, Design of control Unit.

Central Processing Unit: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Program Control.

UNIT IV: Computer Arithmetic: Introduction, Addition and subtraction, Multiplication algorithm ,Floating point arithmetic operations, Decimal Arithmetic unit, Decimal Arithmetic operations

UNIT V: Input-Output Organization: Peripheral Devices, Input-Output Interface, Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt

Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory

References:

1. V. Raja raman T. Rama Krishnan, PHI
2. Behrooz Parhami, Oxfor 2007]
3. ISRD group, ace series TMH (2007)

MCA 10317: DISCRETE MATHEMATICAL STRUCTURE

UNIT I: The Foundations: Logic and Proofs: Propositional Logic, Propositional Equivalences, Predicates and Quantifiers, Connectives, Well-formed formulas, Truth Tables, tautology, equivalence implication,

Predicates : Predicative logic, Free & Bound variables, Rules of inference, Consistency, proof of contradiction

Basic Structures: Sets , Functions

UNIT II: The Fundamentals: Algorithms, the Integers and Matrices: Algorithms, The growth of functions, Complexity of algorithms, Integers and Division , Primes and Greatest Common Divisors, Mathematical Induction

Counting: Basis of counting, Pigeon hole Principle, Combinations & Permutations, with repetitions, Constrained repetitions, Binomial Coefficients, Binomial Multinomial theorems, Generalized Permutations & Combinations.

UNIT III: Advanced Counting Techniques : Recurrence Relation ,Solving Linear Recurrence Relations, Generating Functions, Inclusion –Exclusion Principle and its applications. **Relations:** Relations and its properties, Representing Relations, Closure of Relations, Equivalence Relations, Partial Ordering

UNIT IV: Graphs and Graph models, Graph terminology and special types of graphs, Graph Isomorphism, Euler and Hamilton path, Shortest path problems, Planar graphs, Graph colouring

UNIT V : Trees: Tree Terminology , Tree traversal, Spanning Trees , Minimum Spanning trees - Krushkals , Prims Algorithm

Boolean Algebra: Boolean Functions, Representing Boolean functions, Logic gates, Minimization of Circuits

Reference Books:

1. Thomas Koshy, Elsevier, Ist Eddition.
2. Bernand Kolman, Roberty C Person Education/PHI
3. Malik & Sen Cleanage Learning

MCA 10417: OPERATING SYSTEM

UNIT I: What is an operating system, Operating System Structure, Process Management - Memory Management - Storage Management, System Calls, Types of System Calls, Interposes Communication - Examples of IPC Systems, Communication in Client Server Systems

UNIT II : Multithreaded Programming, Multithreading Model , Thread Libraries, Process Scheduling: Basic Concepts - Scheduling Criteria, Scheduling Algorithms, Multiple Processor Scheduling-The Critical Section Problem, Peterson's solution, synchronization, Semaphores, Classic Problem of Synchronization – Monitors.

UNIT III: Deadlocks: Deadlock Characterization -Methods for Handling Deadlocks ,Deadlock Prevention -, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock, Memory Management Strategies, Swapping, Contiguous Memory Allocation, Paging -Structure of the Page Table page replacement algorithm

UNIT IV: File System: File Concept - Access Methods , Directory Structure ,File System Mounting Files haring - Protection, File System Structure - File System Implementation – Directory Implementation - Allocation Methods.

UNIT V: Secondary Storage Structure: Overview of Mass Storage Structure, Disk Structure, Disk Scheduling, Disk Management, Swap Space Management, RAID structure,. I/O Systems: Overview ,I/O Hardware ,Application I/O Interface .

Reference Books:

1. William Stalings 5th edition Pearson
2. Dietel & Dietel 3rd Edition Pearson
3. Flynn/MCHoes Ceneage Learning

MCA 10517: Accounting & Financial Management

UNIT I: Accounting Concepts , Double Entry Systems, Journal-Ledger-Trail Balance ,Final Accounts

UNIT II: Cost Classification and analysis ,Marginal Costing, Budget-Budgetary Control

UNIT III: Standard Costing , Finance Fuction, Financial Decision Making

UNIT IV: Financial Analysis

UNIT V: Working Capital Management

References:

1. Vanherne & James C. John M.Wechowiez JR PHI, 2002
2. Horngern, Sundem Ellictt Pearson Education.
3. Paresh shah Oxford Higher Education(2008)

MCA 10817: Soft Skills

UNIT I: Meaning of Communication skills and Soft skills, Inter-Intra personal skills, Leadership skills, Decision making, Negotiation skills, Problem solving skills, Team building skills.

UNIT II: Listening & Speaking skills, Writing oral presentations, Types of listening, Conversations, Tips on how to reduce stage fear.

UNIT III: Goal planning, creating individual action plans, Article writing, Hoe to give seminars and organise seminars.

UNIT IV: Team building & Team work, Emotional Intelligence and Emotional quotients, Self-Awareness and personal growing.

UNIT V: Social and corporate etiquettes, over view of Interview, Self introduction at various levels and Mock interviews, CV preparation, GD.

REFERENCE:

1. Chaturvedi&Chaturvedi (2006), Business Communication, Pearson Education.
2. Meenakshi Raman Prakash Singh, Business Communication, Oxford University Press.
3. Lesikar. Pettitt, Sixth edition, Business Communication (2003), Richard D. Irwin ING, USA.
4. C. S. Rayudu, Communication, Himalayan Publishing House Pvt.Ltd.

MCA 20117: Computer Networks

UNIT I: Unit1: Introduction: Uses of Computer Networks: Business Application, Home Applications, Mobile Users– Social Issues. Network Hardware: Local Area Networks – Metropolitan Area Networks – Wide Area Networks–Wireless Networks – Home Networks – Internet works. Network Software: Protocol Hierarchies –Design Issues for the Layers – Connection Oriented and Connectionless Services – Service Primitives – The relationship of Services to Protocols. Reference Models: The OSI Reference Model – The TCP/IP Reference Model –A Comparison of OSI and TCP/IP reference Model.

Physical Layer: Guided Transmission Media: Magnetic Media – Twisted Pair – Coaxial Cable – Fiber Optics. **Data Link Layer:** Data Link Layer Design Issues: Services Provided to the Network Layer – Framing – Error Control – Flow Control. Error Detection and Correction: Error correcting Codes – Error Detecting Codes. Elementary Data Link Protocols: An unrestricted Simplex Protocol – A simplex Stop-and-wait Protocol – A simplex Protocol for a Noisy channel. Sliding Window Protocols: A one-bit sliding Window Protocol – A Protocol using Go Back N – A Protocol using selective Repeat. Example Data Link Protocols: HDLC–The Data Link Layer in the Internet.

Unit2: The Medium Access Control Sub layer: Ethernet: Ethernet Cabling – Manchester Encoding – The Ethernet MAC sublayer Protocol – The Binary Exponential Backoff Algorithm – Ethernet Performance – Switched Ethernet – Fast Ethernet – Gigabit Ethernet – IEEE 802.2: Logical Link Control – Retrospective on Ethernet. Wireless Lans: The 802.11 Protocol Stack – The 802.11 Physical Layer – The 802.11 MAC sublayer Protocol – The 802.11 Frame Structure. Bluetooth: Bluetooth Architecture – Bluetooth Applications –The Bluetooth Protocol Stack. Data Link Layer Switching: Bridges from 802.x to 802.y – Local Internet working –Spanning Tree Bridges – Remote Bridges –Repeaters, Hubs, Bridges, Switches, Routers and Gateways –Virtual LANs.

Unit3: The Network Layer: Network Layer Design Issues: Store-and Forward Packet Switching – Services Provided to the Transport Layer–Implementation of Connectionless Services–Implementation of Connection Oriented Services–Comparison Of Virtual Circuit and Datagram subnets .Routing Algorithms: The Optimality Principle–Shortest Path Routing–Flooding–Distance Vector Routing–Link State Routing–Hierarchical Routing –Broadcast Routing–Multicast Routing–Routing for Mobile Hosts. Internet Working: How Networks Differ–How Networks can be connected–Concatenated Virtual Circuits–Connectionless Internetworking –Tunnelling–Internet work Routing–Fragmentation. The Network Layerin the Internet: The IPProtocol–IPaddress–InternetControlProtocols–OSPF–TheInternetGatewayRoutingProtocol– BGP–The Exterio Gateway Routing Protocol

Unit4: The Transport Layer: The Transport Service: Services provided to the Upper Layers–Transport Services Primitives–Berkeley Sockets. Elements of Transport Protocols :Addressing–Connection Establishment– Connection Release–Flow Control and Buffering–Multiplexing–Crash Recovery. The Internet Transport Protocols: UDP Introduction toUDP–Remote ProcedureCall– The Real Time Transport Protocol. The Internet Transport Protocols: TCP Introduction to TCP–The TCP Service Model–the TCP Protocol–The TCP segment header – TCP connection establishment – TCP connection release – Modeling TCP connection management–TCP Transmission Policy–TCP congestion Control–TCP Timer Management–Wireless TCP and UDP–Transactional TCP

Unit5: The Application Layer:DNS:The Domain Name System: TheDNSNameSpace– Resource Records–Name Servers. Electronic Mail: Architecture and Services–The User Agent–Message Formats– Message Transfer–Final Delivery. The World Wide Web: Architecture Overview–Static Web Documents–DynamicWebDocuments–HTTP–TheHyperTextTransferProtocol– PerformanceEnhancements–The Wreless Web. Multimedia: Introduction to Digital Audio– Audio Compression–Streaming Audi o– Internet Radio–Voice OverIP–Introduction to Video–Video Compression–Video on Demand. .

Reference Books:

1. James F. Kurose Keith W.Ross Third Edition Pearson Education.
2. Behrouz A Forouzan Fourth Edition TMH (2007)
3. Michael A. Gallo William Cengage Learning(2008)

MCA 20217: Data Structures

UNIT I: Unit1: Linear Data Structure Introduction : Why we need data structure? Concepts of data structures:

a) Data and data structure b) Abstract Data Type and Data Type. Algorithms and programs, basic idea of pseudo-code. Algorithm efficiency and analysis, time and space analysis of algorithms – order notations. **Array** :Different representations – row major, column major. Sparse matrix - its implementation and usage. Array representation of polynomials.**Linked List**: Singly linked list, circular linked list, doubly linked list, linked list representation of polynomial and applications.

UNIT II: Unit2: Linear Data Structure-Stack and Queue :Stack and its implementations (using array, using linked list), applications. Queue, circular queue, dequeue. Implementation of queue- both linear and circular (using array, using linked list), applications. **Recursion** :Principles of recursion – use of stack, differences between recursion and iteration, tail recursion. Applications - The Tower of Hanoi.

Unit III: Nonlinear Data structures - Trees :Basic terminologies, forest, tree representation (using array, using linked list). Binary trees - binary tree traversal (pre-, in-, post- order), threaded binary tree (left, right, full) ,expression tree.Binary search tree- operations (creation, insertion, deletion, searching).Height balanced binary tree – AVL tree (insertion, deletion with examples only).B- Trees – operations (insertion, deletion with examples only).B- Trees – operations (insertion, deletion with examples only).

Unit IV: Graph definitions and concepts (directed/undirected graph, weighted/un-weighted edges, sub-graph, complete graph, connected components strongly connected component, weakly connected component, path, shortest path, (isomorphism). Graph representations/storage implementations Adjacency matrix, adjacency list, adjacency multi-list.Graph traversal and connectivityDepth-first search (DFS), Breadth-first search (BFS)

Unit5: Searching, Sorting :Sorting Algorithms: Bubble sort and its optimizations, insertion sort, shell sort, selection sort, merge sort, quick sort, heap sort (concept of max heap, application – priority queue), radix sort. **Searching:** Sequential search, binary search, interpolation search. **Hashing:** Hashing functions, collision resolution techniques

References:

1. M.A. Weiss Addison Wisley

MCA 20317: Data Base Management Systems

UNIT I: Databases and Database Users: Introduction, Characteristics of the Database Approach, Actors on the Scene, Workers behind the scene, Advantages of the using the DBMS Approach.

Database System Concepts and Architecture: Data Models, Schemas and Instances, Three Schema architecture and Data Independence, Database Languages and Interfaces, Centralized and Client/Server Architecture for DBMS, Classification of Database Management Systems.

Data Modelling Using the ER Model: Conceptual Data models, Entity Types, Entity Sets, Attributes and Keys, Relationship types, Relationship sets, roles and structural Constraints, Weak Entity types, Relationship Types of Degree Higher than Two, Refining the ER Design for the COMPANY Database

The Enhanced Entity-Relationship Model: Subclasses, Super classes and Inheritance, Specialization and Generalization, Constraints and Characteristics of Specialization and Generalization Hierarchies, Modeling of Union Types using Categories, An Example University ERR Schema, Design Choices and Formal Definitions.

Unit2: The Relational Data Model and Relational Database Constraints: Relational Model Concepts,

Relational Model Constraints and Relational Database Schemas, Update Operations, Transactions and Dealing with Constraint Violations. **The Relational Algebra and Relational Calculus:** Unary Relational Operations: SELECT and PROJECT, Relational Algebra Operations from set Theory, Binary Relational Operations: JOIN and DIVISION, Additional Relational Operations.

SQL-99: Schema Definition, Constraints, Queries and Views: SQL Data Definitions and Data Types, Specifying Constraints in SQL, Schema Change Statements on SQL, Basic Queries in SQL, More Complex SQL Queries, INSERT, DELETE and UPDATE statements in SQL, Triggers and Views.

Unit3: Functional Dependencies and Normalization for Relational Databases: Informal Design Guidelines for Relation Schemas, Functional dependencies, Normal Forms Based in Primary Keys, General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. **Relational Database Design Algorithms and Further Dependencies:** Properties of Relational Decompositions, Algorithms for Relational Database Schema Design, Multivalued Dependencies and Fourth Normal Form, Join Dependencies and Fifth Normal Form, Inclusion Dependencies, Other Dependencies and Normal Forms

Unit4: Disk Storage, Basic File Structure and Hashing: Introduction, Secondary Storage Devices, Buffering of Blocks, Placing file Records on Disk, Operations on Files, Files of Unordered Records, Files of Ordered Records, Hashing Techniques, Other Primary File Organizations, Parallelizing Disk Access using RAID Technology.

Indexing Structures for Files: Types of Single-Level Ordered Indexes, Multilevel Indexes, Dynamic Multilevel indexes Using B-Trees and B⁺Trees, Indexes on Multiple Keys, Other Types of Indexes.

Unit5: Introduction to Transaction Processing Concepts and Theory: Introduction to Transaction Processing, Transaction and System Concepts, Desirable Properties of Transactions, Characterizing Schedules Based on Recoverability, Characterizing schedules Based on Serializability.

References:

1. Peter Rob, Carlos Corenel Eight Edition Thomson(2008)

MCA 20417: Probability & Statistics

UNIT I: SOME PROBABILITY LAWS: axioms of probability, conditional probability, independence of the multiplication rule, Bayes' theorem. Discrete distributions: random variables, Discrete Probability densities, expectation and distribution parameters, Binomial distribution, poisson distribution.

UNIT II: Cointinuous distribution: contineous densities, expectation and distribution parameters, exponential distribution, normal distribution. Estimation: point estimation, interval estimation, criteria of good estimator.

UNIT III: Correlation: meaning, definition and types of correlation. Measures: scatter diagram

method, Karl Pearson correlation coefficient, spearman rank correlation coefficient. Probable error and coefficient of determination. Regression analysis: meaning, definition, regression lines, equations and properties

UNIT IV: Large sample test: test of significance for mean, difference of means, test of significance for standard deviation, tests on single proportion and two proportions. Small sample test: t-test for single mean, difference of means and paired t-test

UNIT V: Analysis of variance: one way classification fixed effect model, two way classification. (problems only) Time series analysis: meaning, definition, components of time series. Moving averages method, least square method for estimating trend values.

References:

1. Goon Gupta & Das Gupta
2. Hogg & Craig
3. Sanjay Arora & Bansilal

MCA 20517: e-Commerce

UNIT I: Emergence of e-Commerce–Traditional vs. E-Commerce - Internet and World Wide Web- Business Models for e-Commerce-B2C, B2B, C2C & C2B, Merits and Limitations

UNIT II: Intranet, Extranet, & Internet, Internet Backbone in India, ISP and services in India, OSI Model, Standards & Overview of TCP/IP, Internet Security, e-commerce & Internet.

UNIT III: E-Marketing- Traditional Marketing, Online Marketing- Advantages of online Marketing -Advertisements in E-commerce- various means of advertising- advertisement strategies

UNIT IV: CRM-Traditional methods-Technology support-E-CRM-Customer Life Cycle- CRM Capabilities and Customer Life Cycle-Data Mining in CRM - e-Supply Chain- Old ways of Managing supply and information flow-new ways of managing supply chain- several ways to reduce inventory- Real time benefits of e-Supply Chain.

UNIT V: E-Commerce Payment Systems-Electronic Payments with Protocols-Security schemes-Electronic Fund Transfer and Debit Cards-E-Cash, Properties of E-Cash-E-Cash in Action-Operational

Risk and E-Cash-Legal issues- E-Cheque- Risk and E-Payments Systems-Cashless Economy

References:

1. Pandey US & Shuklaer Pub. S.Chand & Company New Delhi
2. Jonathan Reynolds E-Business A Management Perspective, Pub Oxford university press.

MCA 30117: OOPS WITH JAVA

UNIT I: Introduction to OOPs

Problems in Procedure Oriented Approach, Features of Object Oriented Programming Systems- Class, Object, Encapsulation, Abstraction, Inheritance, Polymorphism. Introduction to Java: Features of Java, JVM, Differences between c++ and Java, Sample Java programming. Naming Conventions and Data Types and Operators in Java

Java Basics: Control statements in Java, Input and Output, Arrays, Strings, String Buffer Class

UNIT II: Classes and Objects-Object Creation, Initializing the instance variables, access specifiers Constructors.

Methods in Java,

Inheritance: Inheritance, The Keyword 'super', the protected specifier, Types of Inheritance

Polymorphism: Polymorphism with variables, polymorphism using methods-static & dynamic polymorphism, polymorphism with final methods

UNIT III: Abstract Classes, Interfaces and Packages: Abstract Classes, Interfaces:

Interface, Multiple inheritance using Interfaces, Abstract classes vs. Interfaces. **Packages:** Package, Different types of packages, Interfaces in Package, Creating sub package in a package, Access specifiers in Java.

UNIT IV: Exception handling and Threads : Exception Handling, Handling Multiple Exceptions, Try statement, Throws Clause, Throw Clause, Types of Exceptions. Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a thread and running it, terminating the thread, thread life cycle. Thread priorities, Daemon threads, Applications of Threads.

UNIT V: Streams and files: Stream, Creating File using File Output Stream, Reading Data from a File using File Input Stream, Creating File using File Writer, Reading a File using File Reader, Zipping and Unzipping file, Serialization of Objects.

Applets: Creating an Applet, Uses of Applets, Applet Life Cycle, Simple Applet.

JDBC: Database servers, database clients, JDBC, working with oracle database, stage in a JDBC program, registering the driver, connecting to a database, preparing SQL statements.

Reference Books:

1. Venkateswarlu EV Prasad, S. Chand S. Chand
2. Dr. K. Soma Sundaram JAICO Publishing house.

MCA 30217: CRYPTOGRAPHY AND NETWORK

UNIT I: Introduction: Security trends, the OSI security architecture, security attacks, security services, security mechanisms, a model for network security.

Classical encryption techniques: Symmetric cipher model, Substitution techniques, Transposition techniques, Rotor machines, Steganography.

Block cipher and the data encryption standard: Block cipher principles, the strength of DES, Differential and linear cryptanalysis, Block cipher design principles.

Confidentiality using Symmetric Encryption: Placement of encryption function

UNIT II: Public key cryptography and RSA: Principles of public key crypto systems, The RSA algorithm

Key management: Other public-key crypto systems: Key management, diffie- Hellman key exchange.

Message authentication and hash functions: Authentication requirements, Authentication functions, message authentication codes, Hash functions, security of hash functions and MAC s.

UNIT III: Digital signatures and authentication protocols: Digital signatures, Authentication protocols, Digital Signature standard

Authentication Applications: Kerberos, X.509 authentication service

UNIT IV: Email Security: Pretty good privacy, S/MIME

IP security: IP security overview, IP security architecture, Authentication header, Encapsulating security payload, combining security associations, key management.

Web security: Web security considerations, Secure Socket Layer and transport layer security, Secure electronic transaction.

UNIT V: Intruders: Intruders, Intrusion detection, password management

Malicious Software: Viruses and related threads, virus counter measures, distributed denial of service attacks.

Firewalls: Firewall Design principles, trusted systems, common criteria for information technology, security evaluation.

References:

1. William Network security essentials applications Third Edition Pearson Education.
2. Chris Nab Network Assessment.
3. Jon Erickson Hacking The Art of Exploitation.

MCA 30317: WEB TECHNOLOGIES

UNIT I: INTRODUCTION

Internet Principles – Basic Web Concepts – Client/Server model – retrieving data from Internet – HTML and Scripting Languages – Standard Generalized Mark –up languages – Next Generation – Internet –Protocols and Applications

UNIT II: COMMON GATEWAY INTERFACE PROGRAMMING

HTML forms – CGI Concepts – HTML tags Emulation – Server – Browser Communication – E-mail generation – CGI client Side applets – CGI server applets authorization and security.

UNIT III: SCRIPTING LANGUAGES

Dynamic HTML-Cascading style sheets-Object model and Event model- Filters and Transitions-Active X Controls-Multimedia-Client side script - VB Script programming–Forms – Scripting Object.

UNIT IV: SERVER SIDE PROGRAMMING

XML – Server side includes – communication – DTD – Vocabularies – DOM methods – Firewalls– Proxy Servers, Introduction to Servlets, Servlet Life Cycle, Data base connection using JDBC through Servlets.

UNIT V: JSP

JSP Technology Introduction-JSP- Running JSP Applications Basic JSP- JavaBeans Classes and JSP- Tag Libraries and Files- Support for the Model- View- Controller Paradigm- Case Study- Related Technologies

Reference Books:

1. Web Technologies Black Book

MCA 30417: SOFTWARE ENGINEERING

UNIT I: Introduction to Software Engineering: The evolving role of software, Changing Nature of Software, Software myths.**A Generic view of process:** Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.**Process models:** The waterfall model, Incremental process models, Evolutionary process models, The Unified process, Agile process models

UNIT II: Software Requirements: Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document. **Requirements engineering process:** Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management. **System models** : Context Models, Behavioral models, Data models, Object models, structured methods.

UNIT III: Design Engineering: Design process and Design quality, Design concepts, the design model. **Creating an architectural design:** Software architecture, Data design, Architectural styles and patterns, Architectural Design. **Object-Oriented Design:** Objects and object classes, An Object-Oriented design process, Design evolution. **Performing User interface design:** Golden rules, User interface analysis and design, interface analysis, interface design steps, Design evaluation.

UNIT IV: Testing Strategies: A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging. **Product metrics:** Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance. **Metrics for Process and Products** : Software Measurement, Metrics for software quality.

UNIT V: Risk management: Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan. **Quality Management:** Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

Reference Books :

1. Software Engineering, A Precise Approach, Pankaj Jalote, Wiley India, 2010.
2. Software Engineering: A Primer, Waman S Jawadekar, Tata McGraw-Hill, 2008
3. Fundamentals of Software Engineering, Rajib Mall, PHI, 2005

MCA 30517: OPERATIONS RESEARCH

UNIT I: Uses, scope and applications of operational research in managerial decision making OR models, formulation of models , using models for problem solving ,technical for OR, linear programming ,mathematical formulation of LPP Models for product mix problems

UNIT II: Graphical method and simplex method and its applications, duality and sensitive analysis, duality in linear Programming.

UNIT III: Transportation problem: Introduction, methods for finding initial solution, optimal solution, MODI method, assignment problem

UNIT IV: Game theory: Introduction, two person zero sum game, pure mixed strategies, dominance principle, graphical method, Decision making theory and its applications.

UNIT V: Basic concepts of project schedule network analysis, construction of the network diagram, CPM/PERT techniques Critical path method. Determination of critical path, project evaluation and review techniques (PERT).

References: -

1. S.D.Sarma: Operation Research, Meerut Publications
2. Dr.R.K.Gupta: Operation Research, Krishna prakashan Media (p) Ltd, Meerut.
3. Hadly: Linear programming, Addison-wesley.

MCA 40117: DESIGN AND ANALYSIS OF ALGORITHMS

UNIT I: Introduction to Algorithm, Algorithm definition, properties, Different areas to study about Algorithms, Pseudo code expressions for an algorithm, Performance Analysis, Time complexity & Space complexity, Asymptotic notations, Introduction to Divide and Conquer- Binary search, Binary search analysis, Quick sort, Quick sort analysis, Merge sort, Merge sort Analysis, Strassen's matrix multiplication, Finding Maximum and minimum.

UNIT II: Greedy Method introduction, General method, Job sequencing with deadlines, Single source shortest path problem, Example problems, Optimal storage on tapes, Knapsack problem, Minimum cost spanning trees – Prim's Algorithm, Kruskal's Algorithm, Basic search and Traversal Techniques, Tree Traversals, Bi-connected components, DFS, BFS

UNIT III: Dynamic programming, Single source shortest path problem, Multi stage graphs All pairs shortest path, Optimal Binary search tree, 0/1 knapsack problem, Example problem, Travelling sales person problem, Flow shop scheduling

UNIT IV: Introduction to back tracking, General method, sum of subsets, N-queens problem, Sum of sub sets problem, Graph coloring, Hamiltonian cycles, knapsack problem.

UNIT V: Introduction to Branch and Bound, Travelling sales person problem, 0/1 Knapsack problem, LCBB, FIFOBB, Introduction to NP-HARD & NPCOMPLETE, Example problem, Basic concepts, Non deterministic Algorithms, Np-hard class, NP-complete class, Cooks theorem.

References:

1. Chandra Mohan PHI Publications
2. Prabhakar Gupta PHI Publications
3. Anany Leviton Pearson Education

MCA 40217: DOT NET PROGRAMMING

UNIT I: Getting Started With Visual Basic 2012:

Visual Basic 2012 Keywords, Operators, Arithmetic Operators, Assignment Operators, Comparison Operators, Concatenation Operators, Logical And Bitwise Operators, Miscellaneous Operators, Operator Precedence, Data Types In Visual Basic 2012, Visual

Basic Statements, Working With Selection Statement, Working With Iteration Statement, Variables, Constants, Arrays, Enumerations.

Window Forms Controls - I: Introducing The Control Class, Using The Label Control, Using The Text Box Control, Using The Button Control, Using The Radio Button Control, Using The Checkbox Control , Using The ComboBox Control, Using The ListBox Control, Using The GroupBox Control, Using The Panel Control, Using The PictureBox Control, Using The Timer Control, Using The ProgressBar Control.

Windows Forms Controls-II: Using The ToolStrip Control, Using The MenuStrip Control, Using The StatusStrip Control, Working with DialogBoxes, Using The FolderBrowserDialog Control, Using the Open File Dialog Control, Using The Save File Dialog Control, Using The Font Dialog Control, Using The Colordialog Control, Using The Print Dialog and Print Document Controls.

UNIT II: Getting Started With C# 2012: Introducing Key Words And Identifiers, Describing Operators And Operator Precedence, Exploring Data Types In C# 2012, Value Types, Reference Types, Pointer Types, Explaining Data Type Conversion, Implicit Conversion, Explicit Conversion, Describing Variables And Constants, Declaring Variables, Initializing Variables, Declaring Variables Of Nullable Type, Declaring constants, Working With Arrays, Single – Dimensional Arrays, Exploring Control Flow Statements, Selection Statements, Iteration Statements, Jump Statements.

Object Oriented Programming: Basic Principles Of Object Oriented Programming, Member Of Access Modifiers, Define Class, Creating Objects, Constructors, Inheritance, Abstract Classes, Interfaces, Polymorphism

Errors And Exceptions Handling: Exploring Types Of Errors, Syntax Errors, Runtime Errors, Logical Errors, Handling Exceptions, Using The try-catch-finally Statement, Using The Throw Statement, Using The User-Defined Exception Class.

UNIT III:

ASP.NET :

Standard Controls: Introducing The Web Control Class, Using The Label Control, Using The Textbox Control, Using The Button Control, Using The Image Button Control, Using The List Box Control, Using The Radio Button Control, Using The Checkbox Control, Using The Table Control, Using The Wizard Control, Using The Calendar Control, Using The Ad Rotator Control.

Navigation Controls: Working With The Sitemap Path Control, Using The Sitemap Path Control, Customizing Appearance Of The Sitemap Path Control, Working With The Menu Control, Creating Static Menus, Creating Dynamic Menus, Working With The Tree View Control.

Validation Controls: Introducing The Basic Validator Class, Using The Requiredfieldvalidator Control, Using The Range Validator Control, Using The Regular Exception Validator Control, Using The Compare Validator Control, Using The Custom Validator Control, Using The Validation Summary Control.

Login Controls: Creating A User Account In ASP.NET 4.5, Using The Login Control, Using The Login Name Control, Using The Login View Control, Using The Login Status Control, Using The Password Recovery Control, Configuring The Web.Config File For Password recovery

UNIT V: Master Pages And Themes : Creating Master Pages, Simple Master Page, Nested Master Page, Explaining Themes, Creating Themes, Applying Themes On Controls At Runtime ,Using The Style sheet Theme Attribute

Caching In ASP.NET 5.4 : Caching In ASP.NET, Introducing The Cache Class, Describing Output Caching, The Location Attribute, The Shared Attribute, The Vary By Custom Attribute, The Vary By Param Attribute Implementing Output Caching ,Describing Partial- Page Output Caching, Understanding The Disc Output Cache, Describing Post-Cache Substitution And Substitution Control, Data Caching, Adding Items To Cache, Retrieving Data From Cache, Deleting Items From Cache, Implementing Data Caching, Explaining Cache Dependencies.

References:

1. Kogent Learning Solutions Inc. Dreamtech Press, 2011
2. Kogent Learning Solutions Inc. Visual Basic 2010 Programming Black Book plantinumed

MCA 40317: OBJECT ORIENTED ANALYSIS AND DESIGN

UNIT I: Introduction: What is object orientation, What is OO Development, OO themes Evidence for usefulness of OO Development.

Modeling as Design Technique: Modeling, Abstraction, Three Models.

Class Modeling: Object and Class Concepts Link and Association concepts, Generalization and inheritance, A sample Class Model.

Advance Class Modeling: Advanced Object, and class concepts, Association Ends, N-Ary Association, Aggregation, abstract Classes, Multiple inheritance, Metadata, Reification, Constraints, Derived data Packages.

UNIT II: State Modeling: Events, states Transitions and Conditions state diagrams state diagram behaviour

UNIT III: Interaction Modeling: Use Case Models Sequence Models, Activity Models

Advanced Interaction Modeling: Use Case Relationships, Procedural sequence Models, Special Constructs for Activity Models.

Process Overview: Development Stages, Development Life Cycle.

UNIT IV: System Conception: Devising a system concept, Elaborating a Concept preparing a problem statement.

Domain analysis: Overview of analysis, Domain Class Model, Domain State model, Domain interaction model, iterating the analysis.

Application analysis: Application interaction model, application class model, application state model, adding operations.

UNIT V: System Design: Overview of system design, estimating performance, Making a Reuse plan, Breaking a system into subsystem, identifying Concurrency, Allocation of subsystems, Management of data storage, handling Global Resources, Choosing a software control strategy, handling boundary conditions setting Trade-off priorities, common architecture of ATM system

Class Design: Overview of Class Design, Realizing use cases, Designing Algorithms, Recusing downward, Refactoring, Design optimization, reification of behaviour, adjustment of inheritance organizing a class design.

Implementation Modeling: Overview of implementation fine tuning classes, fine tuning generalization realizing association testing

Programming Style: Object oriented style, reusability Robustness, Extensibility Programming in the large.

Reference Books:

1. Meilir Page – Jones Pearson Education.
2. Hans-Erik Erikson Wiley(2008)
3. Pascal Roques Modeling software system using UML2 Wiley(2008)

MCA 40417: ELECTIVE I ARTIFICIAL INTELLIGENCE

UNIT I: What is AI? The AI Problem, The Underlying Assumption, What is an AI Technique?, The Level of the Model, Criteria for Success. Problems, Problem spaces & Search: Defining the Problem as a State Space Search, Production Systems, Problem Characteristics, Productions System Characteristics, Issues in the design of Search Programs, Additional Problems. Heuristic Search Techniques: Generate and Test, Hill Climbing, Best First Search, Problem Reduction, Constraint Satisfaction, Means-Ends Analysis

UNIT II: Knowledge Representation Issues: Representations and Mappings, Approaches to Knowledge Representation, Issues in Knowledge Representation, Issues in Knowledge Representation, The Frame Problem. Using Predicate Logic: Representing Simple Facts in Logic, Representing Instances and Isa Relationships, Computable Functions and Predicates, Resolution, Natural Deduction. Representing Knowledge Using Rules: Procedural Versus Declarative Knowledge, Logic Programming, Forward Vs Backward Reasoning, Matching, Control Knowledge

UNIT III: Symbolic Reasoning Under Uncertainty: Introduction to Non monotonic Reasoning, Logics for Non monotonic Reasoning, Implementation Issues, Augmenting a Problem Solver, Implementation Depth-First Search, Breadth-First Search. Weak Slot-and Filler Structures: Semantic Nets, Frames.

UNITIV: Planning: Overview, An Example Domain: The Blocks World, Components of a Planning System, Goal Stack Planning, Nonlinear Planning Using Constraint Posting, Hierarchical Planning, Reactive Systems, Other Planning Techniques. Natural Language Processing: Introduction, Syntactic Processing, Semantic Analysis, Discourse and Pragmatic Processing.

UNIT V: Common Sense: Qualitative Physics, Common-sense Ontologies, Memory Organization, Case- Based Reasoning. Expert Systems: Representing and Using Domain Knowledge, Expert System Shells, Explanation, Knowledge Acquisition.

References

- Artificial Intelligence, Winston.P.H., Addison Wesley Publisher

MCA 40517: ELECTIVE I COMPUTER GRAPHICS

UNIT I: Introduction: Application areas of Computer Graphics, Overview of graphics systems, Video-display devices, Raster-scan systems, Random scan systems.

Output primitives : Points and lines, Line drawing algorithms, Mid-point circle and ellipse algorithms.

Filled area primitives: Scan line Polygon Fill algorithm, Boundary-fill and Flood-fill algorithms

UNIT II: 2D&3D Geometrical Transformations: Translation, Scaling, Rotation, Reflection And Shear transformations, Matrix representations and homogeneous coordinates, Composite transformations, Transformations between coordinate systems, Cohen-Sutherland line clipping algorithm, Sutherland–Hodgeman polygon clipping algorithm.

UNIT III: Introduction to Digital Image Processing : Examples of fields that use Digital image processing, Fundamental steps in Digital image processing, Components of image processing system.

Digital Image Fundamentals: A simple image formation model, Image sampling and Quantization, Basic relationships between pixels, Colour models.

UNIT IV: Image enhancement in the spatial domain: Basic gray-level transformation, Histogram processing, Enhancement using arithmetic and logic operators, Basic spatial filtering, Smoothing and sharpening spatial filters, Combining the spatial enhancement methods

UNIT V: Morphological Image Processing: Preliminaries, Dilation, Erosion, Open and Closing, Hit or miss transformation, Basic morphologic algorithms

Image Segmentation: Detection of discontinuous, Edge linking and boundary detection, Thresholding, Region-based segmentation

Reference Books

1. **Procedural elements for Computer Graphics**, David F Rogers, Tata MCA Graw hill, 2nd edition.
2. **Computer Graphics**, Steven Harrington, TMH
3. **Image Processing, Analysis, and Machine Vision**, Milan Sonka, Vaclav Hlavac and Roger Boyle, Second Edition, Thomson Learning.

MCA 40417.3: ELECTIVE I ADVANCED DATABASE MANAGEMENT

UNIT I: Algorithms for query processing and optimization: Translating SQL queries into relational algebra-algorithms for external sorting-algorithms for select and join operations-algorithms for project and set operations implementing aggregate operations and outer joins-combining operations using pipelining-using heuristics in query optimization.

UNIT II: DATABASE SYSTEMS ARCHITECTURE AND THE SYSTEM CATALOG: System architectures for DBMSs, catalogs for relational DBMSs, system catalog information in

oracle. Practical database design and tuning: physical database design in relational databases-an overview of Database Tuning in Relational Systems.

UNIT III: DISTRIBUTED DBMS CONCEPTS AND DESIGN: Introduction-function and architecture of a Distributed DBMS-Distributed Relational Database Design –transparencies in a Distributed DBMS-Date’s twelve Rules for Distributed DBMS.

DISTRIBUTED DBMS ADVANCED CONCEPTS: Distributed Transaction Management – Distributed Concurrency Control-Distributed Deadlock Management-Distributed Database Recovery-The X/Open Distributed Transaction Processing model-Replication servers.

UNIT IV: INTRODUCTION TO OBJECT DBMSs:

Advanced Database Applications-Weakness of RDBMSs-Object oriented concepts-storing Objects in a relational Database-Next generation Database systems.

Object-oriented DBMSs-concepts and design: Introduction to object-oriented Data Models and DBMSs-OODBMS perspectives-persistence-Issues in OODBMSs-The object oriented Database system manifesto Advantages and Disadvantages of OODBMSs-object oriented Database Design.

OBJECT-ORIENTED DBMSs-STANDARDS AND SYSTEMS: object management group-object Database standard ODMG3.0,1999-object store. object relational DBMSs: Introduction to object-relational Database systems-third generation database manifesto-postgres -an early ORDBMS-SQL3.

EMERGING DATABASE TECHNOLOGIES AND APPLICATIONS: Hadoop, Big Data characteristics,NO SQL databases,BASE,Brewer’s theorem,Relationship between CAP,ACID and No SQL databases,comparison with Relational databases, No Sql databases types,comparative study of No SQL products,case studies using mongoDB and Cassandra.

References:

1. OZSU Principles of Distributed Database System 2nd Edition, PHI

MCA 40417.4: SOFTWARE TESTING

UNIT I: Introduction: Some Software Failures, Testing Process, Terminologies, Limitations Of Testing, The V Shaped Software Life Cycle Model.

Software Testing Activities: Levels Of Testing: Unit Testing, Integration Testing, System Testing, Acceptance Testing, Debugging, Software Testing Tools, Software Test Plan.

UNIT II: Software Verification: Verification Methods, SRS Document Verification, SDD Document Verification, Source Code Reviews, User Documentation Verification.

Metrics And Models In Software Testing: Software Metrics, Categories Of Metrics, Object Oriented Metrics Used In Testing, What Should We Measure During Testing?

UNIT III: Functional Testing: Boundary Value Analysis, Equivalence Class Testing, Decision Table Based Testing, Cause-Effect Graphing Technique.

UNIT IV: Structural Testing: Control Flow Testing, Data Flow Testing, Slice Based Testing, Mutation Testing.

UNIT V: Object Oriented Testing: What Is Object Orientation?, What Is Object Oriented Testing?, Path Testing, State Based Testing, Class Testing.

References:

1. Aditya P. Mathur Foundation of software testing 2nd Edition Pearson Education

MCA 40517.1: Elective II MOBILE COMPUTING

UNIT I: Introduction :Mobile communications, Mobile computing – paradigm. Characteristics, structure of Mobile computing. MAC protocols – wireless MAC issues – Fixed assignment schemes – Random Assignment Schemes – Reservation based schemes.

UNIT II: MOBILE COMPUTING THROUGH TELEPHONY :Evolution of Evolution of telephony, multiple access procedure, mobile computing through telephone, developing an IVR application, voice XML, telephony application programming interface (TAPI) Emerging technologies: Introduction, Bluetooth, radio frequency identification {RFid}, wireless broadband {WiMAX}, mobile IP, Internet protocol version 6.

UNIT III: MOBILE TRANSPORT LAYER : Conventional TCP/iP Protocols, Indirect TCP, Snooping TCP, Mobile TCP, Other Transport Layer Protocols for Mobile Networks. Database Issues: Database Hoarding & Caching Techniques. Client-Server Computing a Adaptation, Transnational Models, Query processing, Data Recovery Process & QoS Issues.

UNIT IV: GENERAL PACKET RADIO SERVICE (GPRS):

Introduction, GPRS and packet data network, GPRS network architecture, GPRS network operations, data services in GPRS, applications for GPRS, limitations of GPRS, billing and charging in GPRS Wireless application protocol (WAP): Introduction, WAP, MMS, GPRS applications CDMA and 3G: Introduction, spread –spectrum technology, Is –95, CDMA Vs GSM, wireless data, third generation networks, applications on 3G

UNIT V: MOBILE AD HOC NETWORKS (MANETS): Mobile Ad hoc Networks

(MANETs): Introduction, Applications a Challenges of a MANET Routing, Classification of Routing Algorithms. Algorithms such as DSR. AODV. DSDV. etc. , Mobile Agents. Service Discovery.**Protocols and Platforms for Mobile Computing** :WAP, Bluetooth. XML. J2ME. JavaCard. PalmOS, Windows CE. SymbianOS. Unix for Mobile Devices. Android.

Reference Books:

- Asoke K Talukder and Roopa R Yavaga. TMH-2008
- Raj Kamal Mobile Computing Oxford (2008)
- Stomenovlc and Cacute, Handbook of Wireless Networks and Mobile Computing. Wiley. 2002. ISBN 0471419028.

MCA 40517.2: IMAGE PROCESSING

UNIT I: Introduction: Origins of digital image processing, uses digital image processing, fundamental steps in digital image processing, components of an image processing system, digital image fundamentals, Elements of visual perception, light and electromagnetic spectrum, imaging sensing and acquisition, image sampling and quantization. Some basic relationships between pixels, an introduction to the mathematical tools used in digital image processing.

Image Transforms: Need for image transforms, Spatial Frequencies in image processing, introduction to Fourier transform, discrete Fourier transform, fast Fourier transform and its algorithm, properties of Fourier transform. Discrete sine transforms. Walsh Transform. Hadamard transform, Haar Transform. Slant transforms, SVD and KL Transforms or Hotelling Transform.

UNIT II: Intensity Transformations and Spatial Filtering: Background, Some basic intensity transformation functions, histogram processing, fundamentals of spatial filtering, smoothing spatial filters, sharpening spatial filters, Combining spatial enhancement methods, using fuzzy techniques for intensity transformations and spatial filtering.

Filtering in the frequency domain: Preliminary concepts, Sampling and the Fourier transform of sampled functions, the discrete Fourier transform (DFT) of one variable, extension to functions of two variables, some properties of the 2-D Discrete Fourier transform. The Basic of filtering in the frequency Domain, image smoothing using frequency domain filters, selective filtering, Implementation.

UNIT III: Image restoration and Reconstruction: A model of the image degradation /Restoration process, Noise models, restoration in the presence of noise only-Spatial Filtering, Periodic Noise Reduction by frequency domain filtering, Linear, Position –Invariant Degradations, Estimation the degradation function, Inverse filtering, Minimum mean square error(Wiener) filtering, constrained least squares filtering ,geometric mean filtering ,image reconstruction from projections.

UNIT IV: Color image processing: color fundamentals, color models, pseudo color image processing, basic of full color image processing, color transformations, smoothing and sharpening. Image segmentation based on color, noise in color images, color image compression.

UNIT V: Wavelets and multi resolution processing: image pyramids sub band coding and har multi resolution expressions, wavelet transforms in one dimension.

TEXT BOOKS:

1. R. C. Gonzalez and R. E. Woods, Digital Image Processing, 3rd edition, Prentice Hall, 2008.
2. R. C. Gonzalez, R. E. Woods and Steven L. Eddins , Digital Image Processing Using MATLAB , 2nd edition, Prentice Hall, 2009.
3. Anil K.Jain, Fundamentals of Digital Image Processing , Prentice Hall of India, 9th Edition, Indian Reprint, 2002.

MCA 40517.3: DISTRIBUTED OPERATING SYSTEMS

UNIT I: Introduction: Functions of an Operating system, Design Approaches, Types of advanced operating systems

Synchronization Mechanisms: Concurrent Processes, Critical Section Problem, Synchronization Problems, Language Mechanisms for synchronization-Monitors, Serializes, Path Expressions, Communicating Sequential Processes, Ada Rendezvous

UNIT II: Distributed Operating Systems: Issues in Distributed Operating Systems, Inherent Limitations of a distributed system-Absence of Global Clock, Absence of shared memory, Lamport's Logical Clocks-A limitation of lamport's Clocks, Vector Clocks, Casual Ordering of Messages , Global State- Chandy- Lamport's Global State Recording Algorithm.

UNIT III: Distributed Deadlock Detection : Preliminaries-The System Model , Resource versus Communication Deadlocks, A Graph-Theoretical Model, Deadlock handling Strategies in Distributed Systems-Deadlock prevention, Deadlock Avoidance, Deadlock Detection.

UNIT IV: Distributed Resource Management: Mechanisms for Building Distributed File Systems-Mounting, Caching Hints, Bulk Data Transfer, Encryption,, Design Issues-Naming and Name Resolution, Caches on Disk or Main Memory, Writing Policy, Cache Consistency, Availability, Scalability, Semantics.

UNIT V: Distributed Shared Memory: Architecture and Motivation, Algorithm for Implementation
DSM-The Central Server Algorithm, The Migration Algorithm, Thr Read-Replication Algorithm,
And The Full Replication Algorithm.

Distributed Scheduling : Issues in Loading Distributing-Load, Classification of Load Distributing Algorithms, Load Balancing Versus Load Sharing, Pre-emptive versus Non Pre-emptive Transfers, Components of Load Distributing Algorithm-Transfer Policy, Selection Policy, Location Policy, Information Policy.

Reference books:

William Stallings internal and design principles 6th edition pearson education.

MCA 40517.4: CYBER SECURITY

UNIT I: Foundations of Network Security

Principles of Network Security, Network Security Terminologies, Network Security and data availability , Components of Network Security, Network Security policies

UNIT II: Systems Vulnerability Scanning

Overview of vulnerability scanning, Open Port / Service Identification, Banner Version Check, Traffic Probe, Vulnerability Probe, Vulnerability Examples, OpenVAS, Metasploit. Networks Vulnerability Scanning - Ncat, Socat, understanding Port and Services tools - Datapipe, Fpipe, WinRelay, and Network Reconnaissance – Nmap, THC-Amap and System tools. Network Sniffers and Injection tools – Tcpdump and Windump, Wireshark, Ettercap, Hping Kismet

UNIT III: Network Defense tools

Firewalls and Packet Filters: Firewall Basics, Packet Filter Vs Firewall, How a Firewall Protects a Network, Packet Characteristic to Filter, Stateless Vs Stateful Firewalls, Network Address Translation (NAT) and Port Forwarding, the basic of Virtual Private Networks, Linux Firewall, Windows Firewall, Snort: Introduction Detection System

UNIT IV: Web Application Tools

Scanning for web vulnerabilities tools: Nikto, W3af, HTTP utilities - Curl, OpenSSL and Stunnel, Application Inspection tools – Zed Attack Proxy, Sqlmap.DVWA, Webgoat, Password Cracking and Brute-Force Tools – John the Ripper, L0htcrack, Pwdump, HTC- Hydra

UNIT V: Introduction to Cyber Crime and law

Cyber Crimes, Types of Cybercrime, Hacking, Attack vectors, Cyberspace and Criminal Behavior, Clarification of Terms, Traditional Problems Associated with Computer Crime, Introduction to Incident Response, Digital Forensics, Computer Language, Network Language, Realms of the Cyber world, A Brief History of the Internet, Recognizing and Defining Computer Crime, Contemporary Crimes, Computers as Targets, Contaminants and Destruction of Data, Indian IT ACT 2000.

Text Books

- 1 .Anti-Hacker Tool Kit (Indian Edition) by Mike Shema, Publication Mc Graw Hill.
2. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Nina Godbole and Sunit Belpure, Publication Wiley

K. B. N. COLLEGE : PG CENTRE (AUTONOMOUS)

MCS 10117: OOPS THROUGH JAVA

SYLLABUS:

UNIT I: Introduction to OOPs

Problems in Procedure Oriented Approach, Features of Object Oriented Programming Systems-Class, Object, Encapsulation, Abstraction, Inheritance, Polymorphism. Introduction to Java: Features of Java, JVM, Differences between c++ and Java, Sample Java programming. Naming Conventions and Data Types and Operators in Java

Java Basics: Control statements in Java, Input and Output, Arrays, Strings, String Buffer Class

UNIT II: Classes and Objects-Object Creation, Initializing the instance variables, access specifiers Constructors.

Methods in Java,

Inheritance: Inheritance, The Keyword 'super', the protected specifier, Types of Inheritance

Polymorphism: Polymorphism with variables, polymorphism using methods-static & dynamic polymorphism, polymorphism with final methods

UNIT III: Abstract Classes, Interfaces and Packages: Abstract Classes, Interfaces:

Interface, Multiple inheritance using Interfaces, Abstract classes vs. Interfaces. **Packages:** Package, Different types of packages, Interfaces in Package, Creating sub package in a package, Access specifiers in Java.

UNIT IV: Exception handling and Threads : Exception Handling, Handling Multiple Exceptions, Try statement, Throws Clause, Throw Clause, Types of Exceptions. Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a thread and running it, terminating the thread, thread life cycle. Thread priorities, Daemon threads, Applications of Threads.

UNIT V: Streams and files: Stream, Creating File using File Output Stream, Reading Data from a File using File Input Stream, Creating File using File Writer, Reading a File using File Reader, Zipping and Unzipping file, Serialization of Objects.

Applets: Creating an Applet, Uses of Applets, Applet Life Cycle, Simple Applet.

JDBC: Database servers, database clients, JDBC, working with oracle database, stage in a JDBC program, registering the driver, connecting to a database, preparing SQL statements.

Reference Books:

1. Venkateswarlu EV Prasad, S. Chand S. Chand
2. Dr. K. Soma Sundaram JAICO Publishing house.

MCS 10217: COMPUTER ORGANISATION

SYLLABUS:

UNIT I : Digital Logic Circuits: Digital Computers, Logic Gates, Boolean algebra, ap simplification, Combinational Circuits, Flip-flops, Sequential Circuits.

Digital Components: Integrated Circuits, Decoders, Multiplexers, Registers, Shift Registers, Binary Counters, Memory Unit.

UNIT II : Data Representation: Data types, Complements, Fixed-point Representation, Floating-point representation, other binary codes, Error detection Codes. **Register Transfer and Micro operations:** Register transfer language, Register transfer, Bus & memory Transfers, Arithmetic micro operations, logic micro operations, Shift micro operations, Arithmetic Logic Shift Unit **Basic Computer Organization and Design:** Instruction Codes, Computer registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory- Reference Instructions, Input-output Interrupt.

UNIT III: Micro programmed Control: Control memory, Address Sequencing, Micro program Example, Design of control Unit.

Central Processing Unit: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Program Control.

UNIT IV: Computer Arithmetic: Introduction, Addition and subtraction, Multiplication algorithm ,Floating point arithmetic operations, Decimal Arithmetic unit, Decimal Arithmetic operations

UNIT V: Input-Output Organization: Peripheral Devices, Input-Output Interface, Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt

Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory

References:

1. V. Raja raman T. Rama Krishnan, PHI
2. Behrooz Parhami, Oxford 2007]
3. ISRD group, ace series TMH (2007)

MCS 10317: DISCRETE MATHEMATICAL STRUCTURE

SYLLABUS:

UNIT I: The Foundations: Logic and Proofs: Propositional Logic, Propositional Equivalences, Predicates and Quantifiers, Connectives, Well-formed formulas, Truth Tables, tautology, equivalence implication, **Predicates :** Predicative logic, Free & Bound variables, Rules of inference, Consistency, proof of contradiction

Basic Structures: Sets, Functions

UNIT II: The Fundamentals: Algorithms, the Integers and Matrices: Algorithms, The growth of functions, Complexity of algorithms, Integers and Division , Primes and Greatest Common Divisors, Mathematical Induction

Counting: Basis of counting, Pigeon hole Principle, Combinations & Permutations, with repetitions, Constrained repetitions, Binomial Coefficients, Binomial Multinomial theorems, Generalized Permutations & Combinations.

UNIT III: Advanced Counting Techniques : Recurrence Relation ,Solving Linear Recurrence Relations, Generating Functions, Inclusion –Exclusion Principle and its applications. **Relations:** Relations and its properties, Representing Relations, Closure of Relations, Equivalence Relations, Partial Ordering

UNIT IV: Graphs and Graph models, Graph terminology and special types of graphs, Graph Isomorphism, Euler and Hamilton path, Shortest path problems, Planar graphs, Graph colouring

UNIT V : Trees: Tree Terminology , Tree traversal, Spanning Trees , Minimum Spanning trees - Krushkals , Prims Algorithm

Boolean Algebra: Boolean Functions, Representing Boolean functions, Logic gates, Minimization of Circuits

Reference Books:

1. Thomas Koshy, Elsevier, Ist Eddition.
2. Bernand Kolman, Roberty C Person Education/PHI
3. Malik & Sen Cleanage Learning

MCS 10417: OPERATING SYSTEMS

SYLLABUS:

UNIT I: What is an operating system, Operating System Structure, Process Management - Memory Management - Storage Management, System Calls, Types of System Calls, Interposes Communication - Examples of IPC Systems, Communication in Client Server Systems

UNIT II : Multithreaded Programming, Multithreading Model , Thread Libraries, Process Scheduling: Basic Concepts - Scheduling Criteria, Scheduling Algorithms, Multiple Processor Scheduling-The Critical Section Problem, Peterson's solution, synchronization, Semaphores, Classic Problem of Synchronization – Monitors.

UNIT III: Deadlocks: Deadlock Characterization -Methods for Handling Deadlocks ,Deadlock Prevention -, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock, Memory Management Strategies, Swapping, Contiguous Memory Allocation, Paging -Structure of the Page Table page replacement algorithm

UNIT IV: File System: File Concept - Access Methods , Directory Structure ,File System Mounting Files haring - Protection, File System Structure - File System Implementation – Directory Implementation - Allocation Methods.

UNIT V: Secondary Storage Structure: Overview of Mass Storage Structure, Disk Structure, Disk Scheduling, Disk Management, Swap Space Management, RAID structure,. I/O Systems: Overview ,I/O Hardware ,Application I/O Interface .

Reference Books:

1. William Stalings 5th edition Pearson
2. Dietel & Dietel 3rd Edition Pearson
3. Flynn/MCHoes Ceneage Learning

MCS 10517: OPERATION RESEARCH

SYLLABUS:

UNIT I: Uses, scope and applications of operational research in managerial decision making, OR models, formulation Of models, using models for problem solving, technical for OR, linear programming, mathematical formulation of LPP Models for product mix problems.

UNIT II: Graphical method and simplex method and its applications, duality and sensitive analysis, duality in linear Programming.

UNIT III: Transportation problem: Introduction, methods for finding initial solution, optimal solution, MODI method, assignment problem.

UNIT IV: Game theory: Introduction, two person zero sum game, pure mixed strategies, dominance principle, graphical method, Decision making theory and its applications.

UNIT V: Basic concepts of project schedule network analysis, construction of the network diagram, CPM/PERT techniques Critical path method. Determination of critical path, project evaluation and review techniques (PERT).

REFERENCES: -

1. S.D.Sarma: Operation Research, Meerut Publications
2. Dr.R.K.Gupta: Operation Research, Krishna prakashan Media (p) Ltd, Meerut.
3. Hadly: Linear programming, Addiosn-weslesy

MCS 20117: COMPUTER NETWORKS

SYLLABUS

UNIT I: Unit1: Introduction: Uses of Computer Networks: Business Application, Home Applications, Mobile Users–Social Issues. Network Hardware: Local Area Networks – Metropolitan Area Networks – Wide Area Networks–Wireless Networks – Home Networks – Internet works. Network Software: Protocol Hierarchies –Design Issues for the Layers – Connection Oriented and Connectionless Services – Service Primitives – The relationship of Services to Protocols. Reference Models: The OSI Reference Model – The TCP/IP Reference Model –A Comparison of OSI and TCP/IP reference Model.

Physical Layer: Guided Transmission Media: Magnetic Media – Twisted Pair – Coaxial Cable – Fiber Optics. **Data Link Layer:** Data Link Layer Design Issues: Services Provided to the Network Layer – Framing – Error Control – Flow Control. Error Detection and Correction: Error correcting Codes – Error Detecting Codes. Elementary Data Link Protocols: An unrestricted Simplex Protocol – A simplex Stop-and–wait Protocol – A simplex Protocol for a Noisy channel. Sliding Window Protocols: A one-bit sliding Window Protocol – A Protocol using Go Back N – A Protocol using selective Repeat. Example Data Link Protocols: HDLC–The Data Link Layer in the Internet.

Unit2: The Medium Access Control Sub layer: Ethernet: Ethernet Cabling – Manchester Encoding – The Ethernet MAC sub layer Protocol – The Binary Exponential Back off Algorithm – Ethernet Performance – Switched Ethernet – Fast Ethernet – Gigabit Ethernet – IEEE 802.2: Logical Link

Control – Retrospective on Ethernet. Wireless LANS: The 802.11 Protocol Stack – The 802.11 Physical Layer – The 802.11 MAC sub layer Protocol – The 802.11 Frame Structure. Bluetooth: Bluetooth Architecture – Bluetooth Applications –The Bluetooth Protocol Stack. Data Link Layer Switching: Bridges from 802.x to 802.y – Local Internet working –Spanning Tree Bridges – Remote Bridges – Repeaters, Hubs, Bridges, Switches, Routers and Gateways –Virtual LANs.

Unit3: The Network Layer: Network Layer Design Issues: Store-and Forward Packet Switching – Services Provided to the Transport Layer–Implementation of Connectionless Services–Implementation of Connection Oriented Services–Comparison Of Virtual Circuit and Datagram subnets .Routing Algorithms: The Optimality Principle–Shortest Path Routing–Flooding–Distance Vector Routing–Link State Routing–Hierarchical Routing –Broadcast Routing–Multicast Routing–Routing for Mobile Hosts. Internet Working: How Networks Differ–How Networks can be connected–Concatenated Virtual Circuits–Connectionless Internetworking –Tunnelling–Internet work Routing–Fragmentation. The Network Layer in the Internet: The IP Protocol–IP address–Internet Control Protocols–OSPF–The Internet Gateway Routing Protocol– BGP–The Exterior Gateway Routing Protocol

Unit4: The Transport Layer: The Transport Service: Services provided to the Upper Layers–Transport Services Primitives–Berkeley Sockets. Elements of Transport Protocols :Addressing–Connection Establishment– Connection Release–Flow Control and Buffering–Multiplexing–Crash Recovery. The Internet Transport Protocols: UDP Introduction toUDP–Remote ProcedureCall– The Real Time Transport Protocol. The Internet Transport Protocols: TCP Introduction to TCP–The TCP Service Model–the TCP Protocol–The TCP segment header – TCP connection establishment – TCP connection release – Modeling TCP connection management-TCP Transmission Policy–TCP congestion Control–TCP Timer Management–Wireless TCP and UDP–Transactional TCP

Unit5: The Application Layer: DNS: The Domain Name System: The DNS Name Space– Resource Records–Name Servers. Electronic Mail: Architecture and Services–The User Agent–Message Formats– Message Transfer–Final Delivery. The World Wide Web: Architecture Overview–Static Web Documents–Dynamic Web Documents–HTTP–The Hyper Text Transfer Protocol–Performance Enhancements–The Wireless Web. Multimedia: Introduction to Digital Audio– Audio Compression–Streaming Audio– Internet Radio–Voice Over IP–Introduction to Video–Video Compression–Video on Demand. .

Reference Books:

1. James F. Kurose Keith W.Ross Third Edition Pearson Education.
2. Behrouz A Forouzan Fourth Edition TMH (2007)
3. Michael A. Gallo William Cengage Learning(2008)

MCS 20217: DATA STRUCTURE

SYLLABUS:

UNIT I: Unit1: Linear Data Structure Introduction : Why we need data structure? Concepts of data structures:

A) Data and data structure b) Abstract Data Type and Data Type. Algorithms and programs, basic idea of pseudo-code. Algorithm efficiency and analysis, time and space analysis of algorithms – order notations. **Array** :Different representations – row major, column major. Sparse matrix - its

implementation and usage. Array representation of polynomials. **Linked List:** Singly linked list, circular linked list, doubly linked list, linked list representation of polynomial and applications.

UNIT II: Unit2: Linear Data Structure-Stack and Queue : Stack and its implementations (using array, using linked list), applications. Queue, circular queue, dequeue. Implementation of queue- both linear and circular (using array, using linked list), applications. **Recursion :** Principles of recursion – use of stack, differences between recursion and iteration, tail recursion. Applications - The Tower of Hanoi.

Unit III: Nonlinear Data structures - Trees : Basic terminologies, forest, tree representation (using array, using linked list). Binary trees - binary tree traversal (pre-, in-, post- order), threaded binary tree (left, right, full) ,expression tree. Binary search tree- operations (creation, insertion, deletion, searching). Height balanced binary tree – AVL tree (insertion, deletion with examples only). B- Trees – operations (insertion, deletion with examples only). B- Trees – operations (insertion, deletion with examples only).

Unit IV: Graph definitions and concepts (directed/undirected graph, weighted/un-weighted edges, sub-graph, complete graph, connected components strongly connected component, weakly connected component, path, shortest path, (isomorphism). Graph representations/storage implementations Adjacency matrix, adjacency list, adjacency multi-list. Graph traversal and connectivity Depth-first search (DFS), Breadth-first search (BFS)

Unit5: Searching, Sorting :Sorting Algorithms: Bubble sort and its optimizations, insertion sort, shell sort, selection sort, merge sort, quick sort, heap sort (concept of max heap, application – priority queue), radix sort. **Searching:** Sequential search, binary search, interpolation search. **Hashing:** Hashing functions, collision resolution techniques

References:

1. M.A. Weiss Addison Wisley

MCS 20317: DATA BASE MANAGEMENT SYSTEMS

SYLLABUS:

UNIT I: Databases and Database Users: Introduction, Characteristics of the Database Approach, Actors on the Scene, Workers behind the scene, Advantages of the using the DBMS Approach.

Database System Concepts and Architecture: Data Models, Schemas and Instances, Three Schema architecture and Data Independence, Database Languages and Interfaces, Centralized and Client/Server Architecture for DBMS, Classification of Database Management Systems.

Data Modelling Using the ER Model: Conceptual Data models, Entity Types, Entity Sets ,Attributes and Keys, Relationship types, Relationship sets, roles and structural Constraints, Weak Entity types, Relationship Types of Degree Higher than Two, Refining the ER Design for the COMPANY Database

The Enhanced Entity-Relationship Model: Subclasses, Super classes and Inheritance, Specialization and Generalization, Constraints and Characteristics of Specialization and Generalization Hierarchies, Modeling of Union Types using Categories, An Example University ERR Schema, Design Choices and Formal Definitions.

Unit2: The Relational Data Model and Relational Database Constraints: Relational Model Concepts, Relational Model Constraints and Relational Database Schemas, Update Operations, Transactions and Dealing with Constraint Violations. **The Relational Algebra and Relational**

Calculus: Unary Relational Operations: SELECT and PROJECT, Relational Algebra Operations from set Theory, Binary Relational Operations: JOIN and DIVISION, Additional Relational Operations.

SQL-99: Schema Definition, Constraints, Queries and Views: SQL Data Definitions and Data Types, Specifying Constraints in SQL, Schema Change Statements on SQL, Basic Queries in SQL, More Complex SQL Queries, INSERT, DELETE and UPDATE statements in SQL, Triggers and Views.

Unit3: Functional Dependencies and Normalization for Relational Databases: Informal Design Guidelines for Relation Schemas, Functional dependencies, Normal Forms Based in Primary Keys, General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. **Relational Database Design Algorithms and Further Dependencies:** Properties of Relational Decompositions, Algorithms for Relational Database Schema Design, Multivalued Dependencies and Fourth Normal Form, Join Dependencies and Fifth Normal Form, Inclusion Dependencies, Other Dependencies and Normal Forms

Unit4: Disk Storage, Basic File Structure and Hashing : Introduction, Secondary Storage Devices, Buffering of Blocks, Placing file Records on Disk, Operations on Files, Files of Unordered Records, Files of Ordered Records, Hashing Techniques, Other Primary File Organizations, Parallelizing Disk Access using RAID Technology.

Indexing Structures for Files: Types of Single-Level Ordered Indexes, Multilevel Indexes, Dynamic Multilevel indexes Using B-Trees and B⁺Trees, Indexes on Multiple Keys, Other Types of Indexes.

Unit5: Introduction to Transaction Processing Concepts and Theory: Introduction to Transaction Processing, Transaction and System Concepts, Desirable Properties of Transactions, Characterizing Schedules Based on Recoverability, Characterizing schedules Based on Serializability.

References:

1. Peter Rob, Carlos Corenel Eight Edition Thomson(2008)

MCS 20417: THEORY OF COMPUTATION

SYLLABUS:

UNIT I: Automata: The methods and the Madness, Finite Automata

UNIT II: Regular Expressions and Languages, Properties of Regular Languages

UNIT III: Context-Free Grammars & Languages, Push Down Automata

UNIT IV: Properties of Context Free Languages, Introduction to Turing Machines

UNIT V: Undecidability

Reference books:

1. Daniel I.A. Cohen Introduction to Computer theory Wiley
2. Peter Linz Theory of computation Narosa.

MCS 20517: SOFTWARE ENGINEERING

SYLLABUS:

UNIT I: Introduction to Software Engineering: The evolving role of software, Changing Nature of Software. Software myths. **A Generic view of process:** Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models. **Process models:** The waterfall model, Incremental process models, Evolutionary process models, The Unified process, Agile process models

UNIT II: Software Requirements: Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document. **Requirements engineering process:** Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management. **System models** : Context Models, Behavioural models, Data models, Object models, structured methods.

UNIT III: Design Engineering: Design process and Design quality, Design concepts, the design model. **Creating an architectural design:** Software architecture, Data design, Architectural styles and patterns, Architectural Design. **Object-Oriented Design:** Objects and object classes, An Object-Oriented design process, Design evolution. **Performing User interface design:** Golden rules, User interface analysis and design, interface analysis, interface design steps, Design evaluation.

UNIT IV: Testing Strategies: A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging. **Product metrics:** Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance. **Metrics for Process and Products** : Software Measurement, Metrics for software quality.

UNIT V: Risk management: Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan. **Quality Management:** Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

Reference Books :

- Software Engineering, A Precise Approach, Pankaj Jalote, Wiley India, 2010.
- Software Engineering: A Primer, Waman S Jawadekar, Tata McGraw-Hill, 2008
- Fundamentals of Software Engineering, Rajib Mall, PHI, 2005
- Software Engineering, Principles and Practices, Deepak Jain, Oxford University Press.
- Software Engineering1: Abstraction and modelling, Diner Bjorner, Springer International edition, 2006.
- Software Engineering2: Specification of systems and languages, Diner Bjorner, Springer International edition 2006.

MCS 3117: CRYPTOGRAPHY & NETWORK SECURITY

SYLLABUS:

UNIT I: Introduction: Security trends, the OSI security architecture, security attacks, security services, security mechanisms, a model for network security.

Classical encryption techniques: Symmetric cipher model, Substitution Techniques, Transposition techniques, Rotor machines, Steganography.

Block cipher and the data encryption standard: Block cipher principles, the strength of DES, Differential and linear cryptanalysis, Block cipher design principles.

Confidentiality using Symmetric Encryption: Placement of encryption function

UNIT II: Public key cryptography and RSA: Principles of public key crypto systems. The RSA algorithm

Key management: Other public-key crypto systems: Key management, diffie-Hellman key exchange.

Message authentication and hash functions: Authentication requirements, Authentication functions, message authentication codes, Hash functions, security of hash functions and MAC s.

UNIT III: Digital signatures and authentication protocols: Digital signatures, Authentication protocols, Digital Signature standard

Authentication Applications: Kerberos, X.509 authentication service

UNIT IV: Email Security: Pretty good privacy, S/MIME

IP security: IP security overview, IP security architecture, Authentication header, Encapsulating security payload, combining security associations, key management.

Web security: Web security considerations, Secure Socket Layer and transport layer security, Secure electronic transaction.

UNIT V: Intruders: Intruders, Intrusion detection, password management

Malicious Software: Viruses and related threads, virus counter measures, distributed denial of service attacks.

Firewalls: Firewall Design principles, trusted systems, common criteria for information technology, security evaluation.

Reference books:

1. William Network security essentials – Applications and Third Edition pearson education.
2. Chris MC Nab Networks security Assessment
3. Jon Erickson Hacking The Art of Exploitation SPD, NOSTARCH Press (2006)
4. Neal Krawety, Introduction to Network Security Thomson (2007)

MCS 30217: CRYPTOGRAPHY & NETWORK SECURITY

SYLLABUS:

UNIT I: Introduction to Algorithm, Algorithm definition, properties, Different areas to study about Algorithms, Pseudo code expressions for an algorithm, Performance Analysis, Time complexity & Space complexity, Asymptotic notations, Introduction to Divide and Conquer- Binary search, Binary search analysis, Quick sort, Quick sort analysis, Merge sort, Merge sort Analysis, Strassen's matrix multiplication, Finding Maximum and minimum.

UNIT II: Greedy Method introduction, General method, Job sequencing with deadlines, Single source shortest path problem, Example problems, Optimal storage on tapes, Knapsack problem, Minimum cost spanning trees – Prim’s Algorithm, Kruskal’s Algorithm, Basic search and Traversal Techniques, Tree Traversals, Bi-connected components, DFS, BFS.

UNIT III: Dynamic programming, Single source shortest path problem, Multi stage graphs, All pairs shortest path, Optimal Binary search tree, 0/1 knapsack problem, Example problem, Travelling sales person problem, Flow shop scheduling.

UNIT IV: Introduction to back tracking, General method, sum of subsets, N-queens problem, Sum of sub sets problem, Graph coloring, Hamiltonian cycles, knapsack problem.

UNIT V: Introduction to Branch and Bound, Travelling sales person problem, 0/1 Knapsack problem, LCBB, FIFOB, Introduction to NP-HARD & NPCOMPLETE, Example problem, Basic concepts, Non deterministic Algorithms, NP-hard class, NP-complete class, Cooks theorem,

References:

1. L. Chandra Mohan, Design and Analysis of Algorithms PHI Publications.
2. Prabhakar Gupta Vineeth Agrawal, PHI Publications.
3. Anany Leviton Pearson Education.

MCS 30317: WEB TECHNOLOGIES

SYLLABUS:

UNIT I: INTRODUCTION

Internet Principles – Basic Web Concepts – Client/Server model – retrieving data from Internet – HTML and Scripting Languages – Standard Generalized Mark-up languages – Next Generation – Internet – Protocols and Applications

UNIT II: COMMON GATEWAY INTERFACE PROGRAMMING

HTML forms – CGI Concepts – HTML tags Emulation – Server – Browser Communication – E-mail generation – CGI client Side applets – CGI server applets authorization and security.

UNIT III: SCRIPTING LANGUAGES

Dynamic HTML-Cascading style sheets-Object model and Event model- Filters and Transitions-Active X Controls-Multimedia-Client side script - VB Script programming-Forms – Scripting Object.

UNIT IV: SERVER SIDE PROGRAMMING

XML – Server side includes – communication – DTD – Vocabularies – DOM methods – Firewalls-Proxy Servers, Introduction to Servlets, Servlet Life Cycle, Data base connection using JDBC through Servlets.

UNIT V: JSP

JSP Technology Introduction-JSP- Running JSP Applications Basic JSP- JavaBeans Classes and JSP-Tag Libraries and Files- Support for the Model- View- Controller Paradigm- Case Study- Related Technologies

Reference Books:

1. Web Technologies Black Book

MCS 30417: .NET PROGRAMMING

SYLLABUS:

UNIT I: Getting Started With Visual Basic 2012: Visual Basic 2012 Keywords, Operators, Arithmetic Operators, Assignment Operators, Comparison Operators, Concatenation Operators, Logical And Bitwise Operators, Miscellaneous Operators, Operator Precedence, Data Types In Visual Basic 2012, Visual Basic Statements, Working With Selection Statement, Working With Iteration Statement, Variables, Constants, Arrays, Enumerations.

Window Forms: Window Forms Controls - I: Introducing The Control Class, Using The Label Control, Using The Text Box Control, Using The Button Control, Using The Radio Button Control, Using The Checkbox Control, Using The Combo Box Control, Using The ListBox Control, Using The Group Box Control, Using The Panel Control, Using The PictureBox Control, Using The Timer Control, Using The Progress Bar Control.

Windows Forms Controls II : Using the Tool strip control, using the menu strip control Using The Status Strip Control, Working with Dialog Boxes, Using The Folder Browser Dialog Control, Using the Open File Dialog Control, Using The Save File Dialog Control, Using The Font Dialog Control, Using The Colour dialog Control, Using The Print Dialog and Print Document Controls

UNIT II: Getting Started With C# 2012: Introducing Key Words And Identifiers, Describing Operators And Operator Precedence, Exploring Data Types In C# 2012, Value Types, Reference Types, Pointer Types, Explaining Data Type Conversion, Implicit Conversion, Explicit Conversion, Describing Variables And Constants, Declaring Variables, Initializing Variables, Declaring Variables Of Nullable Type, Declaring constants, Working With Arrays, Single – Dimensional Arrays, Exploring Control Flow Statements, Selection Statements, Iteration Statements, Jump Statements.

Object Oriented Programming: Basic Principles Of Object Oriented Programming, Member Of Access Modifiers, Define Class, Creating Objects, Constructors, Inheritance, Abstract Classes, Interfaces, Polymorphism

Errors And Exceptions Handling: Exploring Types Of Errors, Syntax Errors,

UNIT III: ASP.NET

Standard Controls: Introducing The Web Control Class, Using The Label Control, Using The Textbox Control, Using The Button Control, Using The Image Button Control, Using The List Box Control, Using The Radio Button Control, Using The Checkbox Control, Using The Table Control, Using The Wizard Control, Using The Calendar Control, Using The Ad Rotator Control.

Navigation Controls: Working With The Sitemap Path Control, Using The Sitemap Path Control, Customizing Appearance Of The Sitemap Path Control, Working With The Menu Control, Creating Static Menus, Creating Dynamic Menus, Working With The Tree View Control.

Validation Controls: Introducing The Basic Validator Class, Using The Required field val Control, Using The Range Validator Control, Using The Regular Exception Validator Cc Using The Compare Validator Control, Using The Custom Validator Control, Using Validation Summary Control.

Login Controls: Creating A User Account In ASP.NET 4.5, Using The Login Control, Using The Login Name Control, Using The Login View Control, Using RECOVERY.

UNIT IV: Database Controls: Working With ADO.NET 4.5, Exploring Disconnected Data Architecture, Accessing Data Using ADO.NET, Introducing Data source Controls, The SQL Data Source Control, The Access Data Source Control, The Object Data Source Control, The XML Data Source Control, The Linq Data Source Control, The Site Map Data Source Control, The Entity Data Source Control, Working with Data-Bound Controls, Using The Grid view Control, Using The Data list Control, Using The Details View Control, Using The Form view Control, Using The List view And Data Pager Controls, Using The Repeater Control, Using The Chart Control, Using The Query Extender Control.

Web parts Controls: Introducing Web Parts Controls, Using The Web part Manager Control, Using The Catalog Zone Control, Using The Web part Zone Control, Using The Proxy Web Part Manager Control, Creating A Web Application Using Web parts Controls

UNIT V: Master Pages And Themes : Creating Master Pages, Simple Master Page, Nested Master Page, Explaining Themes, Creating Themes, Applying Themes On Controls At Runtime ,Using The Style sheet Theme Attribute

Caching In ASP.NET 5.4 : Caching In ASP.NET, Introducing The Cache Class, Describing Output Caching, The Location Attribute, The Shared Attribute, The Vary By Custom Attribute, The Vary By Param Attribute Implementing Output Caching ,Describing Partial- Page Output Caching, Understanding The Disc Output Cache, Describing Post-Cache Substitution And Substitution Control, Data Caching, Adding Items To Cache, Retrieving Data From Cache, Deleting Items From Cache, Implementing Data Caching, Explaining Cache Dependencies.

References:

1. Kognet Learning solutions Inc ASP.Net Black Book, Dreamtech press 2011.
2. Kognet Learning solutions Visual Basic 2010 Programming Black Book Plantinumed.

MCS 30517: Elective I Artificial Intelligence

SYLLABUS:

UNIT I: What is AI? The AI Problem, The Underlying Assumption, What is an AI Technique? The Level of the Model, Criteria for Success. Problems, Problem spaces & Search: Defining the Problem as a State Space Search, Production Systems, Problem Characteristics, Productions System Characteristics, Issues in the design of Search Programs, Additional Problems. Heuristic Search Techniques: Generate and Test, Hill Climbing, Best First Search, Problem Reduction, Constraint Satisfaction, Means-Ends Analysis

UNIT II: Knowledge Representation Issues: Representations and Mappings, Approaches to Knowledge Representation, Issues in Knowledge Representation, Issues in Knowledge Representation, The Frame Problem. Using Predicate Logic: Representing Simple Facts in Logic, Representing Instances and Isa Relationships, Computable Functions and Predicates, Resolution, Natural Deduction. Representing Knowledge Using Rules: Procedural Versus Declarative Knowledge, Logic Programming, Forward Vs Backward Reasoning, Matching, Control Knowledge

UNIT III: Symbolic Reasoning Under Uncertainty: Introduction to Non monotonic Reasoning, Logics for Non monotonic Reasoning, Implementation Issues, Augmenting a Problem Solver, Implementation Depth-First Search, Breadth-First Search. Weak Slot-and Filler Structures: Semantic Nets, Frames.

UNITIV: Planning: Overview, An Example Domain: The Blocks World, Components of a Planning System, Goal Stack Planning, Nonlinear Planning Using Constraint Posting, Hierarchical Planning, Reactive Systems, Other Planning Techniques. Natural Language Processing: Introduction, Syntactic Processing, Semantic Analysis, Discourse and Pragmatic Processing.

UNIT V: Common Sense: Qualitative Physics, Common-sense Ontologies, Memory Organization, Case- Based Reasoning. Expert Systems: Representing and Using Domain Knowledge, Expert System Shells, Explanation, Knowledge Acquisition.

References

- Artificial Intelligence, Winston.P.H., Addison Wesley Publisher

MCS 30517: Elective I COMPUTER GRAPHICS

SYLLABUS:

UNIT I: Introduction: Application areas of Computer Graphics, Overview of graphics systems, Video-display devices, Raster-scan systems, Random scan systems.

Output primitives : Points and lines, Line drawing algorithms, Mid-point circle and ellipse algorithms.

Filled area primitives: Scan line Polygon Fill algorithm, Boundary-fill and Flood-fill algorithms

UNIT II: 2D&3D Geometrical Transformations: Translation, Scaling, Rotation, Reflection And Shear transformations, Matrix representations and homogeneous coordinates, Composite transformations, Transformations between coordinate systems, Cohen-Sutherland line clipping algorithm, Sutherland–Hodgeman polygon clipping algorithm.

UNIT III: Introduction to Digital Image Processing : Examples of fields that use Digital image processing, Fundamental steps in Digital image processing, Components of image processing system.

Digital Image Fundamentals: A simple image formation model, Image sampling and Quantization, Basic relationships between pixels, Colour models.

UNIT IV: Image enhancement in the spatial domain: Basic gray-level transformation, Histogram processing, Enhancement using arithmetic and logic operators, Basic spatial filtering, Smoothing and sharpening spatial filters, Combining the spatial enhancement methods

UNIT V: Morphological Image Processing: Preliminaries, Dilation, Erosion, Open and Closing, Hit or miss transformation, Basic morphologic algorithms

Image Segmentation: Detection of discontinuous, Edge linking and boundary detection, Thres holding, Region–based segmentation

Reference Books

1. **Procedural elements for Computer Graphics**, David F Rogers, Tata MCA Graw hill, 2nd edition.
2. **Computer Graphics**, Steven Harrington, TMH
3. **Image Processing, Analysis, and Machine Vision**, Milan Sonka, Vaclav Hlavac and Roger Boyle, Second Edition, Thomson Learning.

MCS 305.417: Elective I TCP/IP

SYLLABUS:

UNIT I : Introduction and Underlying Technologies

A BRIEF HISTORY ARPANET, Birth of the Internet, Transmission Control, Protocol/Internetworking Protocol (TCP/IP), MILNET, CSNET, NSFNET, ANSNET, The Internet Today World Wide Web, Time Line, Growth of the Internet.

PROTOCOLS AND STANDARDS Protocols ,Standards

STANDARDS ORGANIZATIONS Standards Creation Committees ,Forums ,Regulatory Agencies

INTERNET STANDARDS Maturity Levels ,Requirement Levels

INTERNET ADMINISTRATION Internet Society (ISOC),Internet Architecture Board (IAB) ,Internet Engineering Task Force (IETF), Internet Research Task Force (IRTF) ,Internet Assigned Numbers Authority (IANA) and Internet

THE OSI MODEL AND THE TCP/IP PROTOCOL SUITE PROTOCOL LAYERS Hierarchy, Services.

THE OSI MODEL Layered Architecture ,Layer-to-Layer Communication ,Encapsulation ,Layers in the OSI Model

TCP/IP PROTOCOL SUITE

Comparison between OSI and TCP/IP Protocol Suite ,Layers in the TCP/IP Protocol Suite

An Example ,Logical Addressing ,Services Provided at the Source Computer ,Services Provided at Each Router

UNIT II: Underlying Technologies

WIRED LOCAL AREA NETWORKS IEEE Standards ,Frame Format ,Addressing ,Ethernet Evc ,Standard Ethernet ,Fast Ethernet, Gigabit Ethernet ,Ten-Gigabit Ethernet

WIRELESS LANS IEEE 802.11, MAC Sub layer, Addressing Mechanism, Bluetooth.

Network Layer SWITCHING Circuit Switching ,Packet Switching

PACKET SWITCHING AT NETWORK LAYER Connectionless Service ,Connection-Oriented Service

NETWORK LAYER SERVICES

,Services Provided at the Destination Computer

UNIT III IPV4 ADDRESS:

INTRODUCTION:

Address space, Notation range of addresses operation

CLASSFUL ADDRESSING

Classes, Classes and Blocks two level addressing an example three level addressing sub netting supernetting.

Delivery and Forwarding of IP Packets Delivery Direct Delivery indirect delivery

Forwarding

Forwarding based on destination address forwarding based on label.

UNIT IV:

Internet protocol version 4 (IPv4)

Datagrams fragmentation

Maximum transfer unit(MTU) Fields related to Fragmentation

OPTIONS

Format option types.

Address resolution protocol(ARP)

Address mapping:

Static Mapping dynamic mapping

THE ARP PROTOCOL

Packets format encapsulation operation proxy ARP

UNIT V: Internet control message protocol version 4(ICMPv4)

INTRODUCTION MESSAGES message format, error Reporting messages, Query Messages checksum

DEBUGGING TOOLS:

Ping, Trace route

Mobile IP 268

ADDRESSING Stationary Hosts, Mobile Hosts

Agents:

Home Agent Foreign Agent

References:

1. Behrouz & A. Forouzan TCP/IP Protocol Suite, Fourth edition, McGraw hill Forouzan Networking

MCS 40117 DATA WAREHOUSING AND MINING

SYLLABUS:

UNIT I: Introduction: Fundamentals of data mining, Data Mining Functionalities, Classification of Data Mining systems, Major issues in Data Mining, Data Warehouse and OLAP Technology for Data Mining Data Warehouse, Multidimensional Data Model, Data Warehouse Architecture Data Pre-processing: Needs Pre-processing the Data, Data Cleaning, Data Integration and Transformation, Data Reduction.

UNIT II: Concepts Description: Characterization and Comparison: Data Generalization and Summarization-Based Characterization, Analytical Characterization: Analysis of Attribute Relevance, Mining Class Comparisons: Discriminating between Different Classes, Mining Descriptive Statistical Measures in Large Databases

UNIT III: Mining Association Rules in Large Databases: Association Rule Mining, Mining Single-Dimensional Boolean Association Rules from Transactional Databases, Mining Multilevel Association Rules from Transaction Databases, Mining Multidimensional Association Rules from

Relational Databases and Data Warehouses, From Association Mining to Correlation Analysis, Constraint-Based Association Mining.

UNIT IV: Classification and Prediction: Issues Regarding Classification and Prediction, Classification by Decision Tree Induction, Bayesian Classification, Classification by Back propagation, Classification Based on Concepts from Association Rule Mining, Other Classification Methods, Prediction, Classifier Accuracy.

UNIT V: Cluster Analysis Introduction :Types of Data in Cluster Analysis, A Categorization of Major Clustering Methods, Partitioning Methods, Density-Based Methods, Grid-Based Methods, Model-Based Clustering Methods, Outlier Analysis

Types of Data Bases: Spatial Databases, Mining Multimedia Databases, Mining Time-Series and Sequence Data, Mining Text Databases, Mining the World Wide Web.

Reference Books:

1. Data Warehousing in the Real World – SAM ANAHORY & DENNIS MURRAY. Pearson Edn Asia.
2. Data Warehousing Fundamentals – PAULRAJ PONNAIAH WILEY STUDENT EDITION
3. The Data Warehouse Life cycle Tool kit – RALPH KIMBALL WILEY STUDENT EDITION
4. Data Mining Introductory and advanced topics –MARGARET H DUNHAM, PEARSON EDUCATION.

MCS 40217 CLOUD COMPUTING

SYLLABUS:

UNIT I: Systems modeling, Clustering and virtualization: Scalable Computing over the Internet, Technologies for Network based systems, System models for Distributed and Cloud Computing, Software environments for distributed systems and clouds, Performance, Security And Energy Efficiency.

UNITII: Virtual Machines and Virtualization of Clusters and Data Centers: Implementation Levels of Virtualization, Virtualization Structures/ Tools and mechanisms, Virtualization of CPU, Memory and I/O Devices, Virtual Clusters and Resource Management, Virtualization for Data Center Automation.

UNIT III: Cloud Platform Architecture:Cloud Computing and service Models, Architectural Design of Compute and Storage Clouds, Public Cloud Platforms, Inter Cloud Resource Management, Cloud Security and Trust Management. Service Oriented Architecture, Message Oriented Middleware.

Cloud Programming and Software Environments: Features of Cloud and Grid Platforms, Parallel & Distributed Programming Paradigms, Programming Support of Google App Engine, Programming on Amazon AWS and Microsoft Azure, Emerging Cloud Software Environments.

UNIT IV: Cloud Resource Management and Scheduling : Policies and Mechanisms for Resource Management Applications of Control Theory to Task Scheduling on a Cloud, Stability of a Two Level Resource Allocation Architecture, Feedback Control Based on Dynamic Thresholds. Coordination of Specialized Autonomic Performance Managers, Resource Bundling, Scheduling Algorithms for Computing Clouds, Fair Queuing, Start Time Fair Queuing, Borrowed Virtual Time, Cloud Scheduling Subject to Deadlines, Scheduling MapReduce Applications Subject to Deadlines.

UNIT V: Storage Systems: Evolution of storage technology, storage models, file systems and database, distributed file systems, general parallel file systems. Google file system., Apache Hadoop, BigTable, Megastore, Amazon Simple Storage Service(S3)

Reference Books:

1. Anthony T Velte, Toby J Velte Robert Elsenpeter- Cloud computing a practical approach TMH.
2. Raj Kumar Buyya Chisten Vecctiola, Tammari Selvi- TMH

MCS 40317 ELECTIVE II MACHINE LEARNING

UNIT I: Introduction: An illustrative learning task, and a few approaches to it. What is known from algorithms? Theory, Experiment. Biology. Psychology.

Concept Learning: Version spaces. Inductive Bias. Active queries. Mistake bound PAC model. basic results. Overview of issues regarding data sources, success criteria.

UNIT II: Decision Tree Learning: – Minimum Description Length Principle. Occam’s razor. Learning with active queries **Neural Network Learning:** Perceptions and gradient descent back propagation.

UNIT III: Sample Complexity and Over fitting: Errors in estimating means. Cross Validation and jack-knifing VC dimension.

Irrelevant features: Multiplicative rules for weight tuning.

Bayesian Approaches: The basics Expectation Maximization. Hidden Markov Models

UNIT IV: Instance-based Techniques: Lazy vs. eager generalization. K nearest neighbour, case-based reasoning.

Unit V: Genetic Algorithms: Different search methods for induction – Explain nation based Learning: using prior knowledge to reduce sample complexity

Reference Books

- Machine Learning Methods in the Environmental Sciences, Neural Networks, William W Hsieh, Cambridge Univ Press.
- Richard o. Duda, Peter E. Hart and David G. Stork, pattern classification, John Wiley & Sons Inc., 2001.
- Chris Bishop, Neural Networks for Pattern Recognition, Oxford University Press, 1995.

MCS 40317 ELECTIVE II SOFTWARE TESTING

UNIT I: Introduction: Some Software Failures, Testing Process, Terminologies, Limitations Of Testing, The V Shaped Software Life Cycle Model.

Software Testing Activities: Levels Of Testing: Unit Testing, Integration Testing, System Testing, Acceptance Testing, Debugging, Software Testing Tools, Software Test Plan.

UNIT II: Software Verification: Verification Methods, SRS Document Verification, SDD Document Verification, Source Code Reviews, User Documentation Verification.

Metrics And Models In Software Testing: Software Metrics, Categories Of Metrics, Object Oriented Metrics Used In Testing, What Should We Measure During Testing?

UNIT III: Functional Testing: Boundary Value Analysis, Equivalence Class Testing, Decision Table Based Testing, Cause-Effect Graphing Technique.

UNIT IV: Structural Testing: Control Flow Testing, Data Flow Testing, Slice Based Testing, Mutation Testing.

UNIT V: Object Oriented Testing: What Is Object Orientation? What Is Object Oriented Testing?, Path Testing, State Based Testing, Class Testing.

References:

1. Aditya P. Mathur Foundation of software testing 2nd Edition Pearson Education

MCS 40317 ELECTIVE II EMBEDDED SYSTEMS

SYLLABUS:

UNIT I: Introduction: Embedded system overview, Design challenges, Processor technology. IC technology, Design technology, Trade offs.

Custom single purpose processors: Hardware: Introduction, Combinational logic, Sequential logic, Custom single purpose processor design, RT-level custom single purpose processor design, Optimizing custom single purpose processor design.

UNIT II: General purpose processors : Software : Introduction, Basic architecture, Operation, Programmer's view, Development environment, Application specific instruction set processors, Selecting a microprocessor, General purpose processor design

UNIT III: Standard single purpose processors: Peripherals: Introduction, Timers, Counters, Watchdog timers, UART, Pulse width modulators, LCD controllers, Keypad controllers, Stepper motor controller, Analog to digital converters, Real time clocks.

Memory: Introduction, Memory write ability and storage permanence, Common memory types, Composing memory, Advanced RAM

UNIT IV: Interfacing: Introduction, Communication basics, Microprocessor interfacing –I/O addressing, Microprocessor interfacing–Interrupts, Microprocessor interfacing–DMA, Arbitration, Multilevel bus architectures, Advanced communication principles, Serial protocols, Parallel protocols, Wireless protocols

UNIT V: State machine and concurrent process models: Introduction, Models Vs languages, text Vs graphics, An introductory example, A basic state machine model-FSM, Finite state machine with data path model-FSMD, Using state machine, HCFSM and stack charts languages, Program state machine model –PSM, The role an appropriate model and language, Concurrent process model, Concurrent processes, Communication among the processes, Synchronization among the processes, Implementation, Data flow model, Real time systems.

Reference book:

- Raj Kamal, “Embedded Systems”, Second Edition , TMH (2008).

MCS 40317 ELECTIVE II NEURAL NETWORKS

UNIT I: INTRODUCTION: Definition of ANN-Biological Neural Networks-Applications of ANN-Typical Architectures-Setting the weights-Common Activation functions-Development of Neural Networks-McCulloch-Pitts Neuron.

UNIT II: SIMPLE NEURAL NETS FOR PATTERN CLASSIFICATION:

General discussion -Heb net –Perceptron-Adaline – Back propagation neural net- Architecture- Delta Learning Rule Algorithm-Applications.

UNIT III: PATTERN ASSOCIATION: Training Algorithm for Pattern Association-Hetero associative memory neural network applications-Auto associative net-Iterative Auto associative net-Bidirectional Associative Memory-Applications.

UNIT IV: NEURAL NETS BASED ON COMPETITION: Fixed Weights Competitive Nets-Kohonen’s Self-Organizing Map –Applications- Learning Vector Quantization-Applications-Counter Propagation Network-Applications.

UNIT V: ADAPTIVE RESONANCE THEORY AND NEOCOGNITRON: Motivation – Basic Architecture- Basic Operation-ART1-ART2-Architecture- Algorithm-applications-Analysis Probabilistic Neural Net-Cascade Correlation- Neocognitron: Architecture—Algorithm-Applications.

REFERENCES

- James. A. Freeman and David. M. Skapura, "Neural Networks Algorithms, Applications and Programming Techniques ", Pearson Education, Sixth Reprint, 2011.
- Simon Haykin, "Neural Networks and Learning Methods", PHI Learning Pvt. Ltd., 2011.
- James A. Anderson, "An Introduction to Neural Networks", PHI Learning Pvt. Ltd., 2011.
- Martin T. Hagan, Howard B. Demuth, Mark Beale, "Neural Network Design", Cengage Learning, Fourth Indian Reprint, 2010.
- Bart Kosko, "Neural Networks and Fuzzy Systems-A Dynamical Approach to Machine Intelligence", PHI Learning Pvt. Ltd., 2010.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department Of Computer Science & Applications

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.com (General)/TP/Logi, BBM, B.Sc(MPC/CBZ)	I	Computer Fundamentals & Internet	CBICF101	2015-16

Unit – I (Overview of Computer) -14 Hours

Introduction to Computers, Block Diagram of Computer, generations of computer, Classification of Computers based on Purpose, Operation & Size, Anatomy of Computers, Basic I/O Devices, Printers, Memory units- Primary and Auxiliary memory, Cache

Unit – II (Operating Systems)- 13 Hours

Operating System: Definition, Functions of Operating System, Booting, Types of Operating Systems

Unit-III

Working with DOS : Introduction, Environment, Internal & External Commands, Batch Files

Unit – IV (Windows) -15 Hours

Introduction, Desktop, File Manager, Windows Explorer, Control Panel, Clip Board, Accessories: Calculator, MS Paint, Notepad, WordPad

Unit – V (Internet) - 18 Hours

Introduction, features of Internet, Email Creation, Mail Sending, Receiving.

Prescribed Text Book:

- 1) “Fundamentals of Computers” –Peter Norton’s
“Internet & Web Technologies” – Raj Kamal

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.com (General)/TP/Logi, BBM, B.Sc(MPC/CBZ)	II	MS-Word & Power Point	CBICF201	2015-16

Unit – I

Title bar, The Table .. Table Insertion .. Table Formatting .. Inserting Rows & Columns.. Table Layout Tab options. Ribbon, Quick access toolbar, Status Bar, Working with dialog boxes, Navigating Dialog Boxes, Using the Tabbed dialog box Working with files, Creating new, Blank File, Creating a File with the document template Saving and naming the file, Opening a File, Closing a File ,Printing the file Performing the basic preview and print, Understanding the page design settings Choosing the print settings and printing Moving and Copying the Information, Understanding the clip board, Selecting information, Copying, Cutting, Pasting, Finding and Replacing Spell Checking, Auto Correct Auto Format and actions, Creating the blank file Typing text, Using word wrap, Making the new paragraphs, Creating the file from the templates, Saving and File formats, Save and send (Formerly Publish),Understanding .docx

Unit – II

Views Draft view is the new normal view, Print Layout, Full screen Reading ,Web Layout Outline (Master Document Tools),

Chap: 5 Formatting 101: Font/Character formatting

The Big Picture .. WordArt .. Clip Art.. Shapes ... Charts ...Book Marks .. Pagebreaks Styles and Character/Font formatting, Styles versus direct, Character formatting Formatting techniques, The font group, The font dialog box, The mini tool bar Character formatting shortcut keys,

Unit-III

Chapter 6: Paragraph Formatting

Styles and Paragraph formatting, When to use styles, What exactly Is a paragraph, Anyway? Paragraph formatting attributes, Paragraph-formatting techniques, Structural Formatting , Indentation, Alignment, Tabs ,Paragraph decoration, Numbering and Bullets, Shading, Borders and boxes

Unit - IV

Chapter 8: Page setup and Sections

Page setup basics, Section formatting, Styles section formatting and paragraph formatting Page setup choices, Page Layout settings, Page borders, The Header and Footer Document sections, Header and Footer Navigation and design, Editing the Header and Footer Areas, Header and Footer styles, Different First page, Different Odd and Even pages, Adding the Header and Footer Material, Page Numbers, Themes

Mailings Tab

Mail Merge procedure .. Envelops and Labels, Working With Macros: creating macro, running macro, editing macro and deleting macro.

Unit – V(MS-POWERPOINT)

PowerPoint Basics: Creating new Presentation .. Design Templates .. Auto content wizard
.Inserting new Slides .. Duplicating Slides .. Slide Background settings. Inserting text, Tables, Cliparts, Word Art, Shapes into slides.. Adding Slide numbers, Date and Time into slides .. Views in PowerPoint

Building Animation Effects, Transitions and Supports Materials

Understanding Animations and Transitions

Assigning Transition to slides

Setting Transition Effects and Timings, More about transition sounds Rehearsing and recording Transition Timings

Animation Slide content

Understanding Custom Animations, Choosing an Animation Effect, Printing slides

Prescribed Text Book:

1. Microsoft Office 2010 Bible (Bible (Wiley))by [John Walkenbach](#) , [Herb Tyson](#) , [Michael R. Groh](#)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.com (General)/TP/Logi, BBM, B.Sc(MPC/CBZ)	III	MS-Excel-2010	CBICF301	2016-17

Unit -1

What is Excel Good for? What's new in Excel 2010, Understating Work book, work sheet, Ribbons, Making Your worksheet Look a Bit Fancier, Saving a work book, printing work sheet.

Entering and Editing Worksheet Data:

Exploring the Types of Data You Can Use: About the Numeric Values, About Text entries, About Formulas. Entering Text and values into your work sheets:- Centering Text across columns, Clearing and Deleting data on worksheets. Entering dates and times into your work sheets, Modifying cell Contents:- Erasing the Contents of a Cell, Replacing the contents of cell, Editing the contents of a cell, Applying number formatting: Using automatic Number

Formatting, Formatting Numbers by using the Ribbon, Using the shortcut keys to format the numbers, Formatting the Numbers using the format cell dialog box, printing your work sheet.

Unit-2

Essential worksheets and Cell range options

Learning the Fundamentals of Excel worksheets: Working with Excel windows, Adding new work sheet to your work book, Deleting a worksheet you no longer need, Changing the name of the work sheet, Changing the sheet tab color, Rearranging the work sheets, Hiding or un hiding the worksheets. Controlling the worksheet view: Zooming in or out for better view, Splitting the worksheet window into panes, Keeping the titles in view by freezing panes, Monitoring the cells with a watch window. Working with Rows and columns: Inserting the Rows and columns, Deleting Rows and Columns, Hiding Rows and columns, Changing column width and row height. Understanding cells and Ranges: Selecting ranges, Selecting complete rows and columns, selecting non-contiguous Rows, Selecting multi sheet ranges, Selecting special types of Cells, Selecting cells by searching. Copying or Moving Ranges: using ribbon commands, using drag and drop, using the paste special dialog box .. Fill Commands Using names to work with ranges: Creating the range names in your workbooks, Managing names .. Adding Comments to the cells: Formatting the comments, working further with comments.

Unit – 3

Introducing formal and functions:

Understanding the Formula basics: Using operators in formulas, Using functions in your formulas.

Using Cell References in formulas: Using relative, Absolute and mixed references, Changing types of your references, Referencing cells outside the worksheets.

Using formulas in tables: summarizing data in a table, using formulas within the table, referencing data in a table. **Excel functions:** Function wizard, Function Categories.

Unit-4

Charts in Excel: Chart parts and terminology: Instant charts with the chart wizard, crating charts on separate worksheets, Resizing and moving charts, Adding chart notes and arrows, Editing charts, Printing charts, Deleting charts, Setting the default chart type, Controlling which series is on which axis, Creating trend lines.

Database concepts and terms: Creating an excel database, Working with database forms, Conditional formatting. Data Validations, What if Analysis, solver, pivot table, subtotals, formula auditing, filtering concepts.

Prescribed Text Book

Microsoft Office 2010 Bible (Bible (Wiley))

by [John Walkenbach](#) , [Herb Tyson](#) , [Michael R. Groh](#)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.com (General)/TP/Logi, BBM, B.Sc(MPC/CBZ)	IV	MS-Access-2010	CBICF401	2016-17

Unit-1

The Database Terminology of Access, The access table wizard, creating databases without the wizard, field names, data types and properties, adding or deleting fields in tables, renaming fields and their captions, moving fields, deleting fields in tables, resizing fields, primary key fields, indexing fields, viewing a list of database properties.

Typing, adding records, duplicate previous entries without retyping, switching out of data entry mode, correcting entries, global replacements, moving from record to record in a table, entry and navigational shortcuts.

Unit-2

Queries and dynasets: Queries and dynasets, creating and using select queries, returning to the query design, using wildcards in queries, requesting range of records, hiding columns, reformatting dynasets, multilevel sorts, showing all records after a query, saving queries for latter use, cross tab queries, find and replace.

Unit-3

Access Reports: Printing reports, forms, letters and labels: simple table, form, and database printing, manual reporting and modifying, modifying section contents, properties in reports, saving report formats for reuse, printing mailing labels, changing label designs.

Unit-4

Relational databases:

Flat versus relational, how relationships work, Exercise: creating a simple relationship, types of relationships, defining and redefining relationships, deleting relationships. Importing and exporting records : linking other databases as tables, importing data from spread sheet files, importing data from word files, exporting access data.

Prescribed Text Book

1. Microsoft Office 2010 Bible (Bible (Wiley))by [John Walkenbach](#) , [Herb Tyson](#) , [Michael R. Groh](#)

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Organic Chemistry (P.G.)

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	I	General Chemistry	OCH10117	2017-18

SEMESTER I

PAPER I, GENERAL CHEMISTRY, 60 Hrs (4Hrs/Week) OCH10117

UNIT-I 12 Hrs

Sampling and Errors: Sampling- Techniques of Sampling- Sampling of gases, liquids and solids- Classification of errors - Determinate and indeterminate errors – Propagation of errors - Minimisation of errors - Accuracy and precision - Distribution of random errors - Gaussian distribution.

Unit – II 12 Hrs

Treatment of analytical data: Measures of central tendency - Measures of precision - Standard deviation - Standard error of mean - student's t test - Confidence interval of mean - Testing for significance - Comparison of two means - F-test - Criteria of rejection of an observation Significant figures and computation rules - Control charts - Regression analysis - linear least squares

UNIT-III 12 Hrs

Titrimetric Analysis: Classification of reactions in titrimetric analysis- Primary and secondary standards-Neutralisation titrations-Theory of neutralisation indicators-Mixed indicators-Neutralisation curves-Displacement titrations-Precipitation titrations-Indicators for precipitation titrations-Volhard method-Mohr method- Theory of adsorption indicators-Oxidation reduction titrations-Change of electrode potentials during titration of Fe(II) with Ce (IV)-Detection of end point in redox titrations-Complexometric titrations.

UNIT- IV 12 Hrs

Methods of purification:

Distillation: Basic principles. Distillation types, continuous distillation, batch distillation, fractional distillation, vacuum distillation and steam distillation.

Drying Techniques: Drying of Hexane, Benzene, Toluene, Xylene, Tetrahydrofuran, DMF, DMSO, Methanol, Ethanol, Diethylether and Dioxane. **Solvent extraction:** Basic principles. Different types of extraction. Selection of solvents. Avoiding emulsion formation. Basic concepts on Soxhlet extraction. **Crystallization Techniques :** Different kinds of crystallization, Single crystal generation and analysis of crystal structure.

UNIT V 12 Hrs

Computer programming: Introduction to computers and computing- Basic Structure of computer-main memory-secondary storage memory-input/output devices, computer languages- operating systems. Internet Usage Introduction to MS Office- Word document preparation, power point preparation, Excel Solutions for Chemistry. Introduction to structural Drawing with ISIS Draw-Chem Draw

REFERENCES:

1. Vogel's text book of quantitative analysis. Addition Wesley Longmann Inc.
2. Quantitative analysis R.A Day and A.L.Underwood. Prentice Hall Pvt.Ltd.
3. Baja K K , Office Automation , MacMillan India Ltd, 1996.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	I	Inorganic Chemistry	OCH10217	2017-18

UNIT-I

12 Hrs

A) Introduction to Exact Quantum Mechanical Results :Schrodinger equation importance of wave function ,Operators, Eigen values and Eigen functions, Discussion of solutions of Schrodinger's equation to some model systems viz. particle in one dimensional box (applications), three dimensional box ,Rigid rotator system and the Hydrogen atom .

B) Approximate Methods - Variation theorem, linear variation principle perturbation theory, (first order and non degenerate). Application of variation method to the Hydrogen atom .

UNIT-II

12 Hrs

A) Metal - complexes: preparation, structure and bonding in Nitrosyl, Dinitrogen and Dioxygen complexes B) Chemistry of non- transition elements - Inter halogen compounds, Noble gas compounds with special reference to clathrates. Spectral, Magnetic properties and Analytical applications of Lanthanides and Actinides.

UNIT-III

12 Hrs

A) Concept of Hybridization, Bent's rule , energetics of Hybridisation, concept of Resonance. Non-valence cohesive forces, Hydrogen bonding. B) VSEPR theory, Walsh diagrams for linear (Be H_2) and bent (H_2O) molecules. Molecular Orbital theory, Symmetry of Molecular orbitals, Molecular orbitals in triatomic (Be H_2) molecules and ions (NO_2^-) and energy level diagrams.

UNIT-IV

12 Hrs

A) Metal -ligand bonding - Crystal Field Theory of bonding in transition metal complexes - Splitting of d-orbitals in octahedral, tetrahedral, square planar and Trigonal bipyramidal and Square pyramidal fields. Tetragonal distortions - Jahn Teller effect . B) Applications and limitations of CFT. Experimental evidences for covalence in complexes .Molecular Orbital Theory of bonding for Octahedral, tetrahedral and square planar complexes. - bonding and MOT - Effect of - donor and -acceptor ligands on o. Experimental evidence for - bonding in complexes.

UNIT-V

12 Hrs

A) Metal - ligand Equilibria in solutions - Step wise and over all formation constants .Trends in stepwise constants (statistical effect and statistical ratio). Determination of formation constants by Spectrophotometric method (Job's method) and pH metric method(Bjerrum's)

B) Stability correlations - Irwing - William's series . Hard and soft acids and bases - Acid-base strength and HSAB. Macro cyclic complexes - Crown ethers and Cryptates.

Reference Books

1. Inorganic Chemistry Huheey, Harper and Row.
2. Physical methods in inorganic chemistry, R.S. Drago. Affiliated East-West Pvt. Ltd.
3. Concise inorganic chemistry, J. D. Lee, ELBS.
4. Modern Inorganic Chemistry, W. L. Jolly, McGrawHill.
5. Inorganic Chemistry , K. F. Purcell and J. C. Kotz Holt Saunders international.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	I	Organic Chemistry	OCH10317	2017-18

UNIT-I 12 Hrs

Nature of Bonding in Organic Molecules: Localised and Delocalized covalent bonds, Delocalised chemical bonding conjugation, cross conjugation, hyper conjugation, Tautomerism.

Aromaticity: Concept of Aromaticity, Aromaticity of five membered, six membered rings and fused systems.- Non benzenoid aromatic compounds-cyclopropenyl cation, Cyclobutadienyl dication, cyclopentadienyl anion-tropyllium cation and cyclooctatetraenyl dianion. Homo aromaticity, Anti aromaticity and pseudo aromaticity.

UNIT-II 12 Hrs

Reactive Intermediates:

Generation, Structure, Stability, Detection and Reactivity of Carbocations, Carbanions, Free radicals, Carbenes, Nitrenes and Arynes. B) Reactive Species: Generation and reactivity of Electrophiles, Nucleophiles, Dienophiles, Ylids, Enophiles.

Unit-III 12 Hrs

Substitutions:

Aliphatic Nucleophilic Substitutions: The S_N2 , S_N1 , mixed S_N1 and S_N2 and S_Ni reactions : Mechanism, factors effecting substitution reactions. The neighbouring group mechanism, anchimeric assistance by π and σ bonds.

Aromatic Substitution: The S_NAr , S_N1 and Benzyne mechanism. Reactivity- effect of substrate structure, leaving group and attacking nucleophile .Von Richter, Smiles, Sommelet Hauser rearrangement.

Unit-IV 12 Hrs

Additions: Addition to carbon – carbon multiple bonds, HX, X_2 , stereo chemistry of addition, formation and reaction of epoxides, syn and anti hydroxylation, hydrogenation(catalytic and Non catalytic), Cram's rule, Synthetic Reactions involving C-O and C-N bond.

Unit-V**12 Hrs****Eliminations**

Types of elimination (E_1, E_1CB, E_2) reactions, mechanisms, stereochemistry and orientation, Hofmann and Saytzeff's rules, Syn elimination versus anti elimination. Competitions between elimination and substitution. Dehydration, dehydrogenation, decarboxylative elimination, pyrolytic elimination, molecular rearrangement during elimination.

Reference Books :

1. Advanced organic chemistry, Reaction, mechanism and structure, Jerry March, John Wiley.
2. Advanced organic chemistry, F.A.Carey and R.J.Sundberg, Springer, New York.
3. A guide book to Mechanism in organic chemistry, Peter Sykes, Longman.
4. Organic chemistry, I.L.Finar, Vol. I & II, Fifth ed. ELBS, 1975.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M. Sc	I	Physical Chemistry	OCH10417	2017-18

UNIT-I**12 Hours****Thermodynamics-I**

Classical Thermodynamics - Brief review of first and second laws of thermodynamics - Entropy change in reversible and irreversible processes - Entropy of mixing of ideal gases - Free energy functions - Gibbs-Helmholtz equation - Free energy changes in chemical reactions: Van't Hoff reaction isotherm - Van't Hoff equation - Clausius Clapeyron equation - partial molar quantities - Chemical potential - Gibbs- Duhem equation - partial molar volume - determination of partial molar quantities - Fugacity - Determination of fugacity.

UNIT - II**12 Hours**

Surface phenomena and phase equilibria- Surface tension - capillary action - pressure difference-across curved surface (young - Laplace equation) - Vapour pressure of small droplets (Kelvin equation) -Gibbs-Adsorption equation - BET equation - Estimation of surface area Surface active agents - Classification of surface active agents - Micellisation - critical Micelle concentration (CMC) - factors affecting the CMC of surfactants, micro emulsions - reverse micelles.

UNIT - III**12 Hours**

Electrochemistry - I - Electrochemical cells - Measurement of EMF - Nernst equation - Equilibrium constant from EMF Data - pH and EMF data - concentration cells with and without transference - Liquid junction potential and its determination - Activity, activity and mean activity coefficients - Determination of solubility product from EMF measurements. Conductance and Effect of dilution on equivalent conductance - Anomalous behaviour of strong electrolytes, Debye Huckel-Onsagar equation - verification and limitations - Debye Huckel limiting law and its verification, conductometric titrations..

UNIT – IV**12 Hours**

Chemical kinetics- Methods of deriving rate laws - complex reactions - Rate expressions for opposing, parallel and consecutive reactions involving unimolecular steps. Theories of reaction rates -collision theory - Steric factor - Activated complex theory - Unimolecular reactions - Lindemann theory Reactions in solutions - Influence of solvent - Primary and secondary salt effects - Chain reactions - Rate laws of H_2-Br_2 , photochemical reaction of H_2-Cl_2 . Decomposition of acetaldehyde and ethane - Rice-Hertz field mechanism.

UNIT-V**12 Hours****Radio Chemistry:**

Introduction to Radio activity, properties of alpha, beta and gamma rays, theory of radio active disintegration, Geiger Nuttal rule, Radio active equilibrium, Radio active and non Radio active isotopes, group displacement law, Analysis of isotopes-Astons mass spectrograph, Dumpster's method, separation of isotopes-diffusion method, evaporation and distillation method, chemical exchange method, Applications of isotopes in chemical analysis , exchange reaction, Reaction mechanism and carbon dating.

REFERENCES:

1. Physical Chemistry P.W. Atkins, ELBS
2. Chemical Kinetics - K.J. Laidler, McGraw Hill Pub.
3. Text Book of Physical Chemistry. Samuel Glasstone, Mcmillan Pub.
4. Physical Chemistry, G.W.Castellan. Narosa Publishing House

Class	Semester	Title of The Paper	Paper Code:	W.E.F
I M.Sc	II	General Chemistry	OCH20117	2017-18

UNIT-1**12 Hours**

Symmetry and Group theory in Chemistry - Symmetry elements, symmetry operation, definition of group, sub group, relation between order of a finite group and its sub group. Point symmetry group. Schonfiles symbols, representation of groups by Matrices (representation for the C_n , C_{nv} , C_{nh} , D_n etc. groups to be worked out, explicitly). Character of a representation. The great orthogonality theorem (without proof) and its importance. Character tables and their use. Application of group theory in IR and Raman spectroscopy.

UNIT – II**12 Hours**

Spectrophotometry: Introduction, fundamental laws of photometry, the electromagnetic spectrum and spectrochemical methods, UV/Visible instrumentation, absorption spectra, Beer-Lambert's Law, deviation from Beer's Law.

Photometric Titrations: Titration curves and applications to quantitative analysis, spectrophotometric determination of P^{ka} value of an indicator and Simultaneous Spectrophotometric determinations.

UNIT-III **12 Hours**

Motion of molecules- Degrees of freedom –Energy association with the degrees of freedom Types of spectra. Microwave spectroscopy. Classification of molecules, rigid rotor model, effect of isotopic substitution on the transition frequencies, Intensities non-rigid rotator-Microwave spectra of polyatomic molecules.

UNIT – IV **12Hours**

Infrared Spectroscopy -Harmonic oscillator, vibrational energies of diatomic molecules, zero point energy, force constant and bond strengths, anharmonicity Morse potential energy diagram. Vibration – rotation spectroscopy. PQR branches, Born oppenheimer approximation, Break down of Born Oppenheimer approximation, selection rules- normal modes of vibration, group frequencies-overtones-hot bands- application of IR spectra to polyatomic-molecules.

UNIT-V **12Hours**

Raman spectroscopy- Classical and quantum theories of Raman effects, pure rotational, vibrational and Vibrational – rotational Raman spectra, selection rules, mutual exclusion principle. **Electronic Spectroscopy**-Electronic Spectra of diatomic molecules, vibrational structure of an electronic transition, classification of bands, and rotational fine structure of electronic vibrational transition - Electronic Spectra of Polyatomic Molecules – Instrumentation–Applications.

SUGGESTED BOOKS:

1. Fundamentals of Molecular spectroscopy: by C.N.Banwell
2. Introductory Group Theory for Chemists – George Davidson
3. Group theory for chemistry – A.K.Bhattacharya
4. Molecular spectroscopy by B.K.Sharma

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	II	Inorganic Chemistry	OCH20217	2017-18

UNIT-I **12 Hours****Nonmetal cages and metal clusters:**

Structure and bonding in phosphorous-oxygen, phosphorous-sulphur cages; structure and bonding in higher boranes with (special reference to B₁₂ icosahedra). Carboranes, metallo boranes, metallo carboranes.

Metal clusters: Classification- LNCs and HNCs , Isoelectronic and Isolobal relationships , electron counting rules: Wade's and Lauher's rules. M-M multiple bonding; preparation, structure and bonding in dinuclear [Re₂C₁₈]₂-ion, trinuclear [Re₃Cl₉], tetra nuclear W₄(OR)W₁₆, hexa nuclear [Mo₆C₁₈]⁴⁺ and [Nb₆Cl₁₂]₂, Applications of clusters

UNIT-II

12 Hours

Organ metallic chemistry of transition metals:

Classification and electron counting rules, hapticity, synthesis, structure and bonding of Olefinic complexes, Acetylene complexes, ferrocene, dibenzene chromium, cyclo heptatriene and tropylium complexes of transition metals.

Reactions of organometallic compounds - oxidative addition reductive elimination, insertion and elimination. Applications of organometallic compounds-Catalytic hydrogenation, Hydro formylation, Zeigler- Natta catalyst for polymerization of olefins.

UNIT III

12 Hours

Reaction mechanism of transition metal complexes:

Kinetics of octahedral substitution, acid hydrolysis, base hydrolysis -conjugate base (CB) mechanism. Direct and indirect evidences in favour of CB mechanism. Anation reactions. Reactions without metal-ligand bond cleavage. Factors affecting the substitution reactions in octahedral complexes. Trans effect on substitution reactions in square planar complexes. Mechanism of redox reactions, outer sphere mechanism, cross reactions and Marcus –Hush equation, inner sphere mechanism, complementary and non – complementary reactions.

UNIT IV

12 Hours

Term symbols and their derivation. Microstates, Hunds rules to predict ground terms and ground states. List of ground energy and higher energy terms from d^1 to d^9 configurations Electronic spectra of transition metal complexes Electronic configurations and Spectroscopic terms. Selection rules, Slater–Condon parameters, Racah parameters, Term separation energies for dn configurations, Orgel diagrams. TanabeSugano diagrams for d^1 to d^9 configurations. Calculations of D_q , B and parameters. Charge transfer spectra.

UNIT-V

12 Hours

Bio-inorganic chemistry and Magnetic properties of complexes

storage and transport of dioxygen by Haemoglobin and Myoglobin. Vitamin B_{12} and its importance. **Magnetic properties of transition metal complexes** Types of magnetism, factors affecting Para magnetism, anomalous magnetic moments - Orbital and spin contribution , spin -orbit coupling and magnetic moments. Chiro optical properties, Cotton effect and Faraday effect.

References:

1. Inorganic Chemistry ,Huheey. Harper and Row.
2. Concise inorganic chemistry ,J. D. Lee, ELBS.
3. Inorganic chemistry ,K.F. Purcell and J.C. Kotz, Holt Saunders international
4. Organometallic chemistry ,R.C. Mehrotra and A. Singh. New Age International.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	II	Organic Chemistry	OCH20317	2017-18

UNIT – I

Stereochemistry 12 Hours

Concept of Chirality: Recognition of symmetry elements and chiral structures (one and more than one chiral centers); D-L and R-S nomenclature, diastereo isomerism; Inter-conversion of Fischer, Newman and Sawhorse projections. Threo and Erythro isomers, - stereo specific and stereo selective synthesis. Asymmetric synthesis. - Optical activity in the absence of chiral carbon (biphenyls, allenes and spiranes).

Racemic Modifications – Nature and formation of racemic modifications – by mixing, by synthesis, by racemization, by chemical transformations, Geometrical isomerism- methods of resolution – E, Z- nomenclature – physical and chemical methods of determining the configuration of geometrical isomers. Stereochemistry of compounds containing nitrogen, sulphur and phosphorous.

UNIT-II 12 Hours

Conformational analysis:

Conformations of acyclic molecules – alkanes and substituted alkanes –compounds having intramolecular hydrogen bonding, conformations around C-C and carbon hetero atom bonds having C-O & C-N. Conformations of monocyclic compounds – cyclohexane- chair, boat and twist boat cyclohexanes, energy profile diagrams –Mono and di- substituted cyclohexanes.

Effect of conformation on reactivity in mono and di- substituted cyclohexane derivatives. Elementary treatment of fused and bridged ring systems – Decalines and Bornanes.

UNIT-III 12 Hours

Named reactions: Aldol, Claisen, Perkin, Stobbe, Knoevenagel, Darzen, Reformatsky, Benzoin and Dieckmann condensations. Grignard, Cannizzaro, Wittig. Wittig-Horner reactions, Favorskii rearrangement, Mannich, Michael, Reimer-Tiemann Reaction.

UNIT-IV 12 Hours

Protecting groups:

Theory and importance of functional group protection and deprotection in organic synthesis:- Protecting agents for the protection of functional groups: Hydroxyl group, Amino group, Carbonyl group and Carboxylic acid group.

Carbon-carbon multiple bonds; chemo- and regioselective protection and deprotection. Illustration of protection and deprotection in organic synthesis.

UNIT-V**12 Hours****Heterocyclic Chemistry:**

Structure, Synthesis and reactivity of the following systems

Pyrazole, Imidazole, Oxazole, Iso-Oxazole, Thiazole, Isothiazole
Pyrazine, Pyrimidine, pyridazine, Indole, Quinoline, Isoquinoline

References:

1. Advanced organic chemistry –Reaction, mechanism and structure, Jerry March, John Wiley.
2. A guide book to Mechanism in organic chemistry, Peter Sykes, Longman.
3. Organic chemistry, I.L.Finar, Vol. I & II, Fifth ed. ELBS, 1975.
4. Stereo Chemistry of carbon compounds – E.L. Eliel.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I M.Sc	II	Physical Chemistry	OCH20417	2017-18

UNIT – I**12 Hours**

Thermodynamics II: Third law and Statistical thermodynamics Nernst Heat theorem - Third law of thermodynamics - Its limitations - Determination of absolute entropy - concept of distribution - Thermodynamic probability and most probable distribution-Ensembles-Maxwell-Boltzmann distribution. Partition function - Fermi-Dirac statistics - Bose Einstein statistics- Entropy and probability - Boltzmann-Plank equation - calculation of thermodynamic properties in terms of partition function - Translational, rotational and electronic partition function - Entropy of Monoatomic gases (Sackur -Tetrode equation).

UNIT-II**12 Hours**

Polymer chemistry- Classification of polymers - Free radical , ionic and Zeigler -Natta Polymerisation - kinetics of free radical polymerisation - Techniques of polymerisation - Glass transition temperature - Factors influencing the glass transition temperature. Number average and Weight average, Molecular weights –molecular weights determination- End group analysis - Osmometry - Light scattering and ultra centrifugation methods.

UNIT – III**12 Hours**

Electrodes: Reference electrodes - Standard hydrogen electrode . Calomel electrode -Indicator electrodes: Metal-metal ion electrodes - Inert electrodes -Membrane electrodes. potentiometric titrations, advantages and applications of potentiometric titrations.

Electrode potentials - Double layer at the interface - rate of charge transfer - Decomposition potential - Over potential - Tafel plots - Derivation of Butler-Volmer equation for one electron transfer - electro chemical potential.

UNIT-IV**12 Hours**

Chemical kinetics - Branching Chain Reactions - Hydrogen-oxygen reaction - lower and upper explosion limits - Fast reactions - Study of kinetics by flow methods - Relaxation methods - Flash photolysis - Mechanism of homogeneous catalysis - Acid base catalysis -protolytic and prototropic mechanism . Enzyme catalysis - Michaelis-Menten kinetics.

UNIT-V**12 HOURS****Photochemical Reactions:**

Quantum yield and its determination - Actinometry - Reactions with low and high quantum yields- Reason – Jablonsky diagram, Singlet and Triplet states, Photo sensitisation - Exciplexes and Excimers - Photochemical equilibrium - Chemiluminescence - Derivation of fluorescence and phosphorescence quantum yields. Kinetics of collisional quenching- Stern -Volmer equation - types of photochemical reactions-photo dissociation- addition and isomerization reactions with examples- Photo Galvanic cells.

References:

1. Physical chemistry, G.K.Vemulapalli (Prentice Hall of India).
2. Physical chemistry, P.W.Atkins. ELBS
3. Chemical kinetics - K.J.Laidler, McGraw Hill Pub.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	III	Organic Spectroscopy	OCH30117	2017-18

UNIT-1

UV- Visible Spectroscopy: Mechanics of measurement – Energy transitions – Simple chromophores – Auxochrome, Absorption shifts (Bathochromic shift, Hypsochromic shift, Hyperchromic shift, Hypochromic shift). UV absorption of Alkenes - Woodward -Fieser rules – polyenes, unsaturated cyclic systems . UV absorption of Carbonyl compounds, α,β -unsaturated carbonyl systems - UV absorption of aromatic systems – solvent effects – geometrical isomerism – acid and base effects – typical examples – calculation of ϵ_{max} values for simple molecules.

UNIT – II

IR Spectroscopy: Fundamental modes of vibrations -Stretching and bending vibrations – Factors effecting vibrational frequency-hydrogen bonding - Finger print region and its importance. Typical group frequencies for – CH, -OH, -NH, -CC, -CO and aromatic systems - Application in structural determination Examples – simple problems.

UNIT – III

Nuclear Magnetic Resonance Spectroscopy (^1H NMR – First Order PMR) Introduction:- Basic principle of -NMR Nuclear spin-nuclear resonance-saturation, Relaxation- Instrumentation (CW & FT) shielding and de shielding of magnetic nuclei- chemical shift and its measurements, factors

influencing chemical shift, spin–spin interactions and factors influencing spin -spin coupling
Dynamic NMR- coupling constant J and factors effecting J value, chemical shift values for simple organic molecules.

UNIT – IV

Electron Spin Resonance Spectroscopy: Basic principles, zero field splitting and Krammers's degeneracy, factors affecting the 'g' value. Isotropic and anisotropic hyperfine coupling constants – applications involving organic radicals.

UNIT – V

Mass Spectrometry : Introduction- ion production-EI, CI, ES, MALDI and FAB-molecular ion peak, meta stable peak, Nitrogen rule. determination of Molecular weight and formulae- Isotopic Peaks . Mass spectral fragmentation of organic compounds, common functional groups, McLafferty rearrangement. Examples of mass spectral fragmentation of organic compounds with respect of their structure determination.

SUGGESTED BOOKS:

- 1) Spectroscopic Methods in Organic Chemistry. Forth Edition D.M. Williams and I. Fleming Tata - McGraw Hill, New Delhi, 1990.
2. Spectrometric identification of organic compounds by R.N.Silverstein & G.C.Bassier (John Willey)
3. Applications of absorption spectroscopy of Organic Compounds J.R.Dyer, Prentice Hall of India, New Delhi, 1984.
4. Introduction to Spectroscopy – D. L. Pavial, G.M. Lampman, G.S. Kriz, 3rd Ed. (Harcourt college publishers.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	III	Organic Reaction Mechanisms And Green Chemistry	OCH30217	2017-18

UNIT-I

12 Hours

Methods for determining Reaction mechanisms by kinetic and non-kinetic studies.

Kinetics of reaction, Energetics of reaction, Energy profile diagram, Intermediate versus transition state, Reaction rate and rate limiting step, kinetic Vs thermodynamic control, Identification of products, testing possible intermediates, trapping of intermediates, Cross over experiments, Isotopic labelling, stereo chemical studies.

UNIT-II

12 hours

Free radicals and their reactions: Introduction, formation, detection and stability of radicals. Some radical reactions, Addition of halogens, Hydrogen halides. Substitution reactions- Halogenation, Aromatic substitution, Sandmeyer reaction, Autooxidation, Decomposition of dialkyl and diacyl peroxides.

UNIT-III**12 hours**

Oxidations: Introduction, Different Oxidative processes. Oxidation of Hydrocarbons: alkenes- Ozonolysis, Epoxidation, perhydroxylation, aromatic rings, saturated C-H groups (activated and unactivated), oxidation of Alcohols-Cr(VI) reagents, MnO₂, Ag₂CO₃, Oppenauer oxidation, diols-lead tetra acetate, aldehydes, Ketones-per acids, Carboxylic acids. Oxidations with ruthenium tetroxide and Tl(III) nitrate, selenium dioxide.

UNIT-IV**12 hours**

Reductions: Introduction: Catalytic hydrogenations- Heterogeneous and Homogeneous, Reduction by dissolving metals, Reduction with metal in liquid ammonia (Birch reduction). Reduction with metal and acid-Clemensons reduction, Reduction by hydride transfer reagents- Aluminium alkoxide, LiAlH₄, NaBH₄, Diisobutyl aluminium hydrides, Sodium cyano borohydride, trialkyl borohydrides, Reduction with diimide, Wolff-Kishner reduction.

UNIT-V**12 hours**

Green Chemistry : Introduction, Principles & concepts of Green chemistry, Green Catalysis, Biocatalysis, renewable resources, Green Reagents, examples of green reactions-synthesis of Ibuprofen, Clean Fischer-Indole synthesis, comparison of the above with conventional methods. Introduction to Microwave organic synthesis, Applications: solvents (water and organic solvents), solvent free reactions (solid state reactions).

SUGGESTED BOOKS:

1. Mechanism and structure in Organic Chemistry "E.S.Could Henry – Holt and Co, New york
2. Advances in Organic Reaction mechanism and structure J. March (McGraw Hill)
3. Aguide Book to Mechanism in Organic Chemistry" by P.Sykes
4. Synthetic approaches in organic chemistry by R.K.Bansal(Narosa Publications)
8. P.T. Anastas and J.C.Warner Green chemistry, Oxford.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	III	Organic Synthesis	OCH30317	2017-18

UNIT- I**12 hours**

Formation of carbon-carbon single bonds: Alkylations of relatively acidic methylene groups, alkylations of ketones, alkylations via enolates, enamine and related reactions, umpolung (dipole inversion). The aldol reaction . Allylic alkylation of alkenes, alkylation of -thio carbanions- -seleno carbanions, formation of carbon carbon single bonds by the addition of free radicals to alkenes, synthetic applications of carbenes and carbenoids.

UNIT-II**12 hours**

Formation of carbon-carbon double bonds: Sulphoxide-sulphonate rearrangement, synthesis of allyl alcohols, the wittig reaction, alkenes from sulphones, decarboxylation of -lactones, alkenes from aryl sulphonyl hydrazones, Claisen rearrangement of allyl vinyl ethers. Stereo selective synthesis of tri and tetra substituted alkenes, fragmentation reactions, oxidative decarboxylation of

carboxylic acids, stereospecific synthesis from 1,2-diols, reductive dimerization of carbonyl compounds.

UNIT-III **12 hours**

Diels-Alder and related reactions: Different types of dienes and dienophiles, Intra molecular Diels –Alder reaction, stereochemistry and mechanism of Diels – Alder reaction, Retro Diels- Alder reaction, photosensitized Diels- Alder reactions, The ene reaction, 1,3-dipolar cycloaddition reactions.

UNIT-IV **12 hours**

Reactions at unactivated C- H bonds: The Hoffmann – Loeffler – Freytag reaction, Cyclisation reactions of nitrenes, The Barton reaction and related processes, photolysis of organic nitrites and hypohalites, photolysis of Nnitroso amides.

Reaction of monohydric alcohols with lead tetraacetate, Miscellaneous reactions, unsaturated alcohols from hydroperoxides, cyclobutanols by photolysis of ketones, long- range functionalisation of unactivated carbons on the steroid nucleus.

UNIT-V **12 hours**

Disconnection approach: Introduction to Disconnection approach with suitable examples, FGI, Synthons, synthetic equivalents, One group C-X disconnections, One group C-C disconnections- Alcohols, carbonyl compounds, C-N Disconnections. Chemo, regio and stereo selectivity with examples. Linear and convergent synthesis with example.

SUGGESTED BOOKS:

1. Modern Methods of Organic Synthesis, W. Carruthers, Cambridge Press
2. Organic Synthesis by H. O. Houe
3. Modern Method of Organic Synthesis, Carruthers and Coldham Sachin Kumar Gosh, Cambridge, New Central Book Agency.
4. Advances in Organic Reaction Mechanism and Structure, J. March Mc. Grew Hill

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
II M.Sc	III	Organo Metallic Chemistry & Natural products	OCH30417	2017-18

UNIT-I **12 hours**

Organo boranes: Preparation of Organoboranes-alkylboranes, alkenylboranes, dicyclohexylboranes, disiamylborane, thexylborane, 9-BBN and catacol boranes viz hydroboration with BH₃-THF, protonolysis, oxidation, isomerization, cyclization, rearrangements and free radical reactions of organoboranes, reactions with - bromoketones, -bromoesters, functional group transformations of organoboranes, The cyanoborate process and reaction of alkenylboranes and trialkenyl borates.

UNIT-II

12 hours

Organo silanes: Synthetic applications of organosilicon compounds, protection of –OH functional groups, trimethyl silyl ethers, silylenoethers, trimethyl silyl chloride, dimethyl-t-butylsilyl chloride, trimethyl silyl cyanide, trimethyl silyliodide, trimethylsilyltriflate, Peterson olefination. Synthetic applications of: -silylcarbanion and -silyl carbonyl compounds, alkenyl silanes, allyl silanes, The -effect, control of rearrangement of carbonium ions by silicon.

UNIT-III

12 hours

Organo metallic reagents: Preparation of Grignard reagents with alkyl, allyl and propargyl halides, alkylation, reaction with carbonyl compounds, esters, alcohols, amines, acids, carbon dioxide, carbon disulfide, sulphur dioxide. Preparation of alkyllithium, reagents, lithium diisopropyl amide (LDA), and uses in aromatic annulation and hetero aromatic annulations. -allylnickel complexes, preparation of 1,5-cyclic dienes, nickel carbonyl, Organocopper reagents; organo cuprates, lithium organo cuprates, Gilman reagents, oxidative coupling of terminal alkynes, alkylations. Organo palladium reagents, preparation of Palladium reagents, - allyl palladium complexes, synthetic applications of organo palladium reagents.

UNIT-IV

12 hour

Natural products: Alkaloids: Definition, nomenclature and physiological action, occurrence, isolation, general methods of structure elucidation, degradation, classification based on nitrogen heterocyclic ring, Structure, synthesis of the following: Nicotine, Atropine, Morphine.

Terpenoids: Classification, nomenclature, occurrence, isolation, general methods of structure determination, isoprene rule. Structural determination and synthesis of the following molecules: - terpineol, Farnesol and zingiberene.

UNIT-V

12 hours

Vitamins: Classification, sources and biological importance of vitamins.

Synthesis of **B1, B2, B6, folic acid.**

Flavonoids: Synthesis of Flavonoids- Quercetin and Kaempferol.

Anti-Biotics: Classification of Anti biotics- synthesis of Pencillin- Chlorphenecol- Ampicillin- Streptomycin.

SUGGESTED BOOKS:

1. Organic Chemistry, Volume 2, Stereochemistry and chemistry of natural products, I.L. Finar, 5th Edition. ELBS, 1975.
2. The Chemistry of Natural Products Vol.II Mono and Sesqui-Terpenes" by P.De Mayo (John Wiley Inc).
3. The Vitamins by S.F. Dykes.,
4. Biological Chemistry by Holum,

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	IV	Advanced Organic Spectroscopy	OCH40117	2017-18

UNIT-I

Spin system, Nomenclature of spin system, spin system of simple and complex PMR spectra (Study of AB – A2 – AB2. ABX – ABC – AMX interactions) Simplification of complex spectra- nuclear magnetic double resonance, chemical shift reagents, solvent effects on PMR Spectrum . Nuclear Overhauser Effect (NOE).

UNIT-II

¹³C-NMR spectroscopy –Similarities and Differences between PMR and CMR-CMR recording techniques -BBC-BBD-SFORD-Gate pulse CMR spectrum.

General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonylcarbon). Typical examples of CMR spectroscopy – simple problems.

UNIT-III

ORD& CD Curves A) Optical rotatory dispersion : Theory of optical rotatory dispersion – Cotton effect –CD curves-types of ORD and CD curves-similarities and differences between ORD and CD curves B) - Halo keto rule , Octant rule – application in structural studies.

UNIT -IV

2D NMR spectroscopy – Definitions, study, importance and applications of COSY, DEPT, HOMCOR, HETCOR, INADEQUATE, INDOR, INEPT, NOESY, HOM2DJ, HET2DJ, DQFCOSY. COSY, DEPT, HOMCOR, HETCOR, INEPT, NOESY, HOM2DJ, HET2DJ, DQFCOSY simple organic compounds.

UNIT-V

Structural determination of Organic compounds Using UV, IR, ¹H-NMR, ¹³C-NMR and mass spectral values.

SUGGESTED BOOKS:

1. Introduction to Spectroscopy – D. L. Pavia, G.M. Lampman, G. S. Kriz, 3rd Ed. (Harcourt college publishers).
2. Spectrometric identification of organic compounds R. M. Silverstein, F. X. Webster, 6th Ed. John Wiley and Sons.
3. Spectroscopic methods in organic chemistry - D. H. Williams and I Flemming McGraw Hill
4. Absorption spectroscopy of organic molecules – V. M. Parikh 5. Nuclear Magnetic Resonance – Basic Principles- Atta-Ur-Rehman, Springer- Verlag (1986).

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	IV	Organic Reaction Mechanisms And Nanochemistry	OCH40217	2017-18

UNIT-I **12 hours**

Molecular Rearrangements- Migration to electron deficient carbon atom. Pinacol-Pinacolone rearrangement, Wagner Meerwein rearrangement, Tiffenev-Demjanov ring expansion, Benzil-Benzilic acid rearrangement and Favorski rearrangement. Migration to electron deficient hetero atom: Wolf, Hofmann, Curtius, Losen, Schmidt, Beckmann rearrangement, Baeyer-Villiger rearrangement, Stevens and Neber rearrangements.

UNIT-II **12 hours**

Molecular orbital symmetry, frontier orbitals of ethylene, 1,3- Butadiene, 1,3,5- Hexatriene, allyl system and 2,4-penta dienyl system, classification of pericyclic reactions, FMO approach, Woodward- Hoffman correlation diagram method and perturbation of molecular (PMO) approach for the explanation of Electrocyclic Reactions- Conrotatory and disrotatory motions ($4n$) and ($4n+2$), cyclo addition reactions- Antarafacial and suprafacial additions, notation. of cycloadditions- ($4n$) and ($4n+2$) systems with a greater emphasis on ($2+2$) and ($4+2$) under thermal and photochemical conditions.

UNIT-III **12 hours**

FMO approach and perturbation of molecular (PMO) approach for the explanation of sigma tropic rearrangements under thermal and photochemical conditions. suprafacial and antarafacial shifts of H Sigmatropic shift involving carbon moieties, retention and inversion of configurations, (3.3) and (5.5) sigmatropic rearrangements detailed treatment of Claisen, Cope rearrangements and aza-Cope rearrangements.. fluxional tautomerism,

UNIT-IV **12 hours**

Photo chemistry: Photochemical processes- Energy transfer, sensitization, Singlet and triple states and their reactivity. Photo reactions of carbonyl compounds, enes, dienes, and Aromatic compounds–isomerisation–additions. Photochemistry of carbonyl compounds – Norrish type I and II reactions –Paterno – Buchi Reaction. Photo reduction, Photochemical rearrangements – Photo Fries rearrangement, Di- - methane rearrangement.

UNIT-V **12 hours**

Nanochemistry : Introduction, carbon nano tubes: structure of single and multi-walled carbon nano tubes, synthesis-solid and gaseous carbon source-based production techniques, synthesis with controlled orientation. Growth mechanism of carbon nano tubes-catalyst free growth, catalyst activated growth, properties-general, adsorption, electronic & optical, mechanical and reactivity. Applications.

SUGGESTED BOOKS:

- 1.Mechanism and structure in Organic Chemistry “ E.S.Gould Henry – Holt and Co, Newyork
- 2.Advances in Organic Reaction mechanism and structure J. March (McGrew Hill)
- 3.Aguide Book to Mechanism in Organic Chemistry” by P.Sykes
- 4.Synthetic approaches in organic chemistry by R.K.Bansal(Narosa Publications)

Class	Semester	Title of The Paper	Paper Code	W.E.F
II M.Sc	IV	Techniques and Tools for Industrial Applications	OCH40317	2017-18

UNIT-I 12 hours

Introduction to Chromatography and its Classification:

Column Chromatography: Principle, stationary phase , mobile phase, Packing of column, advantages, dis-advantages and applications.

Paper Chromatography: Basic principle, Types of paper Chromatography- ascending, descending, Radial and two dimensional paper chromatography, location of spots and measurement of R_f values, Development of chromatograms - Visualization methods, and applications of paper chromatography – separation of amino acids by paper chromatography

UNIT-II 12 hours

Thin Layer Chromatography: Basic principle, choice of adsorbents and choice of solvents, preparation and development of TLC plates, Visualization methods, measurement of R_f values and applications of TLC.

Ion exchange Chromatography: Basic Principles. Preparation of cross linked polystyrene resins. Different types of cation and anion exchange resins. Application in the purification of carboxylic acids and amines.

UNIT – III 12 hours

High Performance liquid chromatography(HPLC): Basic Principles. Normal and reversed Phases. Selection of column and mobile phase. Instrumentation. Detectors; RT values. Applications in the separation, identification and quantitative estimation of organic compounds. Method Development and validation parameters of HPLC.

UNIT-IV 12 hours

Gas Chromatography: Theory and principle of Gas liquid chromatography, Selection of columns and carrier gases. Instrumentation, Detectors-Thermal Conductivity detectors, flame ionisation detectors, flame photometric detectors and electron capture detectors, factors effecting separation, RT values. Applications in the separation, identification and quantitative analysis of organic compounds-Amino acids and hydrocarbons.

UNIT-V 12 hours

Electrophoresis: Basic Principles. Capillary electrophoresis. Instrumentation, zone-electrophoresis, gel-electrophoresis, Immuno electrophoresis, Paper electrophoresis and separation serum proteins by paper electrophoresis, Applications.

SUGGESTED BOOKS:

Principles of Instrumental Analysis by D.A.Skoog, F.J.Holler and T.A.Nieman, Harcourt College Pub.

2.Separation Techniques by M.N.Sastri, Himalaya Publishing House (HPH), Mumbai.

3.Bio Physical Chemistry by A.Upadhyay, K.Upadhyay and N.Nath, (HPH) , Mumbai.

4. A Hand Book of Instrumental Techniques for Analytical Chemistry-Ed-F.A.Settle, Prearson Edⁿ Delhi.27

Class	Semester	Title of The Paper:	Paper Code	W.E.F
II M.Sc	IV	Project work	OCH40517	2017-18

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department Of PHYSICS AND ELECTRONICS

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc MPCS	I	Mechanics & Properties of Matter	CBPHY101	2015-16

SYLLABUS

UNIT I

1. Vector Analysis

10hrs

Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field with derivations and physical interpretation. Vector integration (line, surface and volume), Statement and proof of Gauss and Stoke's theorem.

UNIT II

2. Mechanics of particles

10hrs

Laws of motion, motion of variable mass system, motion of a rocket. Conservation of energy and momentum. Collisions in two and three dimensions. Concept of impact parameter, and scattering cross-section. Rutherford scattering-derivation.

UNIT III

16hrs

3. Mechanics of Rigid bodies

Definition of rigid body, rotational kinematic relations, equation of motion for a rotating body, angular momentum. Euler's equations, precession of a top. Gyroscope, precession of the equinoxes.

4. Mechanics of continuous media:

6 hrs

Elastic constants of isotropic solids and their relation, Poisson's ratio and expression for Poisson's ratio in terms of Y , ν , K . Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.

UNIT IV

10Hrs

5. Central forces

12hrs

Central forces, definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, equation of motion under a central force. Derivation of Kepler's laws. Motion of satellites.

UNIT V (12hrs)

6. Special theory of relativity

12hrs

Galilean relativity, absolute frames. Michelson - Morley experiment, negative result. Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, mass-energy relation. Concept of four-vector formalism.

Reference Books:

1. BSc Physics-Telugu Academy, Hyderabad
2. Mechanics - D.S.Mathur, Sulthan Chand & Co, New Delhi
3. Mechanics - J.C.Upadhyaya, Ramprasad & Co., Agra
4. Properties of Matter - D.S.Mathur, S.Chand & Co, New Delhi, 11th Edn., 2000
5. Physics Vol.I - Resnick-Halliday-Krane, Wiley, 2001
6. Properties of Matter- Brijlal & Subramanyam, S.Chand & Co. 1982
7. Dynamics of Particles and Rigid Bodies - Anil Rao, Cambridge Univ Press, 2006
8. Mechanics- E.M.Purcell, Mc Graw Hill
9. University Physics-F.W.Sears, M.W.Zemansky & H.D.Young, Narosa Publications, Delhi
10. College Physics-I.T.Bhimasankaram and G.Prasad. Himalaya Publishing House.
11. S.G.Venkatachalapathy, Mechanics, Margham Publication, 2003.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc, MPCS	II	Waves & Oscillations	CBPHY201	2015-16

SYLLABUS

UNIT I

1. Simple Harmonic oscillations: 14hrs

Simple harmonic oscillator and solution of the differential equation-Physical characteristics of SHM, torsion pendulum-measurement of rigidity modulus, compound pendulum-measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency. Lissajou's figures.

UNIT II

2. Damped and forced oscillations: 14hrs

Damped harmonic oscillator, solution of the differential equation of damped oscillator. Energy considerations, comparison with un-damped harmonic oscillator, logarithmic decrement, relaxation time, quality factor, differential equation of forced oscillator and its solution, amplitude resonance and velocity resonance.

UNIT III

3. Complex vibrations: 06 hrs

Fourier theorem – statement - and evaluation of the Fourier coefficients, analysis of periodic wave functions-square wave.

UNIT IV

4. Vibrating strings

08hrs

Transverse wave propagation along a stretched string, general solution of wave equation and its significance, modes of vibration of stretched string clamped at ends, overtones.

5. Vibrations of bars

08hrs

Longitudinal vibrations in bars-wave equation and its general solution. Special cases i) bar fixed at both ends ii) bar free at both ends- Tuning fork

UNIT V

6. Ultrasonics

10hrs

Ultrasonics, properties of ultrasonic waves, production of ultrasonics by piezoelectric and magnetostriction methods, detection of ultrasonics, Applications of ultrasonic waves.

Reference Books:

1. BSc Physics -Telugu Academy, Hyderabad
2. First Year Physics - Telugu Academy.
3. Fundamentals of Physics. Halliday/Resnick/Walker ,Wiley India Edition 2007.
4. Waves and Oscillations. S. Badami, V. Balasubramanian and K. Rama Reddy Orient Longman.
5. Mechanics of Particles, Waves and Oscillations. Anwar Kamal, New Age International.
6. College Physics-I. T. Bhimasankaram and G. Prasad. Himalaya Publishing House.
7. Introduction to Physics for Scientists and Engineers. F.J. Ruche. McGraw Hill.
8. Waves and Oscillations. N. Subramaniyam and BrijlalVikas Publishing House Private Limited.
9. Unified Physics Vol.I Mechanics, Waves and Oscillations – Jai PrakashNath&Co.Ltd. Meerut.
10. Science and Technology of Ultrasonics- Bladevraj, Narosa, New Delhi,2004

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc MPCS	III	Wave Optics	CBPHY301A	2016-17

SYLLABUS

UNIT-I (8 hrs)

1. Aberrations:

Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration, coma, astigmatism. Chromatic aberration the achromatic doublet. Achromatism for two lenses (i) in contact and (ii) separated by a distance.

UNIT-II (14 hrs)

2. Interference

Principle of superposition – coherence Fresnel’s biprism determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law)--colors of thin films- Newton’s rings in reflected light. Michelson interferometer, Determination of wavelength of monochromatic light using Newton’s rings and Michelson Interferometer.

UNIT-III (14hrs)

3. Diffraction

Introduction, distinction between Fresnel and Fraunhofer diffraction, Fraunhofer diffraction –Diffraction due to single slit-Fraunhofer diffraction due to double slit. Resolving power of grating, Determination of wavelength of light in normal incidence method using diffraction grating, Fresnel’s half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.

UNIT-IV(10 hrs)

4. Polarisation:

Polarized light: methods of polarization polarization by reflection, refraction, double refraction, scattering of light Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate- optical activity, determination of specific rotation by Laurent's half shade polari meter.

UNIT-V (14 hrs)

5. Lasers and Holography

Lasers:introduction, spontaneous emission, stimulatedemission. Population Inversion, Laser principle Types of lasers-He-Ne laser, Rubylaser-Applications of lasers. Holography: Basic principle of holography-Gabor hologram and its limitations, Applications of holography.

6. Fiber Optics

Introduction- different types of fibers, rays and modes in an optical fiber, fiber material, principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.

REFERENCE BOOKS:

1. BSc Physics, Vol.2, Telugu Akademy, Hyderabad
2. A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand& Co.
3. Unified Physics Vol.II Optics & Thermodynamics – Jai PrakashNath&Co.Ltd., Meerut
4. Optics,F..A. Jenkins and H.G. White, McGraw-Hill
5. Optics, AjoyGhatak,Tata McGraw-Hill.
6. Introduction of Lasers – Avadhanulu, S.Chand& Co.
7. Principles of Optics- BK Mathur, Gopala Printing Press, 1995

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc MPCS	IV	Thermodynamics & Radiation Physics	CBPHY401	2016-17

SYLLABUS

UNIT-I (10hrs)

1. Kinetic theory of gases

Introduction –Deduction of Maxwell's law of distribution of molecular speeds. Transport phenomena – Mean free path, Viscosity of gases thermal conductivity diffusion of gases.

UNIT-II (12hrs)

2. Thermodynamics

Introduction- Isothermal and adiabatic process- Reversible and irreversible processes- Carnnot's engine and its efficiency-Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder-Entropy of Universe– Temperature-Entropy (T-S) diagram and its uses - change of entropy when ice changes into steam.

UNIT-III (12hrs)

3. Thermodynamic potentials and Maxwell's equations

Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas.

UNIT-IV (12hrs)

4. Low temperature Physics

Introduction-Joule Kelvin effect-Porous plug experiment - Joule expansion-Distinction between adiabatic and Joule Thomson expansion-Expression for Joule Thomson cooling Adiabatic demagnetization, Production of low temperatures , Refrigerator(Vapour Compression machine)

UNIT-V (14 hrs)

5. Quantum theory of radiation

Blackbody-Ferry's black bodyWein's displacement law,Wein's law, Rayleigh - Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation-Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrom pyro helio meter-determination of solar constant, Temperature of Sun.

REFERENCE BOOKS:

1. BSc Physics, Vol.2, Telugu Akademy, Hyderabad
2. Thermodynamics, R.C.Srivastava, S.K.Saha&AbhayK.Jain, Eastern Economy Edition.
3. Unified Physics Vol.2, Optics & Thermodynamics, Jai PrakashNath&Co.Ltd., Meerut
4. Fundamentals of Physics. Halliday/Resnick/Walker.C. Wiley India Edition 2007
5. Heat, Thermodynamics and Statistical Physics-N BrijLal, P Subrahmanyam, PS Hemne, S.Chand& Co.,2012
6. Heat and Thermodynamics- MS Yadav, Anmol Publications Pvt. Ltd, 2000
7. University Physics, HD Young, MW Zemansky,FW Sears, Narosa Publishers, New Delhi

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC MPCS	V	Electricity, Electromagnetism & Electro Magnetic Waves	CBPHY501	2017-18

SYLLABUS

UNIT-I

(12hrs)

Electric field intensity and potential: Gauss's Law statement and its proof – intensity of electric field due to (1) Uniformly charged sphere and an infinite conducting sheet of charge.Electrical potential – equipotential surfaces – potential due to charged spherical shell .

Dielectrics

Electric dipole moment and molecular polarizability – Electric displacement D, Electric intensity E – electric polarization p – relation between D, E and P –Dielectric constant and susceptibility . boundary conditions at the dielectric surface (statements only).

UNIT – II

(08 hrs)

Electric and magnetic fields

Biot-Savart's law, explanation and calculation of b due to long straight wire , a circular current loop and solenoid – force due to magnetic field – force due to electric Field –hall effect – determination of hall coefficient and applications

UNIT – III

(08 hrs)

Electromagnetic induction

Faraday's law – Lenz's law – Self and mutual inductance – coefficient of coupling - calculations of self inductance of a long solenoid – energy stored in magnetic field . Transformer – energy losses – efficiency.

UNIT –IV

(10 hrs)

Varying & Alternating currents

Alternating current – growth & decay of current in LR circuit - growth and decay of charge in CR circuit, LCR series and parallel ac resonant circuits ,Q-factor ,power in ac circuits – comparison between LCR series & parallel resonant circuits

UNIT – V

(07 hrs)

Maxwell's equations :

Maxwell's equations(integral and differential forms), Maxwell's wave equation(with derivation),transverse nature of electromagnetic waves . Poynting theorem (statement and proof),production and detection of electromagnetic waves (Hertz experiment).

Reference Books

- BSc Physics , Vol.3, Telugu Akademy , Hyderabad.
- Electricity and Magnetism , D.N.Vasudeve.S.chand & Co.
- Electricity ,Magnetism with Electronics , K.K.Tewari,R.Chand&Co.
- Principles of Electronics , V.K.Mehta , S.Chand &Co.,
- Digital Principles and applications , A.P Malvino and D.P.Leach,
- Mc Graw Hill Edition.

Class	Semester	Title of The Paper	Paper Code:	W.E.F
III B.Sc MPCS	V	MODERN PHYSICS	CBPHY502	2017-18

SYALLBUS

UNIT-I (11 hrs)

Atomic and molecular physics

1. Introduction –Drawbacks of Bohr’s atomic model- Sommerfeld’s elliptical orbits-relativistic correction (no derivation). Vector atom model and Stern-Gerlach experiment - quantum numbers associated with it. L-S and j- j coupling schemes. Zeeman effect(concept only)
2. Raman effect, hypothesis, Stokes and Anti Stokes lines. Quantum theory of Raman effect. Experimental arrangement – Applications of Raman effect.

UNIT-II (10 hrs) Quantum (wave) mechanics I

Matter waves & Uncertainty Principle

1. Matter waves, de Broglie’s hypothesis - wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment
2. Heisenberg’s uncertainty principle for position and momentum (x and p), extension of Heisenberg uncertainty principle to energy and time (E and t). Experimental verification – γ ray microscope - Complementary principle of Bohr.

UNIT-III (08 hrs)

Quantum (wave) mechanics II

1. Basic postulates of quantum mechanics-Schrodinger time independent and time dependent wave equations-derivations. Physical interpretation of wave function.
2. Eigen functions, Eigen values. Application of Schrodinger wave equation to particle in one dimensional infinite box.

UNIT-IV(08 hrs)

Nuclear Physics

General properties of nucleus & Radioactive decay

1. Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, parity,. Liquid drop model and Shell model (qualitative aspects only) - Magic numbers.
2. Alpha decay: basics of α -decay processes. Theory of α -decay, Gamow’s theory, Geiger Nuttal law. β -decay, Energy kinematics for β -decay, positron emission, electron capture, neutrino hypothesis.

UNIT-V (08 hrs)

Solid State Physics

Crystal Structure & super conductivity

1. Amorphous and crystalline materials, unit cell, Miller indices, types of lattices, diffraction of X-rays by crystals, Bragg’s law, experimental techniques, Laue’s method and powder diffraction method.
2. Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect - Type I and type II superconductors - applications of superconductors.

REFERENCE BOOKS

1. BSc Physics, Vol.4, Telugu Akademy, Hyderabad
2. Molecular Structure and Spectroscopy by G. Aruldas. Prentice Hall of India, New Delhi.
3. Modern Physics by R. Murugesan and Kiruthiga Siva Prasath. S. Chand & Co.
4. Modern Physics by G. Aruldas & P. Rajagopal. Eastern Economy Edition.

5. Concepts of Modern Physics by Arthur Beiser. Tata McGraw-Hill Edition.
6. Quantum Mechanics, Mahesh C Jain, Eastern Economy Edition.
7. Nuclear Physics, Irving Kaplan, Narosa publishing House.
8. Nuclear Physics, D.C.Tayal, Himalaya Publishing House.
9. Elements of Solid State Physics, J.P.Srivastava, Prentice Hall of India Pvt., Ltd.
10. Solid State Physics, A.J. Dekker, McMillan India.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC MPC	VI	Analog Electronics	CBPHYA601	2017-18

SYLLABUS

UNIT-I (08hrs)

Basic electronics-1:

Classification of materials on the basis of band theory of solids - valance band – conduction band – energy gap – PN junction diode, diode as rectifier – half wave rectifier – full wave rectifier – Zener diode – V-I characteristics, zener diode as voltage regulator.

UNIT-II (10 hrs)

Basic Electronics II

PNP and NPN transistor, CB and CC configurations - relation among β , α and β - transistor(CE) characteristics – hybrid parameters – determination of hybrid parameters from transistor, transistor as an amplifier.

UNIT-III (10hrs)

Field Effect Transistor

FET- introduction – N & P channel JFET –construction and working - static drain and transfer characteristics of JFET – difference between JFE and BJTMOSFET – working of MOSFET in depletion mode – working of MOSFET in enhancement mode – static drain and transfer characteristics of MOSFET advantages of FET

UNIT-IV (10hrs)

Operational Amplifiers

Characteristics of ideal Op-amp(IC-741), circuit symbol of Op-amp - equivalent circuit of op-amp –basic differential amplifiers – concept of virtual ground - block of op-amp, its parameter off set voltages and currents, CMRR, slew rate.

UNIT –V (07hrs)

Applications of Op-Amp Op-amp as inverting amplifier, non-inverting amplifier – op amplifier as voltage regulator – summing amplifier – comparator – integrator.

REFERENCE BOOKS:

1. BSc Physics, Vol.3, Telugu Academy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudev, S.Chand & Co.
3. Electricity, Magnetism with Electronics, K.K. Tewari, R.Chand & Co.
4. Principles of Electronics, V.K. Mehta, S.Chand & Co.
5. Digital principles and applications, A.P. Malvino and D.P. Leach, Mc Graw Hill Edition.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III BSc	VI	Introduction To Microprocessor And Microcontroller	CBPHYA602	2017-18

SYLLABUS

Introduction to Microprocessors & Micro Controllers

UNIT I :- Digital electronics I (12 hrs)

Number systems

Number systems - Conversion of binary to decimal system and vice versa. Binary addition and subtraction (1's and 2's complement methods). Hexa decimal system – addition – programmes on compliments - Boolean algebra – AND laws- OR laws-distributive laws – associative laws – absorption laws.

UNIT – II

Logic Gates

Basic logic gates, AND, OR, NOT, NAND and NOR as universal gates, exclusive- OR gate, realisation of other logic functions using NAND/NOR – de Morgan Laws -verification of de Morgan Laws using logic gates - Half adder and Full adder, Parallel adder circuits.

UNIT –III

Flip –Flops

Flip – flop – S-R flip-flop –control inputs- race condition –clocked flip flop – J-K flip – flop- master slave J-K flip – flop- D flip – flop –T- flip - flop

UNIT – IV

8085 Micro Processor

Micro processor – major units of micro processor and their functions – applications of micro processors - 8085 pin diagram – architecture – bus organisation – programming – instruction classification – data transfer – arithmetic, logical, branching instruction

UNIT –V

8086 micro Processor & 8051 micro controller

Architecture - pin configuration – maximum mode and minimum mode configuration – addressing modes of 8086 micro processor – instruction set of 8086 - `data transfer instructions – arithmetic instructions – logical instructions – basic programming of 8086 – 8051 micro controller - introduction – block diagram – areas of applications

Reference Books :

- The 8051 micro controller and embedded systems using Assembly and C, M.A.Mazidi,
- Fundamentals of microprocessors & micro controllers – B.Ra

- Microprocessor Architecture, Programming, and Applications with the 8085 - Ramesh S. Gaonkar

Class	Semester	Title of The Paper	Paper Code	W.E.F
B.Sc MPC	VI	Computational Methods & Programming	CBPHYA603	2017-18

Syllabus

UNIT-I (08hrs)

1. Fundamentals of C language: C character set-Identifiers and Keywords-Constants -Variables-Data types-Declarations of variables-Declaration of storage class-Defining symbolic constants-Assignment statement.

2. Operators: Arithmetic operators-Relational operators-Logic operators-Assignment operators-Increment and decrement operators-Conditional operators.

UNIT-II (08hrs)

3. Expressions and I/O Statements: Arithmetic expressions-Precedence of arithmetic operators-Type converters in expressions-Mathematical (Library) functions - Data input and output-The getchar and putchar functions-Scanf-Printf simple programs.

4. Control statements:If -Else statements -Switch statements - The operators - GO TO - While, Do - While, FOR statements - BREAK and CONTINUE statements.

UNIT-III (10hrs)

5. Arrays: One dimensional and two dimensional arrays - Initialization - Type declaration - Inputting and outputting of data for arrays - Programs of matrices addition, subtraction and multiplication

6. User defined functions: The form of C functions - Return values and their types - Calling a function - Category of functions. Nesting of functions.Recursion.ANSI C functions- Function declaration. Scope and life time of variables in functions.

UNIT-IV (10hrs)

7. Linear and Non - Linear equations: Solution of Algebra and transcendental equations-Bisection, Falsi position and Newton-Rhapson methods-Basic principles-Formulae-algorithms

8. Simultaneous equations: Solutions of simultaneous linear equations-Guass elimination and Gauss Seidel iterative methods-Basic principles-Formulae – Algorithms.

UNIT-V (10hrs)

9. Interpolations: Concept of linear interpolation-Finite differences- Newton's and Lagrange's interpolation formulae-principles and Algorithms

10. Numerical differentiation and integration: Numerical differentiation- Newton's forward & backward formula-algorithm for evaluation of first order derivatives using formulae based on Taylor's series-Numerical integration-Trapezoidal and Simpson's 1/3 rule- Formulae-Algorithms.

Reference books:

1. Introductory methods of Numerical Analysis: Sastry
2. Numerical Methods: Balaguruswamy
3. Programming in ANSI C (TMH) : Balaguruswamy
4. Programming with 'C' - Byron Gottafried, Tata Mc Graw Hill

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc	VI	ELECTRONIC INSTRUMENTATION	CBPHYA604	2017-18

SYLLABUS

PAPER-VIII-3

No. of Hours per week: 03

45

Unit – I (10Hours)

Basic of measurements: Instruments accuracy , precision , sensitivity , resolution range, errors in measurement, Multimeter , principles of measurement of dc voltage and dc currents, ac current and resistance, specifications of multimeter and their significance.

Unit– II (08 Hours)

CRO : Block diagram of basic CRO, construction of CRT, electron gun, electro static focusing and acceleration(only explanation) , time base operation, synchronization, front panel controls, specifications of CRO and their significance.

Unit– III (08 Hours)

Applications CRO: Measurement of voltage ,dc and ac frequency , time period, special features of dual trace, digital storage oscilloscope, block diagram and principle of working.

Unit – IV (10 Hours)

Digital Multimeter: Block diagram, working, frequency and period measurement using universal counter, frequency counter ,accuracy and resolution.

Digital instruments: Principle and working of digital instruments, characteristics of a digital meter, working principle of digital voltmeter.

Unit – V (09 Hours)

Signal generators: Block diagram explanation, specifications of low frequency signal generators, pulse generator, function generator-working,

Bridges: Block diagram, working of basic LCR bridge – specifications – block diagram and working. – Kelvin bridge – accuracy – principle of operation

Reference Books

1. A text book in electrical technology by B.L.Thereja (S.Chand&Co)
2. Digital circuits and systems by Venugopal 2011 (Tata Mcgraw Hill)
3. Digital Electronics by SubrathaGhoshal 2012 (Cengage Learning)

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC(MPC, MPCS)	VI	Material Science	CBPHYB601	2017-18

SYLLABUS

UNIT-I (10 hrs)

1.Materials and Crystal Bonding: Materials, Classification, Crystalline, Amorphous, Glasses; Metals, Alloys, Semiconductors, Polymers, Ceramics, Plastics, Bio-materials, Composites, Bulk and nanomaterials. Review of atomic structure – Interatomic forces – Different types of chemical bonds – Ionic, covalent bond or homopolar bond – Metallic bond – Dispersion bond – Dipole bond – Hydrogenbond – Binding energy of a crystal.

UNIT-II (08 hrs)

2. Defects and Diffusion in Materials: Introduction – Types of defects - Point defects- Line defects- Surface defects- Volume defects- Production and removal of defects- Deformation irradiation- quenching- annealing- recovery - recrystallization and grain growth. Diffusion in solids- Fick's laws of diffusion.

UNIT-III(10 hrs)

3. Mechanical Behavior of Materials: Different mechanical properties of engineering materials – Creep – Fracture – Technological properties – Factors affecting mechanical properties of a material – Heat treatment - Cold and hot working – Types of mechanical tests – Metal forming process – Powder – Misaligning – Deformation of metals.

UNIT-IV (08 hrs)

4. Magnetic Materials: Dia-, Para-, Ferri- and Ferromagnetic materials, Classical Langevin theory of dia magnetism, Quantum mechanical treatment of paramagnetism. Curie's law, Weiss's theory of ferromagnetism, Ferromagnetic domains. Discussion of B-H Curve. Hysteresis and energy Loss.

UNIT-V (09 hrs)

5. Dielectric Materials: Dielectric constant, dielectric strength and dielectric loss, polarizability, mechanism of polarization, factors affecting polarization, polarization curve and hysteresis loop, types of dielectric materials, applications; ferroelectric, piezoelectric and pyroelectric materials, Clausius - Mosotti equation.

Reference books

1. Materials Science by M.Arumugam, Anuradha Publishers. 1990, Kumbakonam.
2. Materials Science and Engineering V.Raghavan, Printice Hall India Ed. V 2004. New Delhi.
3. Elementary Solid State Physics, 1/e M. Ali Omar, 1999, Pearson India
4. Solid State Physics, M.A. Wahab, 2011, Narosa Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC MPC	VI	Fundamentals of Nano Science	CBPHYB602	2017-18

SYLLABUS

No. of Hours per week: 03 Total Lectures:45

UNIT-I (10hrs)

1. Background and history: Emergence of Nanoscience with special reference to Feynman and Drexler; Role of particle size; Spatial and temporal scale; Concept of confinement, strong and weak confinement with suitable example; Development of quantum structures, Basic concept of quantum well, quantum wire and quantum dot.

Finite size Zero, One and Two Dimensional Nanostructures, Concept of Surface and Interfacial Energies. Physics of the solid state – size dependence of properties, crystal structures, Lattice vibrations, Energy bands:- Insulators Semiconductors and conductors.

UNIT-II (08hrs)

2. Classification of Nanomaterials: Inorganic nanomaterials: carbon nanotubes and cones, Organic nanomaterials: dendrimers, micelles, liposomes, block copolymers; ionanomaterials:

Biomimetic, bioceramic and nanotherapeutics; Nanomaterials for molecular electronics and optoelectronics.

UNITS-III (10hrs)

3. Macromolecules: Classification of polymers, chemistry of polymerization, chain polymerization, step polymerization, coordination polymerization. Molecular weight of polymers-number average and weight average molecular weight, degree of polymerization, determination of molecular weight of polymers by viscometry, Osmometry and light scattering methods. Kinetics of free radical polymerization, derivation of rate law. Preparation and application of polyethylene, PVC, Teflon.

UNIT-IV (10hrs)

4. Molecular & Nanoelectronics: Semiconductors, Transition from crystal technology to nanotechnology. Tiny motors, Gyroscopes and accelerometers. Nano particle embedded wrinkle resistant cloth, Transparent Zinc Oxide sun screens. Bio-systems, Nanoscale processes in environment. Nanoscale structures, Novel phenomena and Quantum control and quantum computing. Single electron transistors, Quantum dots, Quantum wires.

UNIT-V (07hrs)

5. Biomaterials: Implant materials: Stainless steels and its alloys, Ti and Ti based alloys, Ceramic implant materials; Hydroxyapatite glass ceramics, Carbon Implant materials, Polymeric Implant materials, Soft tissue replacement implants, Sutures, Surgical tapes and adhesives, heart valve implants, Artificial organs, Hard Tissue replacement Implants, Internal Fracture Fixation Devices, Wires, Pins, and Screws, Fracture Plates.

Reference Books

1. T. Pradeep: Textbook of Nanoscience and Nanotechnology Chapter (McGraw-Hill Professional, 2012), Access Engineering.
2. C. N. R. Rao, A. Müller, A. K. Cheetham, "The Chemistry of Nanomaterials :Synthesis, Properties and Applications", Wiley-VCH, 2006.
3. C. Breachignac P. Houdy M. Lahmani, "Nanomaterials and Nanochemistry", Springer, 2006.
4. Guozhong Cao, "Nanostructures and Nanomaterials: Synthesis, Properties, and Applications", World Scientific Publishing Private, Ltd., 2011.
5. Zhong Lin Wang, "Characterization of Nanophase Materials", Wiley-VCH, 2004.
6. Carl C. Koch, "Nanostructured Materials: Processing, Properties and Potential Applications", William Andrew Publishing Norwich, 2006.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SC(MPC)	VI	Synthesis And Characterisation Of Nano Materials	CBPHYB603	2017-18

SYLLABUS

No. of Hours per week: 03

Total Lectures:45

Unit-I (10 hrs)

1. Nanomaterials synthesis: Synthesis and nanofabrication, Bottom-Up and Top-Down

approach with examples. Chemical precipitation methods, sol-gel method, chemical reduction, hydrothermal, process. Physical Methods- ball milling, Physical Vapour deposition (PVD), Sputtering, Chemical Vapor deposition (CVD), pyrolysis, Biological methods- Synthesis using micro organisms and bacteria, Synthesis using plant extract, use of proteins and DNA templates.

Unit-II (10 hrs)

2. Classification of materials: Types of materials, Metals, Ceramics (Sand glasses) polymers, composites, semiconductors. Metals and alloys- Phase diagrams of single component, binary and ternary systems, diffusion, nucleation and growth. Diffusional and diffusionless transformations. Mechanical properties. Metallic glasses. Preparation, structure and properties like electrical, magnetic, thermal and mechanical, applications.

UNITS-III (08hrs)

3. Glasses: The glass transition - theories for the glass transition, Factors that determine the glass-transition temperature. Glass forming systems and ease of glass formation, preparation of glass materials. Applications of Glasses: Introduction: Electronic applications, Electrochemical applications, optical applications, Magnetic applications.

UNITS-IV (10 hrs)

4. Liquid Crystals: Mesomorphism of anisotropic systems, Different liquid crystalline phase and phase transitions, Thermal and electrical properties of liquid crystals, Types Liquid Crystals displays, few applications of liquid crystals.

UNITS-V (07 hrs)

5. Characterization Methods: XRD, SEM, TEM, AFM, XPS and PL characterization techniques for nano materials. Electrical and mechanical properties, Optical properties by IR and Raman Spectroscopy.

References books

1. Encyclopedia of Nanotechnology by M.Balakrishna Rao and K.Krishna Reddy, Vol.I to X, Campus books.
2. Nano: The Essentials-Understanding Nanoscience & Nanotechnology by T.Pradeep; Tata Mc.Graw Hill
3. Nanotechnology in Microelectronics & Optoelectronics, J.M Martine Duart, R.J Martin Palma, F. Agullo Rueda, Elsevier
4. Nanoelectronic Circuit Design, N.K Jha, D Chen, Springer
5. Handbook of Nanophysics- Nanoelectronics & Nanophotonics, K.D Sattler, CRC Press
6. Organic Electronics-Sensors & Biotechnology- R. Shinar & J. Shinar, McGraw-Hill

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.SCMPC	VI	Applications of Nano Materials & devices	CBPHYB604	2017-18

UNIT - 1

1. Optical properties: Coulomb interaction in nanostructures. Concept of dielectric constant for nanostructures and charging of nanostructure. Quasi-particles and excitons. Excitons in direct and indirect band gap semiconductor nanocrystals. Quantitative treatment of quasi-particles and excitons, charging effects. Radiative processes: General formalization-absorption, emission and luminescence.

UNIT-II (08 hrs)

2. Electrical transport:

Carrier transport in nanostructures. Hall effect, determination of carrier mobility and carrier concentration; Coulomb blockade effect, thermionic emission, tunneling and hopping conductivity. Defects and impurities: Deep level and surface defects.

UNIT-III (09 hrs)

3. Applications: Applications of nanoparticles, quantum dots, nanowires and thin films for photonic devices (LED, solar cells). Single electron transfer devices (no derivation). CNT based transistors. Nanomaterial Devices: Quantum dots heterostructures lasers, optical switching and optical data storage. Magnetic quantum well; magnetic dots - magnetic data storage. Micro Electromechanical Systems (MEMS), Nano Electromechanical Systems (NEMS).

UNIT-IV(09 hrs)

4. Nanoelectronics: Introduction, Electronic structure of Nanocrystals, Tuning the Band gap of Nanoscale semiconductors, Excitons, Quantum dot, Single electron devices, Nanostructured ferromagnetism, Effect of bulk nanostructuring of magnetic properties, Dynamics of nanomagnets, Nanocarbon ferromagnets, Giant and colossal magneto-resistance, Introduction of spintronics, Spintronics devices and applications.

UNIT-V (09 hrs)

5. Nanobiotechnology and Medical application: Introduction, Biological building blocks- size of building blocks and nanostructures, Peptide nanowires and protein nanoparticles, DNA double nanowires, Nanomaterials in drug delivery and therapy, Nanomedicine, Targeted gold nanoparticles for imaging and therapy.

Reference books:

1. C.P. Poole, Jr. Frank J. Owens, Introduction to Nanotechnology (Wiley India Pvt. Ltd.).
2. S.K. Kulkarni, Nanotechnology: Principles & Practices (Capital Publishing Company).
3. K.K. Chattopadhyay and A.N. Banerjee, Introduction to Nanoscience & Technology (PHI Learning Private Limited).
4. Richard Booker, Earl Boysen, Nanotechnology (John Wiley and Sons).

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	I	English	DPT-ENG-SIIA	2018-19

SYLLABUS

1. Extend their vocabulary in the direction of their future needs

- 1.1 Locate words, learn spellings, understand meanings
- 1.2 Pronounce words intelligibly
- 1.3 Find synonyms and antonyms

2. Learn various grammatical structures

- 2.1 Identify and use nouns
- 2.2 Identify and use pronouns
- 2.3 Use the present tense
- 2.4 Use the past tense
- 2.5 Use the future tense
- 2.6 Identify and use adjectives
- 2.7 Identify and use adverbs
- 2.8 Use prepositions
- 2.9 State basic sentence structures
- 2.10 Construct different types of sentences
- 2.11 Frame questions to elicit information
- 2.12 Frame questions for conformation
- 2.13 Use active voice
- 2.14 Use passive voice
- 2.15 Use direct speech
- 2.16 Use indirect speech
- 2.17 Identify and correct errors

3. Practice spoken communication suited to various situations.

- 3.1 Use appropriate expressions to greet and take leave
- 3.2 Use proper expressions to make requests
- 3.3 Use apt expressions for asking and giving directions
- 3.4 Use suitable expressions to seek and offer suggestions

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	I	Printing System	DPT-PS-512	2018-19

COURSE CONTENTS

UNIT 1 Different printing methods Principles - Characteristics of -Letter Press Printing - Offset Printing - Gravure Printing - Flexography Printing- Other processes – Screen Printing – thermography - Digital printing.

UNIT 2 Image carriers Introduction to Surface preparation for Offset Printing – Albumin plates- wipe on Plates-Deep etch plates - Presensitised plates-Gravure Printing Process- Introduction to Chemical etching-Electronic engraving - laser engraving-Flexography Process – Rubber plates-Polymer Plates-Screen Printing – Direct coating of screen-Chromolin and five-star film methods-Tools and equipments and materials used for surface- preparation of above processes- Stripping techniques-Imposition Schemes.

UNIT 3 Impression and ink transfer methods Letter press printing machines-Offset and lithographic machines-Gravure printing-Ink transfer from gravure cylinder-Role of impression roll-Flexography printing - role of anilox roller- Ink transfer from flexo plate-Screen Printing - porous nature of screen-Method of squeezing ink through image areas.

UNIT 4 Proofing methods Soft Proofing - Proof from computer monitors of different resolutions from low end to high end - remote proofing - Hard proofing- inkjet proofing- thermal proofing-dye sublimation proofing- colour proofing- press proofs.

UNIT 5 Suitability of jobs for various printing processes Suitability of jobs for letterpress printing process- Suitability of jobs for offset printing- Suitability of jobs for gravure printing-Suitability of jobs for flexo printing-Suitability of jobs for Screen Printing- Suitability of jobs for Digital printing

REFERENCE BOOKS: 1. Lithographers manual- GATF- 9th edition

- 1. Printing technology – J. Michael Adams, David.

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	I	Printing Materials	DPT-MP-513	2018-19

Unit I Materials used for graphic reproduction

- Light sensitive materials in graphic reproduction
- Photographic light sensitive materials and its classification
- Classification of silver based light sensitive materials
- Silver less photographic materials
- Other light sensitive materials in graphic reproduction
- Physical structure of photographic film
- Film speed

Unit II Print-from Materials (Image Carriers)

- Metals and materials used for relief process – Letterpress and Flexography – UV Plates for Letterpress – Rubber and polymer plates for Flexo
- Metals and materials used for offset process – Aluminum, copper, zinc photopolymer, polyester plates
- Metals used for gravure cylinders – Copper, Chromium and Nickel
- Materials used for Screen Printing – Nylon, silk, metal mesh

Unit-III Print-on Materials (Substrates)

- Paper, board, plastics, tin sheets for Offset
- Raw materials used for paper manufacturing
- Choice of appropriate paper for different printing processes
- Standardization of paper and Indian standard paper sizes
- Classification of paper
- Paper and board testing

Unit-IV Print-with Materials (Inks and other coatings)

- Different kinds of inks
- Composition printing ink
- Manufacturing of printing inks
- Different methods of ink drying
- General characteristics of printing ink
- Classification of ink according to their use in different printing processes
- Terminology used in printing inks

Unit-V Print-finish Materials (Binding materials)

- Adhesives - nature, classification, advantages and limitations
- Securing materials – threads, tapes, stitching wire and sewing cords
- Covering materials – paper, board, leather, plastic, and woven materials like Rexine and Calico
- Finishing materials – gold leaf, silver foil, colour foils, edge decorations materials

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	I	Image Processing	DPTIP514A	2018-19

COURSE CONTENTS:

Unit 1: Computer basics... Data..information...Characteristics of Computer...Classification of Computer...Generations of Computer...Computer Block diagram...Types of Memories...Secondary Storage devices ...Operating system...functions of operating system...Types of operating System...Input and Output Devices..Types of Printers..Different types of Ram and ROM.

Unit 2: M.S.Word: Creating new document ..Page setup options .. Columns, Dropcap, Pagebackground settings, Water mark.. Change case, Page borders and text borders.. Page numbering .. inserting pictures, auto shapes, WordArt & Clip art .. Headers and Footers .. Book marks .. Table menu options ..Mail Merge.

Unit 3: Adobe Photoshop: Creating new document...color modes...resolutions...Using Photoshop tools...Creating new color shades...Using Styles...Transforming objects...Applying fill and Stroke... Copy .. copy merge...paste into...defining new patterns, new brushes and custom shapes...Types of Layers...Types of masks...adjustments menu...using text tools and text masks...Select, Deselect and inverse...feather... using filters...Blending options...Black and white to color photo making...saving image in different formats and printing.

Unit 4: CorelDRAW:

Creating new document...Using tool box...New document from template...Saving and printing document .. Page layout and page setup .. Inserting, duplicating and deleting pages...Exporting of documents...importing and exporting images...duplicating and cloning objects,...inserting page numbers.. page backgrounds...using symbol manager...Using Power clip ...combining and breaking objects.

Unit 5: Applying various effects...Blend, Contour, Envelope, Distort, Extrude, Perspective, and Lens ... Placing and working with Paragraph and artistic text...font properties.

Reference Books

1. Fundamentals of Computers by Rastogi
2. Manuals of CorelDraw,
3. Manuals of Photoshop
4. Ms Word 2010 Bible.

Class	Semester	Title of The Paper:	Paper Code:	W.E.F
Printing & Technology	I	Flexo, Gravure & Screen Printing	DPT FGP 515	2018-19

Course Contents

Unit I - Flexographic Principles And Plate Surface Preparation

Principle of Flexographic Printing Process-Surface preparation-Techniques of making molded rubber plate and polymer plates-Plate mounting methods-handling-storage of plates.

Unit II - Flexographic Press Work

Printing units of flexography press-Construction and description-Flexographic printing machines-Plate cylinder and impression cylinder-Paper and ink qualities and controlling system-Inking system - fountain roller-Anilox roller-Types of inking system-Press types-Stack, common impression and inline presses-Ink and solvents used for Flexographic printing.

Unit III – Study and Preparation of Gravure image carrier – Doctor Blade and its care

Detailed study of Gravure cell structure-Different types of cells – Varying in depth, area, and depth and area-Construction of gravure cylinder-Transfer of image on the gravure cylinder – Direct and Carbon tissue method-Chemical etching-electronic engraving-Laser engraving-Precautions to be taken during preparation of gravure cylinder-Techniques of surface finishing – electroplating of gravure cylinder with Chromium and Nickel-Nature-use and maintenance of doctor blade

Unit IV – Inks for Gravure Process

Manufacture of gravure inks-Ingredients of gravure inks-Various solvents used in gravure process-Solvent recovery methods

Unit V – Materials used in Gravure Process

Different kinds of substrates used for printing by Gravure Process like PVC, PVA, BOPP, Foil, Film, Paper, Board etc-Characteristics and properties required for substrates

Unit VI – Slitting & Rewinding Machine – Equipment used for Quality Control – Defects and Remedies

The purpose and working of a Slitting and Rewinding Machine-Variety of equipment used for quality control-Identifying the defects during printing-Suggest remedies

Unit VII – Screen Printing

Mesh-Squeegee Selection-Screen pre treatment-Screen Tensioning-Screen Printing Machines- Container Screen Printing-Flat bed Hinged Frame (Automatic)-Rotary Screen Printing-Carousel Printing Machines-Screen Printing Inks–Types-Properties-Screen Printing Applications

Reference Books :

Flexographic principles and practice, Flexographic Technical Associations, Inc. New York, 1980. Rotogravure and Flexographic printing presses. By Herbert L. Weies, Converting Technology Corporation, 4771, N. Bartlett Drive, Milwaukee, WI, 53211, USA. Modern Gravure Technology, Harry B Smith, Pira International, U.K. Screen process printing, John Stephens, Blue Print, An Imprint of Hapman & Hall, London. Flexography Primer GATF. Screen Process Printing – by John Stephens, Blue Print, Handbook Of Print Media by Helmut Kipphan, Screen Printing Primer – by Samuel Ingram, GATF

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	I	Book Binding & Finishing	DPT-BBF-516	2018-19

COURSE CONTENT

UNIT - I Introduction to Binding

History of book binding - Earlier books; Classification of Book Binding- Quarter Bound Book, Half Bound Book – Old Style and New style, Full bound Book; End Paper – Types and Uses – Single End Paper, Made End Paper, Reinforced End Paper, Cloth Joint End Paper; ZigZag End Paper; Paper – Various sizes of Conventional and ISO papers – Their sub divisions – GSM system.

UNIT - II Materials used in Binding

Ware House, Types of Ware House – white Paper ware house, Printed paper ware house; Covering Materials – Binding cloth, Buckram Cloth, Rexene leather, Paper fabric, PVC; Reinforcing Materials – Mull Cloth, Calico Cloth, Tapes and cords; Securing Materials – Thread, Wire, Metal and Plastic Units; Adhesives – Paste, Glue, Synthetic Adhesive, Hot melt, Gum; Book Finishing Materials – Gold leaf, Blocking foil

UNIT - III Methods of Binding & Modern Commercial Binding Explain Styles of Book covering – Hard cover – Paper back – Thermally Activated binding; Explain Letterpress Binding;

Explain and compare Stationery Binding with Publisher's Binding; Explain and compare Loose leaf Binding with Adhesive Binding; Describe Edge Decoration; Describe Conservation and Restoration

UNIT - IV Forwarding Operations

Cutting, Trimming, Difference between Cutting and Trimming, Folding – Types of Folding – Folding to paper, Folding to print, Lump folding; Creasing, Gathering, Collating, Binder's/Collating mark, Inserting; Perforating - Types of Perforating, Punching and Drilling, Numbering – Horizontal numbering and vertical numbering; Die Cutting and Slitting operations

UNIT - V Automation in Binding

Programmable Cutting Machine and its Operations – machine bed, Clamp, Back guage, Knife and safety mechanisms; Folding Machine and its operations – Buckle folding, knife folding and combination folding stations; Wire Stitching Machine and its Operations – wire unwind, wire straightened, cutter block; Rounding and Backing Machine and its operations; Gathering Machines and its operations

Reference Books:

- Modern Book Binding by Alex J. Vaughan
- Finishing Process in Printing by A.G. Martin
- Manual of Book Binding by W. Johns
- Folding in Practice – by Alfred Furler
- Printing and Die Cutting - by Vanessa Bailey
- HAnd Book of Print Media – by Helmut Kippan Ed., Heidelberg
- Introduction to Printing and Finishing – by Hugh M. Spiers
- What the Printer should know about paper – by Lawrence A. Wilson
- Printing Technology – by Michael Adams J. and Penny Ann Dohn

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	English	DPT-ENG-512 A	2018-19

SYLLABUS

1. Extend their vocabulary in the direction of their future needs

1.1 Use affixation – Prefixes/Suffixes

2. Read and comprehend English

2.1 Identify the main ideas

2.2 Identify the specific details

2.3 Draw inferences

2.4 Give contextual meanings of the words

3. Learn to excel in various forms of written communication (writing composition and data interpretation)

3.1 Identify components of a good paragraph

3.2 Distinguish between formal and informal letters

3.3 Write personal letters

3.4 Write leave letters

3.5 Write official letters

3.6 Write letters of complaints

3.7 Prepare a resume

3.8 Write a cover letter

3.9 Write short messages

3.10 Report incidents

3.11 Report Industrial visits

3.12 Present and Interpret Data from flow charts, tree diagrams, bar graphs, tables, pie charts

4. Practice spoken communication suited to various situations.

4.1 Use suitable expressions to state intentions

4.2 Use suitable expressions to state feelings

4.3 Use appropriate expressions to state agreement and disagreement

4.4 Use proper expressions to make complaints

4.5 Use suitable expressions to express obligations

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	Design & Advertising in Print Media	DPT-DAP-522	2018-19

Unit I: Introduction to Typographic Design and Advertising

Definition – Need for design, Elements of Design – Balance, Contrast, Harmony, Unity, Texture, Line, Shape, Rhythm, Repetition, Optical Center and Geometric Centre, Introduction to Advertising, Illustrate the world of Print media advertising, Define Advertising, Explain types of

advertising, Describe the history of advertising, Illustrate advertising through the ages Explain the role of printing presses in Advertising

Unit II: Role of Typography in Design

Typographic fundamentals (Type faces, families and Series) Point System Different composing methods Importance of Legibility and Readability Layout preparation – various stages and integration Proof reading – Marks – Check List Page Layout and Margins Typography and Art work

Unit III: Designing Aspects of Book, Magazine and News Paper

Book Design – parts – procedure Magazine Design – types of magazines Newspaper (Front Page Elements) News Letters – House Journals

Unit IV: Design for Miscellaneous Printed Products

Design aspects of – Leaflets, pamphlets, Catalogue, brochures, Booklets, Labels, labels, technical literature, cartons

Unit V: Operations and functions of an Advertising agency

Structure and functioning of an Ad company-Workflow of an Ad creation-Softwares and parameters used by Agency-Describe the qualities of an Advertiser

REFERENCE BOOKS

1. Desk Top Design 2nd Edition by Brain cookman
2. Desk Top Publishing Design basics published by Alan Holmes
3. Printing Industry by Victor Strauss
4. Wells, Burnett and Moriarty; 'Advertising: Principles & practice'; Prentice Hall Inc.,

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	Sheet fed offset machines	DPT – SFOM - 523	2018-19

Syllabus

Unit I - Offset Lithographic Presses

Basic principles of Offset Printing-Construction/Structure of a sheet fed press-Variou press configurations -Single colour press, Multicolour press, Perfecting press, Satellite type press, Common impression cylinder press-Small Offset press and-Proofing press.

Unit II - Printing Unit

Plate cylinder-Blanket cylinder-Impression cylinder, transfer cylinder, delivery cylinder-Cylinder setting on a Bearer contact press, and Non-Bearer contact Press-Paralleling Blanket cylinder to

Impression cylinder-Safety measures in the Pressroom-The Offset Blanket - Structure, types of blankets-Working requirements of Blankets-Blanket selection-Care of Blankets-Blanket mounting. Recovering from a Blanket smash and use of slightly damaged blankets.

Unit III - Inking and Dampening

The inking system - Construction of a typical inking system-Setting ink rollers, setting from roller to oscillator, setting from roller to plate-Setting the ductor roller-Inking system – Problems-The Dampening System - Construction of conventional dampening systems-Continuous-flow dampening system-Dampening solutions and its importance - Its composition, alcohol and alcohol substitutes-pH of a dampening solution-Setting of rollers in conventional dampening system. Metering dampening on conventional system-Operating problems of dampening systems.

Unit IV - Sheet Handling, Controlling And Transferring

Purpose of automatic sheet feeders-Classification - friction feeders, single-sheet feeder, Stream feeder-Front and back sheet separation systems-Pile loading-Feed Board sheet control devices. Setting the feed board devices, front lays and side lay and their types-Sheet detectors and trip systems-Type of grippers-Sheet insertion devices - Types and principles, direct system, swing-arm system, rotary drum system, overfeed system-Care and attention to grippers-Sheet Transfer and delivery System-Types of sheet transfer - Chain transfer, single drum, and three drum transfer systems-Transfer cylinders-Delivery section - sheet decurler – jiggers-Sheet guiding devices. Delivery assist devices-Suction slow - down rollers-Blow down wedges and - Anti-set off spray equipment.

Unit V - Make-ready and the Machine Run

Pre make ready procedures-Make ready procedure for single colour-Extra precautions required for make ready-Make ready types-Preparing the press for run-Inking system - wash-up-Cleaning the dampening system-Checking work order instructions-Setting sheet handling devices-Installing the plate-Making trial impressions – examining the trial impressions, image registering and positioning-Checking quality of print, ink and water balance, colour of print-Printing defects and their remedy-Make-ready procedure for multi colour printing-Selection of colour sequence for multi colour printing-Types of sheet distortion-Ideal condition of paper for registering purposes-Running the machine for production-Inspection of press sheets, random check-up-Control of press functions during pressrun-Quality control during the pressrun-Densitometry, colour control bars, controlling colour during the pressrun-Pressroom lighting and standard viewing conditions.

Unit I - Introduction to Web Offset Printing Press

Structure and type of presses - In-line press, stack press, Blanket to Blanket, common impression-Infed, Printing unit, Drying, Chilling, Folding and Delivery-Blanket to blanket printing-The plate cylinder, blanket cylinder and Gap-less cylinder.

Unit II - Make-ready and Feeding Unit

Infeed - Types of reel stands, automatic splicers, preparing a splice, dancer roller-Reel braking method-Image and web control: Side lay, back up, slitting-Colour registering and web tensioning-Feeder - Preset feeder, Vacuum belt sheet forwarding system-Motorized side lay control.

Unit III - Printing Unit

Inking and Dampening - motorized adjustment of ink zones and ink metering cylinder-Water cooled oscillating roller-Ink wash up device-Remote ON/OFF dampening system and dampening solution control-Printing unit - Automatic plate clamping-Adjustment of circumferential and lateral register-Printing pressure adjustment-Automatic blanket and impression cylinder wash-up device-Dryer and chill rolls: Types of dryers, types of chill roll pumping-Computer print control, press monitoring-Pre selection of operation in the press.

Unit IV - Delivery Unit

Folding - Web folding principles, folder types, cut off length, pinless folder-Delivery – Automatic setting of powder spray length-IR and UV dryers-Auxiliary equipments - Sidelay sensors, web break detectors, anti-static devices, perforators, Imprinters, fountain solutions recirculation and refrigerating system, sheet cleaners, plate scanner, Ink agitator, Fountain height monitor, ink consumption computer, Air curtain.

Reference Books

Sheetfed offset operating - GATF 1988 Litho Printing - Ian Faux, Blueprint publishing Ltd. A manual of Lithographic press operations - A.S. Porter, Lithographic Training services. Modern Lithography - Ian Faux, SITA Limited, Manchester, UK

Web Offset Press operating - David B. Crouse with Robert J. Schneider, Jr., GATF.

Sheet fed press operating – GATF.

Modern Lithography - Iaan Fax, SITA Limited, Manchester.

A manual of Lithographic press operation - A.S. Porter.

Lithographic Training services.Printing in a digital world - David Bergsland, Delmar Publishers International Thompson Publishing, New York. Gutenberg goes digital - Michael Liburg - Blueprint, an Imprint of Chapman & Hall.

A Handbook for printing and packaging Technology – Bighwenath

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	Publishing Software	DPT – PS-524A	2018-19

UNIT I: Adobe Page Maker:

Creating a Publication...Page layout ... Page setup ... Creating page numbering for facing pages ... Document setup... Placing Images and Text...Paste Multiple and Inserting Objects...Tool box and Color box...New color creation... Editing stories...Using Auto flow... inserting and deleting pages...using column guides...Type setting...font properties...character and paragraph settings... Text wrapping ...Grouping and ungrouping...masking and unmasking...Frame options... Polygon settings ...Aligning objects...Creating booklet...create index and TOC...Print dialogue box..

Unit II: Quark Xpress

Introduction to Quark Xpress; The User Interface; Projects and Layouts; Boxes Lines and Tables; QuarkXpress Tools...Text and Typography; Working with Pictures; Working with Colour; Objects and Frames...Document Construction

Unit III: CorelDraw

Creating new document...Using tool box... Saving and printing document .. Page layout and page setup .. Inserting, duplicating and deleting pages...publishing to PDF...importing and exporting images...duplicating and cloning objects,...inserting page numbers.. page backgrounds...using symbol manager...transformations... aligning, grouping & ungrouping, locking and unlocking objects...Using Power clip ... shaping options...combining and breaking objects...Table Menu commands..

Unit IV: Photoshop

Starting Adobe Photoshop and Opening Files; Using Tools - Entering Values, Viewing Images, ; Working with Selections – Moving Selections, Photoshop Tools; Layer Basics – Creating and Viewing layers, Rearranging layers; Layer Mask, Clipping Mask, Vector Mask and Quick Mask; Photo Retouching Tools; Pen Tools; Vector Shapes and Stroke path and Clipping Paths..

Unit V: Indesign

Creating a New Document – Working with Frames, working with text; Working with Multiple Document Windows – Saving Documents; Using Tools; Working with Panels and Docks – Adding pages Deleting pages; Menu Commands; Working with Pages and Layers – Creating layers, working with layers; Creating Layout Standards; Defining Colours –Colour terms, Tints, Gradients; Creating Graphic frames ..Paste..paste into..paste without format ..Paste in to place ..duplicate ..step and repeat ..place and link ..Edit with other ..character ..paragraph ..Transform..Arranging objects..Text frame options..fitting options..effects submenu ..convert shape.

REFERENCE BOOKS

1. Manuals of PageMaker,
2. Manuals of Photoshop
3. Manuals of InDesign
4. Manuals of QuarkXpress

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	Electronic colour separation in Management	DPT – ECSM - 525	June 2018

1. Colour Measurement

Methods of colour measurement (colour tolerance) – colour gamut, colour models, HSL, HSB, C.I.E. -Colour matching -Colour difference measurement Instrumental measurement of colour – Densitometry, Colorimetry and Spectrophotometry.

2. Colour Reproduction Originals and Print viewing conditions - originals for colour reproduction - colourprints, contrast range, colour balance and surface reflection , wash drawings and pastel colour originals , printed originals Spectrophotometric curves for photographic materials. Colour Diagrams and their uses- CIE chromaticity diagram, Maxwell Additive Triangle, GATF colour circle.

3.0 Colour Separation

Out lines of colour separation- direct and indirect methods- electronic colour scanners- Types, principles and functions Colour separation on CTP Colour cast removal Tonal changes - colour correction - Gray Balance setup procedure. Under colour addition, under colour removal - Gray component Replacement. Line mode in Scanners.

4. Developments in Electronic Scanning

Colour separation in flatbed scanners used in Desktop Publishing. Register systems for Perfect Registration. Lasers - Principles of operation, types, characteristics.

5. Colour Proofing

Press and Pre-press proofing systems. Digital colour proofing, study of hexachrome (hi fi) close colours Uses and limitations of colour chart - 3M match print colour control element. FOGRA standards.

Reference Books

Reproduction Photography for Lithography - GATF. Electronic colour separation - Dr.R.K.Molla, R.K.Printing and Publishing Company, West Virginia, U.S.A. Standardized Lithographic colour printing - PIRA Guide. Reproduction of colour - R.W.G. Hunt, Fountain Press.

Colour photography and the ink, paper and other related industries - John Wiley & Sons, U.K. The Lithographers manual - 7th Edition - GATF. The Lithographers manual - 9th Edition - GATF.The art of colour- Johannes Ittem, Digital colour Printing Technology- BiswanthChakravarthyColour and Quality- by Hidelberg, Desk Top Publishing- by Ron Strutt and Kirty Wilson Davis, Understanding Digital Colour- by Phol Green.

Class	Semester	Title of The Paper	Paper Code	W.E.F
Printing & Technology	II	Modern Plate Making Techniques	DPT – MPMT - 526	June 2018

COURSE CONTENT:

Unit I – Job Planning & Film Assembly

Examine job planning & importance of Planning - Basic steps in planning o film image assembly - Introduce film image assembly - Inspection & preparation of films before assembly - Planning of Layouts - Layout and Planning information - Preparation of Production Layouts - Equipment & Tools for Layout department - Preparing Complimentary Flats

Unit II Imposition Considerations

Discuss Imposition Considerations for sheet fed presses & Web fed presses - Imposition terms & Imposition rules - Imposition schemes for printing bookwork - Full sheet work; work-and-turn; work-and-tumble

Unit III - Lithographic Plate surface chemistry

Classify main types of lithographic plates - Identify Plate making equipments – whirler, pressure vacuum printing down frame - List out Plate making materials - Define Plate graining - List out processing chemicals - Explain Chemistry of plate making - Discuss how to Control plate making variables - use of plate sensitivity - Control the tone values-use of GATF star target and other devices, continuous tone step wedge - Use Quality control devices used in plate making department.

Unit IV - Computer to technologies and Computer to Film; Computer to Press

The use of Computer to Film/Plate/Press technologies and Networking for the Production of Print Media - Computer to Film Principles & Equipment - Film Materials for CTF - Introduction to Computer to Press - Re-Imageable Printing Plate - Direct Imaging presses for Larger sheet formats - Further Concepts for Computer to Press

Unit V - Computer to Plate

Introduction to Computer to Plate - Technology of Computer to Plate systems for Offset Printing - Imaging methods & Plate Punching - Computer to Plate systems for Offset Printing - Computer to Plate Workflow - Rise in Quality as a result of Computer to Plate - Printing plates for Digital Imaging - Trends in Computer to Plate

Reference Books: Modern film planning and plate making - AL Gate house and Kn Roper, SITA Limited England Stripping: The assembly of film images - GATF Offset lithographic plate making Robert F Reed, GATF the lithographers manual - 7th edition, GATF the lithographers manual - 9th edition.

STATISTICS

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department Of Mathematics & Statistics

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
I B.Sc. (M.S.CS)	I	Descriptive Statistics And Probability Theory	CBSTT101	2017-18

Unit-I

Introduction to Statistics: Concepts of Primary and Secondary data. Methods of collection and editing of primary data, Secondary data. Designing a questionnaire and a schedule.
Measures of Central Tendency - Mean, Median, Mode, Geometric Mean and Harmonic Mean.

Unit-II

Measures of dispersion: Range, Quartile Deviation, Mean Deviation and Standard Deviation.
Descriptive Statistics - Central and Non-Central moments and their interrelationship.
Sheppard's correction for moments. Skewness and kurtosis.

Unit-III

Introduction to Probability: Basic Concepts of Probability, random experiments, trial, outcome, sample space, event, mutually exclusive and exhaustive events, equally likely and favourable outcomes. Mathematical, Statistical, axiomatic definitions of probability.
Conditional Probability and independence of events,

Unit-IV

Probability theorems: Addition and multiplication theorems of probability for 2 and for n events. Boole's inequality and Baye's theorems and problems based on Baye's theorem.

Unit-V

Random variable: Definition of random variable, discrete and continuous random variables, functions of random variable. Probability mass function. Probability density function, Distribution function and its properties. Bivariate random variable - meaning, joint, marginal and conditional Distributions, independence of random variables.

9 Text Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
2. 2 BA/BSc I year statistics - descriptive statistics, probability distribution - Telugu Academy - Dr M.JaganmohanRao, Dr N.SrinivasaRao, Dr P.TirupathiRao, Smt.D.Vijayalakshmi.
3. 3. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI

Reference books:

1. Willam Feller: Introduction to Probability theory and its applications. Volume –I, Wiley
2. Goon AM, Gupta MK, Das Gupta B : Fundamentals of Statistics , Vol-I, the World Press Pvt.Ltd., Kolakota.
3. Hoel P.G: Introduction to mathematical statistics, Asia Publishing house.
4. M. JaganMohanRao and Papa Rao: A Text book of Statistics Paper-I.
5. Sanjay Arora and Bansilal: New Mathematical Statistics: SatyaPrakashan , New Delhi
6. Hogg Tanis Rao: Probability and Statistical Inference. 7th edition. Pearson.

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. (M.S.CS)	II	Mathematical expectation And Probability Distribution	CBSTT201	2017-18

Unit-I

Mathematical expectation : Mathematical expectation(ME) of a random variable and function of a random variable. Moments and covariance using mathematical expectation with examples.Addition and Multiplication theorems on expectation.Definitions of M.G.F, C.G.F, P.G.F, C.F its properties.Chebyshev and cauchy - Schwartz inequalities.

U nit-II

Discrete Distributions : Binomial and Poisson distributions, their definitions, 1st to 4 central moments, M.G.F, C.F, C.G.F, P.G.F, mean, variance, additive property if exists. Possion approximation to Binomial distribution.

U nit-III

Negative Binomial, geometric, hyper geometric distributions - Definitions, means, variances, M.G.F, C.F, C.G.F, P.G.F, reproductive property if exists. Binomial approximation to Hyper Geometric Distribution, Poisson approximation to Negative binomial distribution.

U nit-IV

Continuous Distributions : Rectangular, Exponential, Gamma, Beta Distributions of two kinds. Other properties such as mean ,variance,M.G.F, C.G.F, C.F, reproductive property.

Unit - V

Normal Distribution: Definition, Importance, Properties, M.G.F, additive properties, Interrelation between Normal and Binomial, Normal &Poisson distribution. Cauchy Distribution .

Text Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
2. BA/BSc I year statistics - descriptive statistics, probability distribution - Telugu Academy - Dr M.JaganmohanRao,DrN.SrinivasaRao, Dr P.TirupathiRao, Smt.D.Vijayalakshmi
3. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI.

Reference books:

1. WillamFeller : Introduction to Probability theory and its applications. Volume –I, Wiley
2. Goon AM, Gupta MK, Das Gupta B : Fundamentals of Statistics , Vol-I, the World Press Pvt.Ltd., Kolakota.
3. Hoel P.G: Introduction to mathematical statistics, Asia Publishing house.
4. M. JaganMohanRao and Papa Rao: A Text book of Statistics Paper-I.
5. Sanjay Arora and Bansilal: New Mathematical Statistics: SatyaPrakashan , New Delhi
6. Hogg Tanis Rao: Probability and Statistical Inference. 7th edition Pearson.

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc. (M.S.CS)	III	Statistical Methods	CBSTT301	2017-18

SYLLABUS**Unit-I**

Correlation: Def.,scatter diagram ,its coefficient and its properties. , scatter diagram, computation of correlation coefficient for ungrouped data. spearman's rank correlation coefficient, properties of spearman's correlation coefficients and problems.

Unit-II

Regression: simple linear regression, properties of regression coefficients. Regression lines, Concept of Correlation ratio, partial and multiple correlation coefficients, correlation verses regression and their problems.

Unit – III

Curve fitting: Method of least square - Fitting of linear, quadratic, Exponential and power curves and their problems.

Unit-IV

Attributes : Introduction, Nature, and consistency and mention its conditions. Independence and association of attributes, co-efficient of association, coefficients of contingency and their problems.

Unit –V

Exact sampling distributions: Concept of population, Parameter, random sample, statistic, sampling distribution, standard error. Statement and Properties of χ^2 , t, F distributions and their inter relationships.

Text books

1. BA/BSc II year statistics - statistical methods and inference - Telugu Academy by A. Mohanrao, N.Srinivasa Rao, Dr R.Sudhakar Reddy, Dr T.C. Ravichandra Kum.
2. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI.
3. Fundamentals of Mathematics statistics: VK Kapoor and SC Guptha.

Reference Books:

1. Outlines of statistics, Vol II : Goon Guptha, M.K.Guptha, Das Guptha B.
2. Introduction to Mathematical Statistics : Hoel P.G. Practicals - Semester –III Conduct any 6 (Ms-exel is compulsory) 1. Fitting of straight line. 2. Fitting of exponential curves.
3. Fitting of power curve.
4. Computation of correlation coefficient & Fitting of Regression lines.
5. Rank correlation coefficient.
6. Computation of Contingency coefficients.
7. MS-Excel methods any for the Serial Numbers 1,2,4,5

Class:	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc. (M.S.CS)	IV	Statistics Inference	CBSTT401	2017-18

UNIT I Theory of estimation: Estimation of a parameter, criteria of a good estimator – unbiasedness, consistency, efficiency, & sufficiency and. Statement of Neyman's factorization theorem. Estimation of parameters by the methods of moments and maximum likelihood (M.L), properties of MLE's. Binomial, Poisson & Normal Population parameters estimate by ML method. Confidence intervals of the parameters of normal population.

UNIT II Concepts of Statistical hypothesis: Null and alternative hypothesis, critical region, two types of errors, level of significance, power of a test. 1 tailed, 2 tailed tests, Neyman - Pearson's lemma. Examples in of Binomial. Poisson, Normal distributions.

Unit-III Large Sample Tests : Large sample tests for single mean, two means, Single proportion, Two proportions, Standard Deviation of single and double samples and Fisher's Z transformation .

Unit-IV Small sample tests: Tests of significance based on χ^2 , t and F. χ^2 -test for test for independence of attributes, t-test for single, double and paired tests, Variance Ratio Test(F-test).

Unit-V Non-parametric tests - Advantages and Disadvantages. Two sample run test, Two sample Median test and Two sample sign test.

TEXT BOOKS

1. BA/BSc II year statistics - statistical methods and inference - Telugu Academy by A.Mohanrao, N.Srinivasa Rao, Dr R.Sudhakar Reddy, Dr T.C. Ravichandra Kumar.

2. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI.

REFERENCE BOOKS:

1. Fundamentals of Mathematics statistics : VK Kapoor and SC Guptha.

2. Outlines of statistics, Vol II : Goon Guptha, M.K.Guptha, Das Guptha B.

3. Introduction to Mathematical Statistics : Hoel P.G. 15

Practicals Semester – IV

Conduct any 6 (Ms-exel is compulsory)

1.Large sample tests for mean(s).

2. Large sample tests for proportion(s). 3. Large sample tests for standard deviation(s).

4.Large sample tests for Fisher's Z- transformation.

5.Small sample tests for Single and Doublet-test.

6.Small sample tests for Paired t-test.

7. F-Test.

8. Chi square test for independence of attributes.

9. Non-parametric tests – run test.

10. Non-parametric tests - median test.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	V	APPLIED STATISTICS-I	CBSTT501	2017-18

SYLLABUS

Unit – I

Concepts of population, sample, sampling unit, parameter, statistic, sampling errors, sampling distribution, sample frame and standard error. Principle steps in sample surveys, need for sampling, census versus sample surveys, sampling and non-sampling errors, sources and treatment of non-sampling errors, advantages and limitations of sampling. Types of sampling: Subjective, probability and mixed sampling methods.

Unit – II

Methods of drawing random samples with and without replacement. Estimates of population mean, total and proportion their variances and the estimates of variances in the following methods.

- i) SRSWR and SRSWOR
- ii) Stratified random sampling with proportional and Neyman allocation, and
- iii) Systematic sampling when $N = nk$.

Unit – III

Analysis of variance - Introduction, definition and assumptions. ANOVA one-way classification with one observation per cell. ANOVA two-way classification with one observation per cell. Concept of Gauss – Markoff linear model, statement of Cochran's theorem and Mathematical analysis.

Unit – IV

Importance and applications of design of experiments. Principles of experimentation, Analysis of Completely randomized design (C.R.D), Randomized Block design (R.B.D) and Latin square design (L.S.D) including one missing observation.

List of reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Applied Statistics, Sultan Chand
2. S.P. Gupta: Statistical Methods, Sultan Chand and Sons.
3. Daroga Singh and Chowdhary: Theory and Analysis of Sample survey designs, Wiley Eastern.
4. B.L. Agrawal: Basic Statistics, New age publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	V	OPERATION RESEARCH	CBSTT502	2017-18

SYLLABUS

Unit – I

Linear programming: Meaning and scope of O.R., applications of O.R. Definition of general Linear programming problem (LPP). Mathematical formulation of LPP. Solution of LPP by Graphical method, Simplex algorithm and problems.

Unit – II

Concept of artificial variables. Big – M/penalty method and Two – phase simplex methods. Concept of Degeneracy and resolving it. Concept of duality, and dual simplex method. (Without derivations)

Unit – III

Transportation: Definition of transportation problem. TPP as a special case of LPP, feasible solution by North-West method, Matrix minimum method and Vogel's Approximation method (VAM). Optimal solution through MODI tableau and Unbalanced transportation problem. Degeneracy in transportation problem and resolving it. Transshipment problem.

Unit – IV

Assignment and Sequencing Problems: Formulation and description of Assignment problem. Assignment problem as special case of transportation problem and Assignment problem as special case of LPP. optimal solution using Hungarian method, Unbalanced assignment problem and Traveling salesman problem. Problem of Sequencing, Optimal sequence of n jobs through two machines and Processing of n jobs through three machines without passing.

List of reference books:

1. Kanti Swaroop, P.K. Gupta and ManMohan: Operations Research, Sultan Chand.
2. Taha: Operations Research: An Introduction: Mac Millan.
3. S.D. Sharma: Operations Research, Kedar Nath Ram Nath & co. publishers, Meerut.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	APPLIED STATISTICS-II	CBSTTA601	2017-18

SYLLABUS

Unit – I

Time series and its components with illustrations, additive, multiplicative and mixed models. Determination of trend by Least squares method, moving average methods. Determination of

seasonal indices by Ratio to trend method, Ratio to moving average method and Link relative methods.

Unit – II

Index numbers: Concept, construction, uses and limitations of simple and weighted index numbers. Laspeyre's, Paasche's and Fisher's index numbers, criterion of a good index number, problems involved in the construction of index numbers. Fisher's index number as ideal index number. Fixed and chain base index numbers. Cost of living index number and wholesale price index number. Base shifting, splicing and deflation of index numbers.

Unit – III

Vital statistics: Introduction, Definition and uses of vital statistics. Sources of vital statistics: Registration method and Census method, Rates and ratios, Mortality rates: Crude death rate, Age specific death rate, Standardized death rates (Both direct and indirect methods). Life tables: Construction and uses of complete life table and Notation of abridged life table.

Unit – IV

Fertility rates: Crude birth rate, Age specific fertility rate, General fertility rate, and Total fertility rate. Measurement of population growth: Crude rate of natural increase, Pearle's vital index, Gross reproduction rate and Net reproduction rate. And Notation of population projection.

Official statistics: Functions and organization of CSO and NSSO. Agricultural Statistics, area and yield Statistics. National Income and its computation, utility and difficulties in estimation of national income.

List of reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Applied Statistics, Sultan Chand
2. S.P. Gupta: Statistical Methods, Sultan Chand and Sons.
3. B.L. Agrawal: Basic Statistics, New age publications.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	DESIGN OF EXPERIMENTS	CBSTTA602	2017-18

SYLLABUS

UNIT-I

General factorial experiments, factorial effects, best estimates and testing the significance of factorial effects, estimation of effects, interaction and analysis of 2^n factorial experiments in general with particular reference to $n=2,3$.

UNIT-II

3^2 and 3^3 factorial experiments. Total and partial confounding in case of 2^n (for $n=2, 3$), 3^2 and 3^3 factorial designs.

UNIT-III

Incomplete block designs; balanced incomplete block designs (BIBD), parametric relations, intra block analysis, simple methods constructions of BIBD, resolvable and affine resolvable designs, Partially balanced incomplete block designs (PBIBD) with two associate classes, parametric relations, intra block analysis.

UNIT-IV

Youden square design, simple lattice design, split plot design, strip plot design and their analysis, Gracco latin square design.

Books for study:

1. M.N.Das and N.C.Giri. (1989), Designs and Analysis of Experiments., Wiley Eastern Ltd.
2. Alope Dey. (1986), Theory of Block Designs, Wiley Estern Limited.
3. D.D.Joshi. (1987), Linear Estimation and Design of Experiments., Wiley Eastern Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	Industrial Statistics And Optimization Management	CBSTTA603	2017-18

SYLLABUS

Unit – I

Statistical Process Control: Importance of SQC in industry, Statistical basis of Shewart's control charts, Construction of control charts for variables: Mean chart (\bar{x}), Range chart (R) and Standard deviation chart (\bar{s}) and control charts for attributes: Control chart for fraction defective (p) chart, Control chart for no. of defectives (np or d chart) with fixed and varying sample sizes and Control chart for no. of defects per unit (c chart). Interpretation of control charts, Natural tolerance limits and specification limits, Concept of Six sigma and its importance.

Unit – II

Reliability: Introduction, Hazard function, Exponential distribution as life model, its memory less property, Reliability function and its estimation. Concepts of censoring and truncation. System reliability – series, parallel and k out of N systems and their reliabilities.

Unit – III

Game theory – Definition of Game, Zero sum game, Saddle point, Value of the game, payoff matrix, Dominance property and modified dominance property and Graphical method of solving $2 \times n, m \times 2$ games.

Unit – IV

Network diagram representation, time estimates and critical path in network analysis – Forward pass computations, Backward pass computations, Determination of Floats and Slack times, Determination of Critical path (CPM), Project Evaluation and Review Technique

(PERT) – expected time and variance and expected duration of the project with simple examples.

List of reference books:

1. Introduction to Statistical Quality Control, D.C. Montgomery, Wiley publications.
2. Kanti Swaroop, P.K. Gupta and ManMohan: Operations Research, Sultan Chand.
3. Taha: Operations Research: An Introduction: Mac Millan.
4. S.D. Sharma: Operations Research, Kedar Nath Ram Nath & co. publishers, Meerut.

Clas	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	Sampling Surveys	CBSTTB601	2017-18

SYLLABUS

UNIT-I

Allocation problem in stratified sampling, gain in precision due to stratification, estimation of sample size with continuous data, stratified sampling for proportions

UNIT-II

Populations with linear trend in systematic sampling, circular systematic sampling. Cluster sampling with equal and unequal cluster sizes, optimum cluster size for fixed cost.

UNIT-III

PPS sampling with and without replacements, procedures of selection of a sample, estimator of population total and its sampling variance in PPS with replacement. Horvitz-Thomson estimator and its variance.

UNIT-IV

Two-stage sampling with equal number of second stage units, estimation of population mean, its variance and estimation of variance. Double sampling (two phase sampling) for stratification, variance of the estimated mean, optimum allocation in double sampling.

Books for study:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Applied Statistics, Sultan Chand
2. S.P. Gupta: Statistical Methods, Sultan Chand and Sons.
3. sampling techniques by W.Cochran, John Wiley.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	Statistics in Textile Technology	CBSTTB602	2017-18

UNIT-I

Process mapping, error variation, material balancing statement, invisible loss percentage.

UNIT-II

Vendor development evaluation, non parametric analysis, process capability analysis, Design of Experiments(DOE), Failure Mode and Effect Analysis(FMEA), distributions of continuous variable, tolerance, C.V. percentage, ANOVA, sampling, 7QC tools, distribution of discrete variable.

UNIT-III

6 σ , QED, GRR, Regression analysis, ISO 9001-MAL, ISO 14001-Aspect X Impact, scatter diagram.

UNIT-IV

Inventory control, primary & secondary data collection, compilation, relative probability estimate.

Books for study:

- 1) Russell L.Ackoff-progress in Operations research (vol 1)-John Wiley & Sons (1966).
- 2) American cotton handbook (second edition) by Gilbert R.Merrill, Alfred R.Macormac and Herbert R.Mallersberge. Textile book publishers, Inc., New York (1949).
- 3) Jerry Banks-Principles of Quality Control-John Wiley & Sons, New York (1989).
- 4) Mikel Harry and Richard Schroedu-Six Sigma-Currency Publishers, New York (2000).
- 5) J.E.Booth-Principles of Textile Testing-Butterworths Publishers, London (1968).

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. (M.S.CS)	VI	Actuarial Statistics	CBSTTB603	2017-18

SYLLABUS

UNIT-I

Effective Rate of Interest – Nominal Rate of Interest – Force of Interest. Effective Rate of Interest corresponding to Nominal Rate of Interest and Force of Interest. Accumulation of 1 unit corresponding to the given rate of interest present value of 1 unit due at the end of ‘n’ years corresponding to the given rate of interest, effective rate of discount – nominal rate of discount – force of interest varying continuously.

UNIT-II

Definition of Annuity – present value and Accumulation of an immediate annuity – Annuity due – present value and Accumulation of an Annuity due. Present value and Accumulation of perpetuity and perpetuity due – increasing and decreasing Annuities. Annuities where payments are in Arithmetic Progression. Annuities where payments are made continuously.

UNIT-III

Analysis of Annuity payments – capital and interest elements included in the Annuity payments – Loan outstanding after t payments – purchase price of Annuities – Annuities involving income tax – purchase price of an annuity net of tax.

UNIT-IV

Stochastic Interest rates – Independent annual interest rates – The definition of S_n – Mean and variance of S_n – Definition of A_n - Mean and variance of A_n – simple problems.

List of reference books:

1. Donald, D.W.A. (1975) Compound Interest and Annuities certain Heinemann.
2. McCutcheon, J.J. and Scott, W.F. An Introduction to Mathematics of Finance. Butter Worth & Heinemann.
3. Bowers, N.L., Gerber, H.U., Hickman, J.C, Jones, D.A., and Nesbitt, C.J. (1986) . Actuarial Mathematics. Society of Actuaries, Ithaca, Illinois, U.S.A. 2nd ed. (1997) CH. 1,2,3,4,5,9 & 10

TELUGU**KAKARAPARTI BHAVANARAYANA COLLEGE
(Autonomous) Department of Telugu**

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Com, B.Sc., BBM, BCA, B.Com (Log) & B.Sc. MCCS	I	Old Poetry, Modern Poetry, Prose & Grammar	CBTEL101A	2017-18

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

(Sponsored by SKPVV Hindu High Schools Committee)

Kothapeta, VIJAYAWADA - 1.

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)

బి.కా., బి.యస్.సి., బి.బి.యమ్., బి.సి.ఎ డిగ్రీ మొదటి సంవత్సరం

ద్వితీయ భాష - తెలుగు - పాఠ్యప్రణాళిక - 2015- 2016 నుండి అమలులోకి వచ్చింది.

సెమిస్టర్ - I

Paper Code: **CBTEL101A**

SYLLABUS

ప్రాచీన కవిత్వం [Old Poetry]

- I. నన్నయ - గంగాశంకసుల కథ
ఆంధ్రమహాభారతం - అదివర్యం - నాల్గవ అశ్వాసం (120 - 165)
"నందరుడగు శంకసునకు" నుండి దీప్త భూషణాలంకృత" వరకు
- II. తిక్కన - వ్రాసిన పరిచేపనం - ఆంధ్రమహాభారతం - ఉద్యోగవర్యం - తృతీయ అశ్వాసం (100 - 125)
"ధర్మసందమ పలుకులు" నుండి "అని యూజడిలగ బలికిన" వరకు

III ఆధునిక కవిత్వం [Modern Poetry]

- (అ) గురజాడ - కన్యక
- (ఆ) శ్రీశ్రీ - దేశపరిత్రలు

IV. కథానికలు

- (అ) పాపినేని శివశంకర్ - చింతల శోభ
- (ఆ) బండి నారాయణస్వామి - సాపుకూడు

V. వ్యాకరణం

- (అ) సంఘాలు - సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.న.డ.ద.వాదేశ, రుగాగమ, కుగాగమ, ఆమేడిత, అత్య, జత్య సంఘాలు.
- (ఆ) సమాసాలు - తత్పరుష, కర్మధారయ, ద్వంద్వ, ద్వగు, బహువ్రీహి
- (ఇ) అక్షర దోషాలు - దోషాలు సరిదిద్దే సాధు రూపాలు రాయాలి

గమనిక: ప్రతిపదార్థ తాత్పర్యములకు ప్రాచీన పద్యభాగం నుండి ఈయవలసిన పద్యములు.

I. గంగాశంకసుల కథ

- 1. గంగ విజాంగ దీప్తిలెసనం నుండి: గదంబు లీలకన్
- 2. కనిపన కన్యయో మాచి శ్రీశ్రీకన్
- 3. అతులత పంబునన్ మహాభర కందరంబునన్
- 4. తనకాళ్ళ వశపర్చులై రాజ్యదాఅధర్వశితన్

II. వ్రాసిన పరిచేపనం

- 1. ఉటయొకేంతయేని కొనలనుండినమ్మకా.
- 2. పరిమనెఱుల్లితిన్ వెక్కిన దాననెంతయన్
- 3. వ్రోవదిబంధురంబయిన దిగవళిం యార్జయి
- 4. ముచ్చిర వేల యేఁగఱుగ కొరవైలు ర్కయిత్తురే

2) P. Usha 17/3/17

3) A. Nagesh 17/3/17

"మూర్తి 17/3/17

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
II B.Com, B.Sc., BBM, BCA, B.Com (Log) &	III	Old Poetry, Modern Poetry, Prose & Grammar	CBTEL301A	2017-18

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
 (Sponsored by: S.K.P.V.V. Hindu High Schools' Committee)
 Kothapeta, VHAYAWADA - 520 001.
 (An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)
 డి. కాం., బి.ఎస్.సి., బి.బి.యం., బి.సి.ఎ దిగ్విశేషం సంవత్సరం
 ద్వితీయ భాష - తెలుగు - పాఠ్యభాగం - 2016 - 2017 నుండి అమలులోకి వచ్చింది.
 సెమిస్టర్ - III Paper Code: CBTEL 301A
 ISO: 9001-2008 Certified Institute NAAC with "A" Grade

పాఠ్యభాగం (SYLLABUS)

I. ప్రాచీన కవిత్వం: (Old Poetry)

(అ) వామనాచారం - బమ్మెర పోతన
 ఆంధ్రమహాభాగవతం - ఎనిమిదవ స్కంధం (582-621)
 ("కులమున రాజ్యము" నుండి "రవిలింబంబుసమింప" వరకు)

(ఆ) కాళిదాసాన విజయం - కోటవిగోపరాజు - సింహాసన ద్వారాంతిక - ఒకటవ అక్షాంశం (115 - 165)
 ("సజ్జిత దానదర్శు" నుండి "అట్లు విక్రమార్కుడిల్లిన" వరకు)

II. ఆధునిక కవిత్వం (Modern Poetry)

(అ) హరిజన శతకం (1-20) - కుసుమ దర్శన్న - "శ్రీహరిసుత నీదు" నుండి "నీకులంబువారు" వరకు

(ఆ) సంక్రాంతి సంకరము - రాయప్రోలు సుబ్బారావు - మిక్రమంజరిలోంచి - "అయిదు
 లక్షల అరవదేడులు" నుండి "మంగళము సంక్రాంతి సామికి" వరకు

III. గద్యభాగం (వ్యాస సంపుటి)

(అ) తెలుగు భాష - ఆచార్య గుజ్జర్లమూడి కృపాచారి

(ఆ) వ్యక్తిత్వ వికాసం - ఆచార్య రావపాళెం చంద్రశేఖర రెడ్డి

IV. చందస్సు - అలంకారాలు

(అ) చందస్సు - ఉత్పలమాల, చంపకమాల, శార్దూలం, మత్తేభం,
 కందం, నేటగిరి, ఆటవెలది

(ఆ) అలంకారాలు - ఉపమ, రూపక, ఉచ్ఛేద, స్వభావోక్తి, ఆతిశయోక్తి,
 అర్థాంతరవ్యాస, దృష్టాంతం మరియు శబ్దాలంకారాలు.

గమనిక : ప్రతిపదార్థ తాత్పర్యములను ప్రాచీన పద్యభాగం నుండి అన్వయలసిన పద్యములు

1. వామనాచారం	2. కాళిదాసాన విజయం
1. కావీరాజులు రాజ్యములే లాభం	1. సజ్జితదానదర్శు గుణదారు నయమందగన
2. నిరయంలైన విలంపమైన వేయలేకన	2. అర్జునమూర్తి సర్వశకలంబు లంబువారుదున
3. ఇంతింతైవటుదండెల్లు చందర్శిల్లు	3. కవియంధ్రుండేడి నీవ్యస్యంబారుదుల్లె
4. రవిలింబంబుసమింప బ్రహ్మాండమొప్పుండుమన	4. సత్కర్మప్రతిపాదితార్థు సుబ్బారాజ్యంబుల్లె

2) P. Vishu గ్రామం 12/3/17
 3) D. N. Srinivasulu గ్రామం 12/3/17

TELUGU

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Telugu

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
I B.Com, B.Sc., BBM, BCA, B.Com (Log) & B.Sc. MCCS	I	Old Poetry, Modern Poetry, Prose & Grammar	CBTEL101A	2017-18

Syllabus

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	4	-	3 Hours	25	75	

Course Objectives: The life of a student's starts with the mother tongue, according to psychologist the education for students in their mother language will help them to know the subject in detail without any stress and develop in their life accordingly.

So, students to develop their mother tongue and they should have a good command on traditional poetry, Modern poetry and Story Poetry. So, to develop these qualities the students should work out on learning stories and novels in these own mother language due to this they will find a good interest on their mother tongue. By reading these things the student even get more ability to have a good over view on society and history.

I think this paper helps in developing the values which are the most important for the student carrier.

Course Outcomes:

- To promote leadership qualities through oration
- To mould the students into an accommodative, broad minded and duty minded citizens with good Behaviour and character.
- To make the students free from visuals as to develop love to Indian culture and heritage through Telugu literature.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

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Kothapeta, VIJAYAWADA - 1.

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బి.కాం., బి.యస్.సి., బి.బి.యమ్., బి.సి.ఎ డిగ్రీ మొదటి సంవత్సరం

ద్వితీయ భాష - తెలుగు - పాఠ్యప్రణాళిక - 2015- 2016 నుండి అమలులోకి వచ్చింది.

సెమిస్టర్ - I

Paper Code: **CBTEL101A**

SYLLABUS

ప్రాచీన కవిత్వం [Old Poetry]

- I. సన్నయ - గంగాశంకసుల కథ
ఆంధ్రమహాభారతం - ఆదిపర్వం - నాల్గవ అశ్వాసం (120 - 165)
"నంపరుడగు శంతనునకు" నుండి దివ్య భూషణాలంకృత" వరకు
- II. తిక్కన - ద్రౌపది పరిచేవనం - ఆంధ్రమహాభారతం - ఉద్యోగపర్వం - తృతీయ అశ్వాసం (100 - 125)
"ధర్మనందను పలుకులు" నుండి "అని యూఱడిలగ బలికిన" వరకు

III. ఆధునిక కవిత్వం [Modern Poetry]

- (అ) గురజాడ - కన్యక
(ఆ) శ్రీశ్రీ - దేశపరిత్రలు

IV. కథానికలు

- (అ) పాపినేని శివశంకర్ - చింతల తోపు
(ఆ) బండి నారాయణస్వామి - సావుకూడు

V. వ్యాకరణం

- (అ) సంధులు - సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.న.డ.ద.వాదేశ, రుగాగమ, టుగాగమ, ఆమ్రేడిత, అత్య, ఇత్య సంధులు.
(ఆ) సమాసాలు - తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి
(ఇ) అక్షర దోషాలు - దోషాలు సరిదిద్ది సాధు రూపాలు రాయాలి

గమనిక: ప్రతిపదార్థ తాత్పర్యములకు ప్రాచీన పద్యభాగం నుండి ఈయవలసిన పద్యములు.

I. గంగాశంకసుల కథ

1. గంగ నిజాంగ దీప్తులైసంగం నుండె గరంబు లీలతోన్
2. కనివన కన్యయో చూచె గ్రీతితోన్
3. అతులత పంబునన్ మహీధర కందరంబునన్
4. తపకాణ్ణ వశవర్తులై రాజద్రాజధర్మస్థితన్

II. ద్రౌపది పరిచేవనం

1. ఓటయొకింతయేని కొనలనుండనమ్యతా.
2. పరమునఁబుట్టితిన్ నెక్కిన దాననెంతయున్
3. ద్రౌపదిబంధురంబయిన దిగ్గనలేచి యార్చయై
4. మ్రుచ్చిర నేల యేఁగలుగ కొరవులు ర్షియిత్తురే

1) P. Usha 17/3/17

2) A. N. S. J. O. K. 17/3/17

"Suresh" 17/3/17

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Telugu

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
I B.Com, B.Sc., BBM, BCA, B.Com (Log) & B.Sc. MCCS	II	Old Poetry, Modern Poetry, Prose & Novel	CBTEL201A	2017-18

Syllabus

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Total No of Hours for Teaching - Learning	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	4	-	3 Hours	25	75	

Course Objectives: In this paper let us know about the traditional values and social morals which are basically from their mother language. In this mainly we have to learn how to respect the people around us like poets and actors and also how to respect our own tradition. We have to save our environment not only saving but even we have bring awareness to the surrounding people that which kind of trees are helpful to the environment and we have plant thoughts trees. We have to teach the next generation that both men and women have equal rights. Now a days the modern people forgetting the struggle of a farmer and even there are forgetting the janapada songs and attracting to words western culture.

Every student will become a responsible person to words the society. I hope this paper helps the students to improve their values and morals and leading their life towards success.

Course Outcomes:

- To promote leadership qualities through oration
- To mould the students into an accommodative, broad minded and duty minded citizens with good Behaviour and character.
- To make the students free from visuals as to develop love to Indian culture and heritage through Telugu literature.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Telugu

Class:	Semester:	Title of The Paper:	Paper Code:	W.E.F
II B.Com, B.Sc., BBM, BCA, B.Com (Log) & B.Sc. MCCS	III	Old Poetry, Modern Poetry, Prose & Grammar	CBTEL301A	2017-18

Syllabus

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Total No of Hours for Teaching - Learning	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	4	-	3 Hours	25	75	

Course Objectives: In our state the schools and college are organized in such a way that to improve literature and have a good command over telugu your mother tongue. The characters in Bhagavatam which shows your tradition and Vikranaditya Parakrama which shows our royalty.

The language telugu which has great history containing with different cultural festivals and even it teach us good behavior and awareness which make knowledge or perception of a situation or fact. The chandassu and alankaralu which are the traditional conditions for telugu poetry were still learning by students, which indicates your obedience towards mother tongue telugu.

Course Outcomes:

- To promote leadership qualities through oration
- To mould the students into an accommodative, broad minded and duty minded citizens with good Behaviour and character.
- To make the students free from visuals as to develop love to Indian culture and heritage through Telugu literature.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
(Sponsored by: S.K.P.V.V. Hindu High Schools' Committee)
Kothapeta, VIJAYAWADA - 520 001.

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)

బి. కాం., బి.ఎన్.సి., బి.బి.యం., బి.సి.ఎ

డిగ్రీ - గ్రేడేషన్ సంవత్సరం

ద్వితీయ భాష - తెలుగు - పాఠ్యపాఠిక - 2016 - 2017 నుండి అమలులోకి వచ్చింది.

సెమిస్టర్ - III

Paper Code: CBTEL 301A

ISO: 9001-2008 Certified Institute

NAAC with "A" Grade

పాఠ్యపాఠిక (SYLLABUS)

I. ప్రాచీన కవిత్వం: (Old Poetry)

- (అ) వామనావతారం - బమ్మెర వీరేశ
అంధమహాభాగవతం - ఎనిమిదవ స్కంధం (582-621)
("కులమున్ రాజ్యము" నుండి "రవిబింబులుపమింప" వరకు)
- (ఆ) కాలివాహన విజయం - కొఱవిగోపరాజు - సింహాసన ద్వైతాంశిక - ఒకటవ అశ్వాసం (115 - 165)
("సజ్జిత దానధర్మ" నుండి "ఇట్లు విక్రమార్కుడిల్లిన" వరకు)

II. ఆధునిక కవిత్వం (Modern Poetry)

- (అ) హరిజన శతకం (1-20) - కుసుమ ధర్మన్న - "శ్రీహరిసుత నీడు" నుండి "నీకులంబువారు" వరకు
- (ఆ) సంక్రాంతి సంబరము - రాయప్రోలు సుబ్బారావు - మిశ్రమంజరిలోంచి - "అయిదు లక్షల అరవదేడులు" నుండి "మంగళము సంక్రాంతి సామికి" వరకు

III. గద్యభాగం (వ్యాస సంపుటి)

- (అ) తెలుగు భాష - ఆచార్య గుజ్జర్లమూడి కృపాచారి
- (ఆ) వ్యక్తిత్వ వికాసం - ఆచార్య రాచపాళెం చంద్రశేఖర రెడ్డి

IV. ఛందస్సు - అలంకారాలు

- (అ) ఛందస్సు - ఉత్పలమాల, చంపకమాల, శార్దూలం, మత్తేభం, కందం, తేటగీతి, ఆటవెలది
- (ఆ) అలంకారాలు - ఉపమ, రూపక, ఉత్పేక్ష, స్వభావోక్తి, అతిశయోక్తి, అర్థాంతరన్యాస, దృష్టాంతం మరియు శబ్దాలంకారాలు.

గమనిక : ప్రతిపదార్థ తాత్పర్యములను ప్రాచీన పద్యభాగం నుండి ఇవ్వవలసిన పద్యములు

1. వామనావతారం	2. కాలివాహన విజయం
1. కారేరాజులు రాజ్యముల్ బాధవా!	1. సజ్జితదానధర్మ గుణవారు _____ సీయమండగన్
2. నిరయంలైన నిబంధమైన _____ వేయేటికిన్	2. అర్కునిమూర్తి సర్వకళలందు _____ బంపునాపుడున్
3. ఇంతింతవెంటుడింతయై _____ సంవర్షయై	3. కనియింధ్రుండిడి _____ దివ్యస్యందనారుడుడై
4. రవిబింబులపమింప _____ బ్రహ్మాండమున్నిందుచున్	4. సత్సతప్రతిపాదితార్థు _____ సుల్కాధిలక్ష్యంబులై

2) P. Usha 17/3/17 "మూర్తి" 17/3/17
3) A. N. Srinivas 17/3/17

ZOOLOGY



KAKRAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

Sponsored by S.K.P.V.V. Hindu High School' Committee
Kothapeta, Vijayawada – 520 001.

A College with Potential for Excellence (CPE)
All India 92nd Rank in NIRF by MHRD

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	I	Animal Diversity Of Invertebrates - I	CB ZOO 101	2015-16

Syllabus

SEMESTER-I, PAPER-I

ANIMAL DIVERSITY OF INVERTEBRATES – I, CB ZOO 101

UNIT – I

12 Hrs.

- 1.0 Brief History, Significance of Diversity of Invertebrates
- 1.1 Phylum Protozoa: General Characters of Protozoa
Type Study: Elphidium
- 1.3 Phylum Porifera: General Characters of Porifera
Type Study: Sycon
Canal System in Sponges

UNIT – II

12 Hrs.

- 2.0 Phylum Coelenterata: General Characters
Type Study: Aurelia
Polymorphism in Coelenterates
Corals and Coral Reef Formation
- 2.1 Phylum Platy helminthes: General Characters
Type Study: Fasciola hepatica
- 2.2 Phylum Nematelminthes: General characters
Type Study: Ancylostoma duodenale: External Characters, Life history

UNIT – III

12 Hrs.

- 3.0 Phylum Annelida: General Characters
Type Study: Leech
- 3.1 Metamerism in Annelida
- 3.2 Vermiculture: Scope, Significance of Vermiculture, Earthworms Sps., Processing of Vermiculture, Vermicompost and Economic importance of Vermicompost.

UNIT – IV

12 Hrs.

- 4.0 Phylum Arthropoda: General Characters
Type Study: Macrobrachium rosenbergii (Scampi)
Peripatus – Structure, Affinities
- 4.1 Phylum Mollusca: General Characters
Pearl formation in Pelecypoda
Torsion in Gastropoda

UNIT – V

12 Hrs.

5.0 Phylum Echinodermata: General Characters

Waster Vascular System of Star Fish

5.1 Invertebrates Larval Forms: Amphiblastula, Ephyra, Trochophore, Nauplius, Zoea, Glochidium, Bipinnaria, Auricularia

Type Study: Elphidium

5.2 Phylum Hemichordata: General Characters

Type Study: Balanoglossus, Structure and Affinities, Tornaria Larva

Reference Books:

- Modern Text Book of Zoology Invertebrates – R. L. Kotpal
- A Text Book of Invertebrates – Arumugam et.al.
- Ecological Zoology – Saras Publications

Class	Semester	Title of The Paper	Paper Code	W.E.F
I B.Sc. CBZ	II	Animal Diversity Of Vertebrates - II	CB ZOO 201	2015-16

Syllabus**SEMESTER-II, PAPER-II****ANIMAL DIVERSITY OF VERTEBRATES – II****CB ZOO 201****UNIT – I**

10 Hrs.

1.0 Protochordata: Salient features of Urochordata and Cephalochordate

1.1 Structure of Branchiostoma & affinities

1.2 Structure and Life history of Herdmania, Significance of Retrogressive Metamorphosis.

1.3 General characters of Chordates

UNIT – II

10 Hrs.

2.0 General characters of Cyclostomes, Difference between Petromyzon & Myxine

2.1 General characters of Fishes and Dipnoi Fishes

2.2 Type Study: **SCOLIODON**: Morphology, Digestive system, Respiratory System, Heart & Brain

2.3 Migration in Fishes

2.4 Types of scales in fishes

UNIT – III

15 Hrs.

3.0 General Characters of Amphibians

3.1 Type Study – **RANA**: Morphology, Digestive system, Respiratory System, Heart & Brain

3.2 Parental Care in Amphibians

3.3 General Characters of Reptiles

Type Study – **CALOTES**: Morphology, Digestive system, Respiratory System, Heart & Brain

UNIT – IV

15 Hrs.

4.0 General Characters of Aves

Type Study – **PIGEON** (*Columbia livia*): Exoskeleton, Digestive System, Respiratory System

4.1 Significance of Migration in Birds

4.2 Flight adaptations in birds

UNIT – V

10 Hrs.

5.0 General Characters of Mammals

5.1 Comparison of Prototherians, Metatherians

5.2 Dentition in Mammals

Reference Books:

- Modern Text Book of Zoology, Vertebrates – R. L. Kotpal
- Chordate Zoology – P.S Dhami & J.K. Dhami
- Chordate Zoology & Animal Physiology – E.L. Jordan & P.S. Varma
- B.S Second Year Zoology, Telugu Akademi

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc. CBZ	III	Cytology, Genetics And Evolution	CB ZOO 301	2016-17

SYLLABUS**SEMESTER-III, PAPER-III CB ZOO 301
CYTOLOGY, GENETICS AND EVOLUTION****UNIT-I****12 Hrs.****(Cytology – I)**

1.1 Electron microscopic structure of Eukaryotic cell

1.2 Plasma membrane - Fluid mosaic model, Transport functions of plasma membrane (active & passive)

1.3 Structure and functions of Endoplasmic reticulum.

1.4 Structure and functions of Golgi body.

UNIT-II**12Hrs.****(Cytology – II)**

2.1 Structure and functions of Mitochondria & Ribosomes.

2.2 Chromosomes - Structure, types, functions, Giant Chromosomes (lamp brush & Polytene)

2.3 DNA: Watson & Crick model of DNA, Semi Conservative Replication

2.4 RNA - Structure, types & functions of RNA.

Unit – III**12Hrs.****(Genetics-I)**

3.1 Mendel's laws of inheritance

3.2 Incomplete dominance and co-dominance

3.3 Deviation from Mendelian inheritance - Lethal alleles, Epistasis, Pleiotropy, Complementary genes.

3.4 Linkage and Crossing over

Unit – IV**12Hrs.****(Genetics-II)**

- 4.1 Sex determination - Genic balance theory / Bridges theory, Barr bodies.
- 4.2 Extra chromosomal inheritance - Kappa particles in Paramecium & Shell coiling in Snail
- 4.3 Human Karyotyping
- 4.4 Genetic disorders-(autosomal & allosomal)

Unit – V**12Hrs.****(Evolution)**

- 5.1 Neo – Darwinism / Modern Synthetic Theory of Evolution
- 5.2 Hardy Weinberg Equilibrium, types of natural selection (directional, stability & disruptive)
- 5.3 Isolating Mechanisms – Pre zygotic and Post zygotic.
- 5.4 Speciation - Allopatric and Sympatric.
- 5.5 Macro Evolutionary Principles – Examples of Darwin Finches.

Zoogeography

5.6 Study of physical and faunal peculiarities of Oriental, Australian and Ethiopian regions

Reference Books:

1. Cell Biology, Genetics & Evolution ----- P.S. Varma & V.K. Agarwal
2. Cell & Molecular Biology ----- P.K. Gupta
3. Cell Biology ----- S.C. Rastogi
4. Genetics ----- Dr. R.P. Meyyan
5. Genetics ----- P.K. Gupta
6. Genetics & Organic Evolution ----- Veera Bala Rastogi

Class	Semester	Title of The Paper	Paper Code	W.E.F
II B.Sc. CBZ	IV	Embryology, Physiology & Ecology	CB ZOO 401	2016-17

SYLLABUS**Semester: IV, Paper – IV****EMBRYOLOGY, PHYSIOLOGY & ECOLOGY CB ZOO 401****Unit – I
(Embryology)****15 Hrs.**

- 1.1 Gametogenesis - Spermatogenesis, Oogenesis
- 1.2 Fertilization
- 1.3 Types of eggs
- 1.4 Types of cleavages
- 1.5 Foetal membranes in Chick
- 1.6 Development, types and functions of Placenta in mammals

Unit – II
(Physiology - I)

15 Hrs.

- 2.1 Elementary study of process of digestion in mammals.
- 2.2 Respiration –Structure of mammalian lungs, Transport of oxygen and carbon dioxide
- 2.3 Circulation - Structure and functioning of mammal heart and Cardiac cycle
- 2.4 Excretion - Structure of nephron, urine formation and counter current mechanism

Unit – III
Physiology

10 Hrs.

- 3.1 Production & propagation of nerve impulse – Resting potential & Action potential, Synaptic transmission.
- 3.2 Muscle contraction - Ultra structure of muscle fiber, molecular and chemical basis of muscle contraction.
- 3.3 Endocrine glands - Structure, secretions and the functions of pituitary, thyroid, parathyroid and adrenal glands.
- 3.4 Estrous and menstrual cycles in mammals.

Unit – IV
(Ecology – I)

10 Hrs.

- 4.1 Abiotic factors of Ecosystem – Temperature, Light& Water.
- 4.2 Nutrient cycles – Nitrogen, Carbon and Phosphorus Cycles.
- 4.3 Habitat and ecological niche, Ecotone and Edge effect

Unit – V
(Ecology – II)

10 Hrs.

- 5.1 Community interactions - Mutualism, commensalism, Competition, predation & Parasitism.
- 5.2 Population studies – Natality, Mortality, Population density, Survival ship curves
- 5.3 Ecological succession- Hydrosere

Reference books:

- 1. Gilbert, S.F. ----- Developmental Biology
- 2. M. P. Arora ----- Ecology --- Himalaya Publishing Company
- 3. P.D. Sharma ----- Environmental Biology
- 4. Sherwood, Klandrof, Yanc ----- Animal Physiology
- 5. Roger Eckert & Randal ----- Animal Physiology
- 6. H.P. Singh ----- Physiology

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	V	Animal Biotechnology	CB ZOO 501	2017-18

Syllabus

ZOOLOGY SYLLABUS FOR V SEMESTER

ZOOLOGY-PAPER-V – CB ZOO 501

ANIMAL BIOTECHNOLOGY

Unit 1: Tools of Recombinant DNA technology- Enzymes and Vectors 15 Hrs.

1.1 Restriction modification systems:

1.1.1: Restriction Endonucleases: Types I II and III-Nomenclature, Mode of action

1.1.2: Applications of Type II restriction enzymes in genetic engineering

1.2 DNA modifying enzymes and their applications:

1.2.1: DNA polymerases, Terminal deoxy nucleotidyl transferases, kinases, phosphatases, and DNA ligases

1.3 Cloning Vectors:

1.3.1: Properties of Cloning Vectors

1.3.2: Plasmid vectors: pBR322 and pUC 19; Bacteriophage lambda and M13based vectors, Cosmids,

1.3.3: Artificial Chromosome vectors: BACs, YACs,

Unit 2: Techniques of Recombinant DNA technology 15 Hrs.

2.1 Cloning:

2.1.1: Procedure of gene cloning

2.1.2: Use of linkers and adaptors

2.2 Gene delivery:

2.2.1: Microinjection, Electroporation, biolistic method (gene gun), Calcium method.

2.3 PCR:

2.3.1: Basics of PCR: Definition, Principle and Procedure of PCR.

2.4 DNA Sequencing:

2.4.1: Sanger's method of DNA sequencing-traditional and automated sequencing

2.4.2: DNA finger printing.

2.5 Hybridization techniques:

2.5.1: Southern, Northern and Western blotting,

2.6 Genomic and cDNA libraries:

2.6.1: Preparation and uses

UNIT3: Animal Cell Technology

3.1 Cell culture media:

10 Hrs.

3.1.1: Natural and Synthetic

3.2 Types of Cell cultures:

3.2.1: Primary culture, Secondary culture

3.2.2: Protocols for Primary Cell Culture

3.2.3: Continuous Cell Lines, Established Cell lines (common examples such as MRC, HeLa, CHO, BHK, and Vero)

3.2.4: Cryopreservation of cultures.

3.3 Hybridoma Technology:

3.3.1: Cell fusion, Production of Monoclonal antibodies (mAb)

3.3.2: Applications of mAb

3.4 Stem cells:

3.4.1: Types of stem cells - Embryonic and Adult Stem Cells

3.4.2: Application of Stem Cell Technology in Cell based therapy – Diabetes and Parkinson's diseases.

Unit 4: Reproductive Technologies & Transgenic Animals

10 Hrs.

4.1 Manipulation of reproduction in animals:

4.1.1: Artificial Insemination, *In vitro* fertilization

4.1.2: Super ovulation, Embryo transfer, Embryo cloning

4.2 Transgenic Animals:

4.2.1: Production of Transgenic Animals -sheep, fish

Unit 5: Applied Biotechnology

10 Hrs.

5.1 Industry:

5.1.1: Fermentation: Different types of Fermentation

5.1.2: Submerged & Solid State: Batch, Fed batch & Continuous (Short notes only)

5.1.3: Downstream processing-Filtration, centrifugation, extraction, chromatography, spray drying and Lyophilisation

5.2 Fisheries:

5.2.1: polyploidy in fishes

SUGGESTED READING

1. 1. Brown TA. (2010). Gene Cloning and DNA Analysis. 6th edition. Blackwell Publishing, Oxford, U.K.

- Clark D and Pazdernik NJ. (2009). Biotechnology: Applying the Genetic Revolution. Elsevier Academic Press, USA
- Primrose S and Twyman RM. (2006). Principles of Gene Manipulation and Genomics, 7th edition. Blackwell Publishing, Oxford, U.K.
- Sambrook J and Russell D. (2001). Molecular Cloning - A Laboratory Manual. 3rd edition. Cold Spring Harbor

Laboratory Press

- Wiley JM, Sherwood LM and Woolverton CJ. (2008). Prescott, Harley and Klein's Microbiology. McGraw Hill Higher Education
- Brown TA. (2007). Genomes-3. Garland Science Publishers

- PrimroseSBandTwymanRM.(2008).Genomics:Applicationsinhumanbiology.Blackwell Publishing, Oxford, U.K.
- Animal Cells Culture and Media, D.C. Darling and S.J. Morgan, 1994.BIOS Scientific publishers Limited.
- Methods in Cell Biology, Volume57, Jennie P. Mathur and David Barnes, 1998.Animal Cell Culture Methods Academic Press.
- P. K.Gupta: Biotechnology and Genomics, Rastogipublishers(2003).
- B. D. Singh:Biotechnology,Kalyanipublishers,1998(Reprint2001)

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	V	Animal Husbandry	CB ZOO 502	2017-18

Syllabus

ZOOLOGY SYLLABUS FOR V SEMESTER

ZOOLOGY-PAPER-VI – CB ZOO 502

ANIMAL HUSBANDRY

UNIT-I:

10 Hours

- 1.1 General introduction to poultry farming.
- 1.2 Principles of poultry housing, Poultry houses.
- 1.3 Systems of poultry farming.
- 1.4 Management of chicks, growers, layers, and broilers.

UNIT-II:

10 Hours

- 1.1 Poultry feed management–Principles of feeding, Nutrient requirements for different stages of layers and broilers.
- 1.2 Methods of feeding – Whole grain feeding system, Grain and mash method, All mash method, Pellet feeding
- 1.3 Poultry diseases–viral, bacterial, fungal and parasitic (two each); symptoms, control and management.

UNIT-III:

10 Hours

- 3.1 Selection, care and handling of hatching eggs.
- 3.2 Egg testing
- 3.3 Methods of hatching
- 3.4 Brooding and rearing
- 3.5 Sexing of chicks.

UNIT-IV:

20 Hours

- 4.1 Breeds of Dairy Cattle and Buffaloes–Definition of breed; Classification of Indian Cattle breeds, exotic breed and Indian buffalo breeds.
- 4.2 Systems of inbreeding and crossbreeding.
- 4.3 Housing of dairy animals–Selection of site for dairy farm; systems of housing–loose, housing system. Conventional dairy barn.

UNIT-V:**10 Hours**

5.1 Care and management of dairy animals-Care and management of calf, heifer, milk animal, dry and pregnant animal, bulls and bullocks.

5.2 Cleaning and sanitation of dairy farm. Weaning of calf. Castration and dehorning.

Deworming and Vaccination Programme. Records to be maintained in a dairy farm

SUGGESTED READING:

- Handbook of Poultry Production and Management (2010) Second edition by NV Jadhav& MF Siddiquiee JAYPEE publications
- Poultry Production (1984), Third Edition, R.A. Singh, New Delhi.
- Poultry Husbandry (1984), Morley A, Jull, New Delhi.
- EGG & EGG production Jagadeesh Prasad, Chand publications
- Jull Morley, A. 1971: Poultry Husbandry, Tata McGraw Hill Publ. Co New Delhi, India.
- Sastry, Thomas and Singh, 1982: Farm Animals Management and Poultry production, Vikas Publ. co. New Delhi, India.
- Harbans Singh and Earl. N. Moore, 1982: Livestock and poultry production, prentice hall India ,Publ. Co., New Delhi, India.
- Banarjee, G.C. 1986: poultry, Oxford IBH publ. co., New Delhi, India
- A text book of Animal Husbandry – VIII- Edition – ISBN – 81- 204 – 1260 -5
Oxford & IBH Publishing co. Pvt. Ltd., New Delhi.
- Trends in livestock Research – Agrobios [India], jodhpur – India

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Immunology	CB ZOOA 601	2017-18

Syllabus**Zoology – Elective Paper: VII: CB ZOOA 601****Unit – I****10Hrs.****1.1 Over view of Immune system**

1.1.1: Introduction to basic concepts in Immunology

1.1.2: Innate and adaptive immunity

1.2 Cells and organs of Immune system**10Hrs.**

1.2.1: Cells of immune system

1.2.2: Organs of immune system

Unit –II**10Hrs.****2.1 Antigens**

2.1.1: Basic properties and types of antigens

2.1.2: B and T cell Epitopes, Haptens and Adjuvants

2.1.3: Factors influencing immunogenicity

Unit –III **10Hrs.**

3.1 Antibodies

- 3.1.1: Structure of antibody
- 3.1.2: Classes and functions of antibodies

Unit –IV **15Hrs.**

4.1 Working of Immune system

- 4.1.1: Structure and functions of Major Histocompatibility Complexes (MHC)
- 4.1.2: Exogenous and Endogenous pathways of antigen presentation and processing
- 4.1.3: Basic properties and functions of Cytokines

Unit –V **15Hrs.**

5.1 Immune system in health and disease

- 5.1.1: Classification and brief description of various types of hypersensitivities
- 5.1.2: Introduction to concepts of autoimmunity and immunodeficiency

5.2 Vaccines

- 5.2.1: General introduction to vaccines
- 5.2.2: Types of vaccines

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	CELLULAR METABOLISM & MOLECULAR BIOLOGY	CB ZOOB 601	2017-18

Syllabus CB ZOOB 601

CELLULAR METABOLISM AND MOLECULAR BIOLOGY

Periods: 60

Max. Marks: 75

Unit I: Biomolecules

12Hrs.

- 1.1 Carbohydrates-Classification of carbohydrates and structure of glucose
- 1.2 Proteins- Classification of proteins and general properties of amino acids
- 1.3 Lipids- Classification of lipids
- 1.4 Nucleic acids: DNA–Structure and function; RNA-Structure, types and functions

Unit II: Enzymes and Cellular Metabolism

12Hrs.

- 2.1. Introduction to biocatalysts, Enzymes and their classification, Enzyme kinetics, Mechanism of action- Inhibition and Regulation
- 2.2 Carbohydrate Metabolism- Glycolysis, Krebs cycle, Gluconeogenesis.
- 2.3 Glycogen metabolism

Unit -III: Cellular Metabolism

12Hrs.

- 3.1 Lipid Metabolism- Biosynthesis and oxidation of palmitic acid
- 3.2 Protein metabolism-Transamination, Deamination and Urea Cycle

Unit – IV: Cell Physiology

12Hrs.

- 4.1 Cell junctions–Tight junctions, desmosomes, gap junctions

Unit -V: Gene Expression**12Hrs.**

5.1 Gene Expression in prokaryotes (Lac Operon)

5.2 Gene Expression in eukaryotes

5.3 Transcription and Translation.

SUGGESTED READINGS:

- M., Tymoczko, J. L. and Stryer, L. (2006). Biochemistry. VI Edition .W.H. Freeman and Co.
- Nelson, D. L., Cox, M. M. and Lehninger, A.L. (2009). Principles of Biochemistry. IV Edition. W.H. Freeman and Co.
- Murray, R. K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2009). Harper's Illustrated Karp, G. (2010), Cell and molecular biology: Concepts and experiments. VI edition. John Wiley and sons. Inc.
- De Robertis, EDP and De Robertis EMF (2006). Cell and molecular biology. VIII edition.
- Lippincott Williams and Wilkins, Philadelphia Biochemistry. XXVIII Edition. Lange Medical Books/Mc Graw3Hill.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Medical Diagnostics Clinical Biochemistry	CB ZOOA 602	2017-18

Syllabus CB ZOOA 602**CLINICAL BIOCHEMISTRY**

Hours: 60

Marks: 75

UNIT–I: Basic Medical Laboratory Principles and Procedures:**10 Hours**

1.1 Introduction to clinical biochemistry.

1.2 Glassware.

1.3 Solutions and Reagents – Normal, Molar, percent, buffer solutions and indicators.

1.4 Equipment and Instruments– Centrifuges, Hot air oven, Incubator, Water bath,

Photometer, Spectrophotometer, Analyzer and their quality Control.

UNIT–II: Clinical Biochemistry of Carbohydrates, Proteins & Lipids:**20 Hours**

2.1 Elementary classification and metabolism of carbohydrates.

2.1.1: Properties of carbohydrates.

2.1.2: Regulation of blood sugar and Diabetes.

2.1.3: Glucose Tolerance Test and Glycosylated Hemoglobin.

2.2 General classification of proteins.

2.2.1: Structure of proteins.

2.2.2: Summary of protein digestion and amino acid metabolism.

2.2.3 Determination of serum proteins.

2.3 General lipid metabolism.

2.3.1 Primary and Secondary Dys lipo protein

UNIT–III: Clinical Biochemistry of Enzymes:**10 Hours**

3.1 Enzymes as catalysts.

3.2 Enzyme specificity.

3.2.1: Factors which affect enzyme activity.

3.2.2: Coenzymes and Isoenzymes.

3.3 Enzymes in clinical diagnosis.

3.3.1: Use of enzymes as reagents.

3.3.2: Laboratory determinations of enzymes–Clinical significance of SGOT, SGPT, SALP
SACP, Serum Amylase**UNIT-IV: Water & Mineral Metabolism and Acid-Base Balance:****10 Hours**

4.1 Mineral metabolism.

4.1.1: Importance of the trace elements.

4.2 Flame photometry.

4.2.1: Action of buffer systems – Acetate & bicarbonates.

4.2.2: Disturbances in acid-base balance

UNIT-V: Function Tests:**10 Hours**

5.1 Diseases of the kidneys.

5.1.1: Creatine metabolism.

5.1.2: Bile pigment metabolism.

5.1.3: Disordered Bilirubin metabolism.

5.1.4: Hepatic Jaundice and Post hepatic jaundice.

5.2 Ischemic heart disease.

5.3 Clinical significance of gastric analysis

SUGGESTED READINGS

- Park, K.(2007), Preventive and Social Medicine, B.B. Publishers
- Godkar P.B. and Godkar D.P. Text book of Medical Laboratory Technology, II Edition, Bhalani publishing house.
- Cheesbrough M., A Laboratory Manual for Rural Tropical Hospitals, A Basis for Training courses
- Guyton A.C. and Hall J.E. Textbook of Medical Physiology

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Haematology	CB ZOOA 603	2017-18

HAEMATOLOGY
Syllabus CB ZOOA 603

UNIT–I: Laboratory Preparation in Hematology: 10 Hours

- 1.1 Introduction to practical.
- 1.1.1: Basic requirements.
- 1.2 Collection of blood.
- 1.2.1: Anticoagulants and effects of anticoagulants on blood cell morphology.
- 1.2.2: Effects of storage of blood.

UNIT–II: Routine Hematology: 15 Hours

- 2.1 Composition of blood.
- 2.2 Hemoglobin synthesis.
- 2.2.1: Various hemoglobin's.
- 2.2.2: Haemopoietic system of the body.
- 2.3 Blood cell counts.
- 2.3.1: Thrombopoiesis.
- 2.3.2: Laboratory technique of haemocytometry.
- 2.3.3: Clinical significance of total erythrocyte count, total leucocyte count differential count, erythrocyte sedimentation rate and platelet count.

UNIT–III: Haemostasis and Haematological Diseases: 15 Hours

- 3.1 General consideration of blood coagulation.
- 3.1.1: Mechanism of coagulation.
- 3.1.2: The fibrinolytic mechanism.
- 3.1.3: Clinical significance of routine coagulation tests.
- 3.2 Anaemia.
- 3.2.1: Various types of anemia's–Iron deficiency anemia, aplastic anemia, Perinicious anemia, Sideroblastic anemia and Sickel cell anemia.
- 3.3 Other haematological diseases–HDNB, Thalassemia, Leukaemia.

UNIT-IV: Automation in Hematology: 10 Hours

- 4.1 Blood cell counters.
- 4.1.1: Flow through cyto chemical differential counter.
- 4.1.2: Automated coagulated systems

UNIT-V: Immuno hematology and Blood banking: 10 Hours

- 5.1 Human Blood Group Systems.
- 5.2 Inheritance of blood group systems.
- 5.3 Blood transfusion

SUGGESTED READINGS

- Park, K.(2007), Preventive and Social Medicine, B.B. Publishers
- Godkar P.B. and Godkar D.P. Textbook of Medical Laboratory Technology, II Edition, Bhalani Publishing House
- Cheesbrough M., A Laboratory Manual for Rural Tropical Hospitals, A Basis for Training Courses

- Guyton A.C. and Hall J.E. Textbook of Medical Physiology.
- Robbins and Cortan, Pathologic Basis of Disease, VIII Edition.
- Prakash, G.(2012), Lab Manual on Blood Analysis and Medical Diagnostics, S. Chand and Co. Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Clinical Microbiology	CB ZOOA 604	2017-18

CLINICALMICROBIOLOGY
Syllabus CB ZOOA 604

UNIT–I: Introduction to Clinical Microbiology: 10 Hours

- 1.1 Introduction to microbiology.
- 1.2 Introduction to bacteriology.
 - 1.2.1: Classification of bacteria.
 - 1.2.2: Basic features of bacteria.
 - 1.2.3: Factors influencing the growth of bacteria.
 - 1.2.4: Morphology of bacteria.
 - 1.2.5: Normal bacterial flora of the body.
- 1.3 Pathogenic microorganisms.

UNIT–II: Clinical Bacteriology Laboratory & Staining methods: 15 Hours

- 2.1: Sterilization and disinfection.
 - 2.1.1: Requirements in a microbiological lab.
 - 2.1.2: Microscopy.
- 2.2 Automation in Bacteriology.
 - 2.2.1: Introduction to Staining.
 - 2.2.2: Gram Staining. Acid-Fast Staining and Capsule Staining.
- 2.3 Transfer of bacteria.

UNIT–III: Culturing of Microorganisms and Identification of Bacteria: 15 Hours

- 3.1 Composition of culture media.
 - 3.1.1: Different types of culture media.
 - 3.1.2: Preparation of culture media.
 - 3.1.3: Inoculation of culture media.
 - 3.1.4: Culturing of anaerobes and different types of culture media used.
 - 3.1.5: Use, preparation and quality control of various culture media.
- 3.2 Identification of bacteria–staining reactions, cultural characteristics and biochemical properties.
 - 3.2.1: Study of Gram Negative Bacteria– Bacilli and Cocci.
 - 3.2.2: Study of Gram Positive Bacteria–Gram positive Cocci.
 - 3.2.3: Anaerobic bacteria, study of genus –Bacillus and Coryne bacterium.
 - 3.2.4: Study of Mycobacteria, Spirochetes and Rickettsia.
- 3.3 Basic sterilization principles-autoclaving.

UNIT-IV: Clinical Mycology and Virology:**10 Hours**

4.1 Basic morphological classification of clinically important fungi.

4.1.1: Parasitic fungi–Superficial Mycoses and Dermatophytes, Subcutaneous Mycoses, and Deepor Systemic mycoses.

4.1.2: Classification based on symptomatology.

4.2 Some important viruses and related diseases (Measles viruses, Influenza viruses, Rotaviruses, Polioviruses, Herpes viruses, Rabies viruses, Hepatitis viruses).

4.2.1: General transmission routes for viruses.

UNIT-V: Diagnostic Serology:**10 Hours**

5.1 General view of immune system.

5.1.1: Harmful effect of immunity.

5.2 Auto immune diseases.

5.3 Principles of Sero diagnostic tests-Flocculation test, Agglutination test, Slide agglutination test, Tube agglutination test, Precipitation test and ELISA.

SUGGESTED READINGS

- Park, K.(2007), Preventive and Social Medicine, B.B. Publishers
- Godkar P.B. and Godkar D.P. Textbook of Medical Laboratory Technology, II Edition, Bhalani Publishing House
- Cheesbrough M., A Laboratory Manual for Rural Tropical Hospitals, A Basis for Training Courses
- Guyton A.C. and Hall J.E. Textbook of Medical Physiology.
- Robbins and Cortan, Pathologic Basis of Disease, VIII Edition.
- Prakash, G.(2012), Lab Manual on Blood Analysis and Medical Diagnostics, S. Chand and Co.Ltd.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Principles of Aquaculture	CB ZOOB 602	2017-18

Syllabus**CB ZOOB 602 Principles of aquaculture****Unit-I****1.1 Introduction/Basics of Aquaculture****10 Hrs**

1.1.1: Definition, Significance and History of Aquaculture

1.1.2: Present status of Aquaculture–Global and National scenario

1.1.3: Major cultivable species of fishes and prawns for aquaculture: freshwater, brackish water and marine.

1.1.4: Criteria for the selection of species for culture

Unit-II

2.1 Types of Aquaculture

15Hrs

- 2.1.1: Freshwater, Brackish water and Marine – Fin fishes
- 2.1.2: Concept of Monoculture, Composite culture, Monosex culture and Integrated fish farming

2.2 Culture systems

- 2.2.1: Ponds, Raceways, Cages, Pens, Rafts
- 2.2.2: Water recirculating systems

2.3 Culture practices

- 2.3.1: Traditional, extensive, modified extensive, semi-intensive and intensive cultures of fish and shrimp.

Unit-III

3.1 Design and construction of aqua farms

15Hrs

- 3.1.1: Criteria for the selection of site for fresh water and brackish water pond farms
- 3.1.2: Design and construction of fish and shrimp farms

3.2 Seed resources

- 3.2.1 Natural seed resources: Carp and shrimp
- 3.2.2 Procurement of seed for stocking: Carp and shrimp

3.3 Nutrition and feeds

- 3.3.1: Nutritional requirements of a cultivable fish and shrimp
- 3.3.2: Natural food and Artificial feeds and their importance in fish and shrimp culture

Unit-IV

4.1 Management of carp culture ponds

10Hrs

- 4.1.1: Culture of Indian major carps: Pre-stocking management – Dewatering, drying, Ploughing/desilting; Predators, weeds, algal blooms and their control, Liming and fertilization; Stocking management – Stocking density and stocking; Post-stocking management – Feeding, water quality, growth, health care and harvesting of ponds.
- 4.2 Culture of giant fresh water prawn, *Macrobrachium rosenbergii*

Unit-V

5.1 Culture of shrimp (*Penaeus monodon*)

10Hrs

5.2 Culture of pearl oysters

5.3 Culture of seaweeds-species cultured, culture techniques.

5.4 Culture of ornamental fishes–Setting up and maintenance of aquarium; and breeding.

REFERENCES BOOKS

- Bardach, J E *etal.* 1972. *Aquaculture–The farming and husbandry of freshwater and marine organisms*,
- John Wiley & Sons, New York. 2. Bose AN *etal.* 1991. *Coastal aquaculture Engineering*. Oxford & IBH Publ. Co. Pvt. Ltd. 3.
 - Chakra borty C & Sadhu AK. 2000. *Biology Hatchery and Culture Technology of Tiger Prawn And Giant Freshwater Prawn*. Daya Publ. House.
 - FAO. 2007. *Manual on Freshwater Prawn Farming*.
 - Huet J. 1986. *A text Book of Fish Culture*. Fishing News Books Ltd.
 - ICAR. 2006. *Hand Book of Fisheries and Aquaculture*. ICAR.

- IvarLO.2007.*AquacultureEngineering*.Daya Publ. House.
- Jhingran V.G. 2007.*Fishand Fisheries of India*. Hindustan Publ. Corporation, India.
- LandauM.1992.*IntroductiontoAquaculture*.JohnWiley&Sons.
- Lovell RT.1998.*Nutritionand Feeding of fishes*. Chapman &Hall.
- Mcvey JP.1983.*HandbookofMariculture*.CRCPress.
- MPEDA. *Hand books on culture of carp, shrimp, etc*.
- New MB.2000.*FreshwaterPrawnFarming*.CRCPubl.
- Pillay. TVR.1990.*Aquaculture-Principlesand Practices*, Fishing News Books Ltd., London.
- Pillay. TVR&KuttyMN.2005.*Aquaculture-Principlesand Practices*.2ⁿ d^dEd. Blackwell
- Rath RK.2000.*FreshwaterAquaculture*.ScientificPubl.
- Stick neyRR.1979.*PrinciplesofWarmwaterFishCulture*,JohnWiley &Sons
- Heat onFW.1977.*AquaculturalEngineering*.JohnWiley&Sons.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Aquaculture Management	CB ZOOB 603	2017-18

Aquaculture Management

Syllabus CB ZOOB 603

Unit-I

1.1 Breeding and Hatchery Management

- 1.1.1 Bundh Breeding and Induced breeding of carp by Hypophysation and use of synthetic hormones
- 1.1.2: Types of fish hatcheries; Hatching Hapa, Jar hatchery, Chinese hatchery
- 1.1.3: Hatchery management of Indian major carps
- 1.1.4: Breeding and Hatchery management of *Penaeus monodon*
- 1.1.5: Breeding and Hatchery management of giant freshwater prawn. (*macro brachium rosenbergii*)

Unit-II

2.1 Water quality Management

- 2.1.1: Water quality and soil characteristics suitable for fish and shrimp culture
- 2.1.2: Identification of oxygen depletion problems and control mechanisms in culture ponds
- 2.1.3: Aeration: Principles of aeration and Emergency aeration
- 2.1.4: Liming materials, organic manures and Inorganic fertilizers commonly used and their implications in fish ponds

Unit-III

3.1 Feed Management

- 3.1.1: Live Foods and their role in shrimp larval nutrition.
- 3.1.2: Supplementary feeds: Principal foods in artificial diets; Types of feeds; Feed additives and preservatives, role of probiotics.
- 3.1.3: Feed formulation and manufacturing, Feed storage
- 3.1.4: Feeding strategies: Feeding devices, feeding schedules and ration size; Feed evaluation- feed conversion efficiencies and ratios.

Unit-IV

4.1 Disease Management

- 4.1.1: Principles of disease diagnosis and health management
- 4.1.2: Prophylaxis, Hygiene and Therapy of fish diseases
- 4.1.3: Specific and non-specific defense systems in fish; Fish immunization and vaccination
- 4.1.4: Etiology, Symptoms, prophylaxis and therapy of common fish diseases in fishponds (2 bacterial, 2 viral & 2 protozoans)
- 4.1.5 Etiology, Symptoms, prophylaxis and therapy of common shrimp diseases in shrimp ponds (Luminous bacterial, black gill disease, larval mycosis, Filamentous bacterial)

Unit-V

5.1 Economics and Marketing

- 5.1.1: Principles of aquaculture economics–Capital costs, variable costs, cost-benefit analysis
- 5.1.2: Fish marketing methods in India; Basic concepts in demand and price analysis

5.2 Fisheries Extension

- 5.2.1: Fisheries: Training and Education in India; Role of extension in community development.

5.3 Fish Genetics

- 5.3.1: Genetic improvement of fish stocks–Hybridization of fish.
- 5.3.2: Gynogenesis, Androgenesis
- 5.3.3: Production of monosex and sterile fishes and their significance in aquaculture.

REFERENCEBOOKS

- 1 Boyd CE. 1979. *Water Quality in Warm Water Fish Ponds*. Auburn University
2. Boyd, CE. 1982. *Water Quality Management for Pond Fish Culture*. Elsevier Sci. Publ. Co.
3. Chakraborty C & Sadhu AK. 2000. *Biology Hatchery and Culture Technology of Tiger Prawn and Giant Freshwater Prawn*. Daya Publ. House
4. Conroy CA and Herman RL. 1968. *Text book of Fish Diseases*. TFH (Great Britain) Ltd, England.
5. Halver J & Hardy RW. 2002. *Fish Nutrition*. Academic Press.
6. Ian C. 1984. *Marketing in Fisheries and Aquaculture*. Fishing News Books.
7. ICAR. 2006. *Handbook of Fisheries and Aquaculture*. ICAR.
8. Jhingran VG. 2007. *Fish and Fisheries of India*. Hindustan Publishing Corporation, India.
9. Jhingran VG & Pullin RSV. 1985. *Hatchery Manual for the Common, Chinese and Indian Major Carps*. ICLARM, Philippines.
10. Kumar D. 1996. *Aquaculture Extension Services Review: India*. FAO Fisheries Circular No. 906, Rome.
11. Lavens P & Sorgeloos P. 1996. *Manual on the Production and Use of Live Food for aquaculture*
FAO Fisheries Tech. Paper 361, FAO.
12. MPEDA. 1993. *Handbook on Aqua Farming – Live Feed. Micro Algal Culture*. MPEDA Publication
13. New MB. 1987. *Feed and Feeding of Fish and Shrimp. A Manual on the preparation and Preservation of Compound Feeds for Shrimp and Fish in Aquaculture*. FAO–ADCP/REP/87/26
14. Pandian TJ, Strüssmann CA & Marian MP. 2005. *Fish Genetics and Aquaculture Biotechnology*.

Class	Semester	Title of The Paper	Paper Code	W.E.F
III B.Sc. CBZ	VI	Post-harvest Technology	CB ZOOB 604	2017-18

Syllabus CB ZOOB 604

Unit-I

1.1 Handling and Principles of fish Preservation

1.1.1: Handling of fresh fish, storage and transport of fresh fish, post-mortem changes (rigor mortis and spoilage), spoilage in marine fish and freshwater fish.

1.1.2: Principles of preservation—cleaning, lowering of temperature, rising of temperature, denudation, use of salt, use of fish preservatives, exposure to low radiation of gamma rays.

Unit-II

2.1 Methods of fish Preservation

2.1.1: Traditional methods - sun drying, salt curing, pickling and smoking.

2.1.2: Advanced methods— chilling or icing, refrigerated sea water, freezing, canning ,Irradiation and Accelerated Freeze drying (AFD).

2.1.3: Solar wind hybrid drying and chilling technology.

Unit-III

3.1 Processing and preservation of fish and fish by-products

3.1.1: Fish products— fish minced meat, fish meal, fish oil, fish liquid (ensilage), fish protein concentrate, Fish cake, fish sauce, fish salads, fish powder, pet food from trash fish, fish manure.

3.1.2: Fish by-products— fish glue, isinglass, chitosan, pearl essence, shark fins, fish leather and fish maws.

3.2 Seaweed Products

3.2.1: Preparation of agar, align and carrageen. Use of seaweeds as food for human consumption, in disease treatment and preparation of therapeutic drugs.

Unit-IV

4.1 Sanitation and Quality control

4.2.1: Sanitation in processing plants – Environmental hygiene and Personal hygiene in processing plants.

4.2.2: Quality Control of fish and fishery products—pre-processing control, control during processing and control after processing.

4.2: Regulatory affairs in industries.

Unit-V

5.1 Quality Assurance, Management and Certification

5.1.1: Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); Good Laboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept of Hazard Analysis and Critical Control Points (HACCP) in sea food safety.

5.1.2: National and International standards— ISO9000:2000 Series of Quality Assurance System, Codex Alimentarius.

REFERENCEBOOKS

1. BalachandranKK.2001.Post-harvestTechnologyofFishandFishProducts.DayaPubl.
2. Bond ,et. al. 1971. Fish Inspection and Quality Control. Fishing News Books, England.
3. Clucas IJ. 1981.Fish Handling, Preservation and Processing in the Tropics. Parts I,II.FAO.
4. Gopa kumarK.(Ed.).2002.TextBookofFishProcessingTechnology. ICAR.
5. Govindan, TK.1985.FishProcessingTechnology,Oxford-IBH.
6. Hall GM. (Ed).1992.FishProcessingTechnology.Blackie.
7. Huss HH, JakobsenM&ListonJ.1991.QualityAssuranceintheFishIndustry.Elsevier.
8. JohnDEV.1985.FoodSafetyandToxicity.CRC Press.
9. Krenzer R. 1971.Fish Inspection and Quality Control. Fishing News.
10. LarousseJ&BrownBE.1997.FoodCanningTechnology.WileyVCH.
11. Nambudiri DD.2006.TechnologyofFisheryProducts.FishingChimes.
12. RegensseinJM&RegensseinCE.1991.*IntroductiontoFishTechnology*.VanNostrandReinhold.Rudo
lfK.1969. *Freezing and Irradiation of Fish*. Fishing News (Books).
SenDP.2005.*AdvancesinFishProcessingTechnology*.AlliedPubl.