Revised Structure and syllabi of
B.A. /B.Sc. (Semester V & VI)
Mathematics
(Applicable from July 2020)

Structure	
B.A. /B.Sc. Semester V	B.A./B.Sc. Semester VI
Paper I : **Numerical Analysis** Paper II: **Linear & Abstract Algebra** Paper III: **Linear Programming**	Paper I : **Analysis** Paper II: **Differential Geometry & Tensor Analysis** Paper III: **Discrete Mathematics**

Each paper carries 100 Marks (4 Credits)

Syllabus B.A. /B.Sc. (Semester V)

Paper I: Numerical Analysis

Unit I
 Solution of equations: bisection, Secant, Regular Falsi, Newton Raphson's method, Newton's method for multiple roots, Interpolation, Lagrange and Hermite interpolation, Difference schemes, Divided differences, Interpolation formula using differences.

Unit II
Numerical differentiation, Numerical Quadrature: Newton Cotes Formulas, Gaussian Quadrature Formulas, System of Linear equations: Direct method for solving systems of linear equations (Gauss elimination, LU Decomposition, Cholesky Decomposition), Iterative methods (Jacobi, Gauss Seidel, Relaxation methods). The Algebraic Eigen value problem: Jacobi's method, Givens method, Power method.

Unit III
Numerical solution of Ordinary differential equations: Euler method, single step methods, Runge-Kutta method, Multi-step methods: Milne-Simpson method, Types of approximation: Last Square polynomial approximation, Uniform approximation, Chebyshev polynomial approximation.

Unit IV
Difference Equations and their solutions, Shooting method and Difference equation method for solving Linear second order differential equation with boundary conditions of first, second and third type.

Reference Books:
1. Numerical Methods for Engineering and scientific computation by M. K. Jain, S.R.K. Iyengar & R.K. Jain.
2. Introductory methods of Numerical Analysis by S. S. Sastry

Paper II: Linear & Abstract Algebra

Unit I
Automorphism, inner automorphism, automorphism groups and their computations, Conjugacy relations, Normaliser, Counting principle and the class equation of a finite group, Center of group of prime power order. Sylow's theorems.

Unit II
Prime and maximal ideals, Euclidean Rings, Principal ideal rings, Polynomial Rings, Polynomial over the Rational Field, The Eisenstein Criterion, Polynomial Rings over Commutative Rings, unique factorization domain.

Unit III
Vector spaces, Subspaces, Linear independence and dependence of vectors, Basis and Dimension, Quotient space, Linear transformations, The Algebra of linear transformations, rank nullity theorem, their representation as matrices.

Unit IV
Linear functionals, Dual space, Characteristic values, Cayley Hamilton Theorem, Inner product spaces, Cauchy-Schwarz inequality, Orthogonal vectors, Orthonormal sets and bases, Bessel's inequality for finite dimensional spaces, Gram-Schmidt orthogonalization process, Bilinear and Quadratic forms.

Reference book
1. Topics in Algebra by I. N. Herstein.
2. Linear Algebra by K. Hoffman and R. Kunze.

Paper III: Linear Programming

Unit I
Linear programming problems, Slack and surplus variables, Standard and matrix forms of linear programming problem, Basic feasible solution.

Unit II
Convex sets, Fundamental theorem of linear programming, Simplex method.

Unit III
Artificial variables, Big-M method, Two phase method, Revised simplex method.

Unit IV
Duality in linear programming problems, Dual simplex method, Primal-dual method integer programming.

Reference book:
1. Linear Programming by G. Hadley

Syllabus B.A. /B.Sc. (Semester VI)
Mathematics
(Applicable from January 2021)

Paper I : Analysis

Unit I
Definition and examples of metric spaces, Neighborhoods, Interior points, Limit Points, Open and closed sets, Convergent and Cauchy sequences, Completeness, Cantor's intersection theorem. Uniform convergence of sequences and series of functions, Uniform convergence and continuity, Uniform convergence and integration, Uniform convergence and differentiation, Power series.

Unit II
Stereographic projection, Continuity and Differentiability of complex functions, Analytic functions, Cauchy Riemann equations, Harmonic functions.

Unit III
Complex integration, Cauchy-Goursat theorem, Cauchy's Integral formula, Formulae for first, second and nth derivatives, Cauchy's Inequality, Maximum Modulus Theorem, Liouville's Theorem, Elementary functions, Mapping by elementary functions, conformal mapping.

Unit IV
Taylor and Laurent Series, Absolute and uniform convergence of Power series, Residues and Poles, Residue theorem, Zeros and poles of order m, Evaluation of improper real integrals, Definite integrals involving sines and cosines.

Reference book:
1. Mathematical Analysis by Shanti Narain.
2. Complex variable and applications by Brown & Churchill.

Paper II: Differential Geometry & Tensor Analysis

Unit I
Local theory of curves-Space curves, Examples, Plane Curves, tangent and normal and binormal, Osculating Plane, normal plane and rectifying plane, Helices, Serret-Frenet apparatus, contact between curve and surfaces, tangent surfaces, involutes and evolutes of curves, Bertrand curves, Intrinsic equations, fundamental existence theorem for space curves.

Unit II
Metric-first fundamental form and arc length, Direction coefficients, families of curves, intrinsic properties, geodesics, canonical geodesic equations, normal properties of geodesics, geodesics curvature, Gauss-Bonnet theorem, Gaussian curvature, normal curvature, Meusneir's theorem, mean curvature, Gaussian curvature, umbilic points, lines of curvature, Rodrigue's formula, Euler's theorem.

Unit III
Tensor algebra: Vector spaces, the dual spaces, tensor product of vector spaces, transformation formulae, contraction, special tensor, inner product, associated tensor.
Tensor Analysis: Contravariant and covariant vectors and tensors, Mixed tensors, Symmetric and skew-symmetric tensors, Algebra of tensors, Contraction and inner product, Quotient theorem, Reciprocal tensors, Christoffel's symbols, Covariant differentiation.
Unit IV
Gradient of scalars, Divergence of a contra-variant vector, covariant vector and conservative vectors, Laplacian of an invariant, curl of a covariant vector, irrotational vector, Riemannian space, Riemannian curvatures and their properties, Ricci tensor, and scalar curvature, Einstein space and Einstein tensor, Geodesics.

Reference book:
1. An introduction to Differential Geometry by T. J. Willmore

Paper III: Discrete Mathematics

Unit I
Propositional Logic- Proposition logic, basic logic, logical connectives, truth tables, tautologies, contradiction, normal forms (conjunctive and disjunctive), modus ponens and modus tollens, validity, predicate logic, universal and existential quantification, proof by implication, converse, inverse contrapositive, contradiction, direct proof by using truth table.
Relation- Definition, types of relation, domain and range of a relation, pictorial representation of relation, properties of relation, partial ordering relation.
Unit II
Boolean Algebra- Basic definitions, Sum of products and products of sums, Logic gates and Karnaugh maps.
Graphs- Simple graph, multi graph, graph terminology, representation of graphs, Bipartite, regular, planar and connected graphs, connected components in a graph, Euler graphs, Hamiltonian path and circuits, Graph colouring, chromatics number, isomorphism and homomorphism of graphs.
Unit III
Combinatories- Inclusion- exclusion, recurrence relations (nth order recurrence relation with constant coefficients, Homogeneous recurrence relations, Inhomogeneous recurrence relations), generating function (closed form expression, properties of G.F., solution of recurrence relations using G.F. solution of combinatorial problem using G.F.)
Unit IV
Finite Automata- Basic concepts of automation theory, Deterninistic Finite Automation (DFA), transition function, transition table, Non Deterministic Finite Automata (NDFA), Mealy and Moore machine, Minimization of finite automation.

Reference book:
1. Discrete Mathematics by C. L.Liu.
2. Discrete Mathematics with computer application by Trembley and Manohar.

REVISED COURSE SYLLABUS OF B.COM. (HONS) PROGRAM- w.e.f. Session 2018-19
FACULTY OF COMMERCE, UNIVERSITY OF LUCKNOW

Paper Code	Paper Name	MARKS	TOTAL OF SEM.
	SEMESTER - I		
BCH 101	FINANCIAL ACCOUNTING	100	
BCH 102	FINANCIAL MATHEMATICS	100	
BCH 103	FOREIGN TRADE OF INDIA	100	
BCH 104	PRINCIPLES OF ECONOMICS	100	
BCH 105	ESSENTIALS OF MANAGEMENT	100	
BCH 106	INDIAN ECONOMY & PUBLIC FINANCE	100	600
	SEMESTER – II		
BCH 201	HUMAN RESOURCE MANAGEMENT	100	
BCH 202	BANKING OPERATIONS MANAGEMENT	100	
BCH 203	MANAGEMENT INFORMATION SYSTEM	100	
BCH 204	BUSINESS COMMUNICATION & OFFICE MANAGEMENT	100	
BCH 205	STATISTICAL METHODS	100	
BCH 206	BUSINESS ENVIRONMENT	100	
BCH 207	Comprehensive Viva- Voce	100	700
	SEMESTER – III		
BCH 301	COST ACCOUNTING	100	
BCH 302	BUSINESS LAWS	100	
BCH 303	OPERATIONS MANAGEMENT	100	
BCH 304	MARKETING MANAGEMENT	100	
BCH 305	INTERNATIONAL FINANCE	100	
BCH 306	BUSINESS ECONOMICS	100	600
	SEMESTER – IV		
BCH 401	MANAGEMENT ACCOUNTING	100	
BCH 402	ORGANIZATIONAL BEHAVIOUR	100	
BCH 403	COMPANY LAWS & SECRETARIAL PRACTICES	100	
BCH 404	OPERATIONS RESEARCH	100	
BCH 405	INCOME TAX LAW AND ACCOUNTS	100	
BCH 406	INTERNATIONAL BUSINESS	100	
BCH 407	Comprehensive Viva – Voce	100	700
	6 -8 WEEKS SUMMER INTERNSHIP		

REVISED COURSE SYLLABUS OF B.COM. (HONS) PROGRAM- w.e.f. Session 2018-19
FACULTY OF COMMERCE, UNIVERSITY OF LUCKNOW

	SEMESTER - V		
BCH 501	EXPORT IMPORT PROCEDURE AND DOCUMENTATION	100	
BCH 502	INDUSTRIAL LAWS	100	
BCH 503	CONSUMER BEHAVIOUR & ADVERTISING MANAGEMENT	100	
BCH 504	BUSINESS FINANCE	100	
Group – A	**ACCOUNTING DECISIONS & APPLICATIONS**		
BCH 505 (ADA)	SPECIALIZED ACCOUNTING	100	
BCH 506 (ADA)	PERSONAL FINANCE DECISION	100	
Group – B	**FINANCIAL OPERATIONS & SERVICES**		
BCH 505(FOS)	FINANCIAL MARKET OPERATIONS	100	
BCH 506(FOS)	INSURANCE AND RISK MANAGEMENT	100	
BCH 507	SUMMER INTERNSHIP REPORT & VIVA-VOCE	100	700
BCHNC 508	FOREIGN LANGUAGE (GERMAN/FRENCH)(NON-CREDIT)	100	
	SEMESTER – VI		
BCH 601	GOODS AND SERVICES TAX IN INDIA	100	
BCH 602	BUSINESS POLICY	100	
BCH 603	GOVERNANCE & BUSINESS ETHICS	100	
BCH 604	CONTEMPRARY AUDIT	100	
Group – A	**ACCOUNTING DECISIONS & APPLICATIONS**		
BCH 605(ADA)	CORPORATE ACCOUNTING	100	
BCH 606(ADA)	ENTREPRENEURSHIP & PROJECT MANAGEMENT	100	
Group – B	**FINANCIAL OPERATIONS & SERVICES**		
BCH 605(FOS)	FINANCIAL SERVICES		
BCH 606(FOS)	SECURITY ANALYSIS & PORTFOLIO MANAGEMENT		
BCH 607	Comprehensive Viva – Voce	100	700
	GRAND TOTAL		**4000**

Note:
1. **In Third Year of the B. Com (Hons.) program (Semester V and VI) the student will have to choose any one group out of the given two groups A & B.**
   Group A – Accounting Decisions & Applications (ADA)
   Group B – Financial Operations & Services (FOS)
2. **The students have to go under Summer Internship for Six to Eight weeks in the month of May & June after Fourth Semester, the viva-voce on summer Internship report will be held along with the Fifth Semester Examination.**

B.COM (HONS) - I YEAR
SEMESTER – I

BCH 101 FINANCIAL ACCOUNTING

UNIT I Accounting – Definitions, Functions, Objectives Nature and Scope Limitation Branches. Accounting as an information system. Accounting Principles- concepts and conventions. Accounting standards- Indian and International Context. Basic Accounting Process-Journal, Ledger Trial Balance, Double Entry System, Systems of Accounting.

UNIT II Business Income- Measurement, concept of Capital and Revenue. Final Accounts of Non-Corporate Entities. . Final Accounts of Non-Profit making Organizations. Accounting for Depreciations.

UNIT III Hire Purchase System, Installment Payment System, Branch Accounting, Lease Accounting.

UNIT IV Voyage Accounts, Accounting for Insurance Claims, Royalty Accounts.

Suggested Readings:
1. **F**inancial Accounting   S.N. Maheshwari
2. Advanced Accounting Vol I R.L. Gupta & Radha Sawami
3. Modern Accounting   Mukherjee & Hanif
4. Financial and Advanced Accounting Arvind Kumar and Vishal Saxena
5. Advanced Accounting   Hrishikesh Chakaraborty

BCH 102 FINANCIAL MATHEMATICS

Unit I
Fundamental concepts of Financial Mathematics. Simple and compound interest. Kinds of interest rates: Effective rate, nominal rate and force of interest rates: Effective rate, nominal rate and force of interest. Calculation of accumulated value using different kinds of interest rates.

Unit II
Present value calculation and discount rate. Nominal rate of discount and its relationship with effective rate of discount. Equation of payments interest & Discount.

Unit III
Valuation of annuities. Present value of annuity. Present value of annuity payable p time in a given period. Present value of deferred annuity. Present value of varying annuity. Accumulated Value of Annuity. Accumulated value of annuity payable p time in a given period.

Unit IV
Analysis of annuity, Calculation of capital component and interest, Component in instalments. Outstanding liabilities after nth instalment, Sinking fund. Reserve value of a policy, free policy.
Surrender value of policy, Valuation of securities.

SUGGESTED READINGS:
Financial Mathematics: Bajpai B.L.
Financial Mathematics: A.Lenin Jothi, Himalaya Pub.
Financial Mathematics: Sankalp Srivastava, New Age Pub.
Financial Mathematics:Dr. S.P.Gupta, Sahitya Bhawan

BCH 103 FOREIGN TRADE OF INDIA

Unit –I: Introduction – Trade its meaning and types. Difference between internal and international trade. Theories of International Trade. India's Internal Trade-Characteristics and Problems. Coastal trade and trade of Uttar Pradesh. Terms of Trade. Trade : Terminology and abbreviations.

Unit-II: Foreign Trade of India – Before independence, During Planning Period, Recent trends in India's Foreign Trade. Major Items of Exports: Composition, Direction and Future Prospects, Major Items of Imports: Composition, Direction and Future Prospects.

Unit –III: Free Trade and Protective trade policies, India's Major trading partners. Financing of foreign trade, National Level Financing Institutions: EXIM Bank, ECGC and other institutions in financing of foreign trade, STC, MMTC, SEZ and EPZ. Export promotions.

Unit –IV: Strategy for Trade Policy in India – General Developments during planning period. Recent World trade Scenario, Recent changes in trade policy, Trade agreements – Bilateral and Multilateral Trade Agreements. GATT & UNCTAD, WTO. India's Balance of Trade and Balance of Payments.

SUGGESTED READINGS:
1) Jaiswal Bimal & Singh A.K. – Foreign Trade of India
2) Salvi P.G. – New Directions on India's Trade policy.
3) Cherrunilam F. – International Trade Export Management
4) Varshney R.L. – India's Foreign Trade

BCH 104 PRINCIPLES OF ECONOMICS

Unit I

The meaning and definitions of Economics: Adam Smith, Marshall, Robbins and Samuelson. Methods of Economics : Inductive vs. Deductive methods, Micro vs. Macro Economics, Concept of Equilibrium – Stable, unstable and Neutral Equilibrium. Theory of consumption – Cardinal Vs Ordinal approach. Utility analysis – Total Marginal and Average utility. Law of diminishing marginal utility and Law of Equi – Marginal Utility.

UNIT II

Consumer Behaviour, : Indifference curve analysis, Budget line, Consumer's equilibrium. Price, Income and Substitution effects, PCCs and ICCs. Consumer's Surplus. Concept of Demand and Supply. Demand curve – Individual and Market demand curve, derivation of demand curve. Law of demand. Movement vs. shift in the demand curve. Elasticity of demand – Price, Income and cross elasticity, factors affecting elasticity of demand.

UNIT III

Production: meaning and factors of production, concept of short-run and long-run for a firm, Law of variable Proportions, Returns to scale. Cost of production: Explicit and implicit cost, actual and opportunity cost, accounting and economic cost, Social and private costs, short-run and long-run costs, Cost Curves. Concept of Revenue: Total, Marginal and Average Revenue. Market : Perfect competition, Monopoly and Imperfect competition – Features and Equilibrium of firms in the short and long run period.

UNIT IV

Theory of distribution: Concept of Rent, wages, Interest and Profit; Theory of rent. Theory of wages: Marginal productivity theory and Modern theory of wages, Backward bending supply curve. Theory of Interest: Classical theory, Loanable Funds theory and Liquidity Preference theory of Interest. Theory of Profit: Innovation theory, Risk Bearing theory and Uncertainty bearing theory of Profits.

SUGGESTED READINGS:
Modern Economic Theory – K.K. Dewett
Principle of Economics – M.L. Seth
Business Economics – S.K. Singh
Micro Economics Theory – J.V. Vaishampayan
Principles of Economics – D.N. Dwivedi.

BCH 105 ESSENTIALS OF MANAGEMENT

UNIT I
Definition, Nature, Scope and significance of Management, the evolution of Management thought, Approaches of management, contributions of F.W. Taylor, Henri Fayol, Chester Bernard to Management Science. Hawthorne experiment. Functions of a manager. Social responsibility of Managers, Values and Ethics in Management.

UNIT II
PLANNING: Definition, Nature, Scope and significance of Planning, Objectives, Steps of Planning, Decision making as key step in planning. The process and techniques of Decision Making, Long Range Planning, Strategies and policies.

Unit III
ORGANISING: Definition, Nature, Scope and significance, Approaches to Departments, Line and Staff relationship. Delegation and Decentralisation, Committee system, determinants of effective organizing, Staffing – nature and significance, Selection, Appraisal and Development of Mangers, Coordination, Managerial Effectiveness.

UNIT IV
DIRECTING AND CONTROLLING: Issues in managing Hunan factors, Motivation – nature, scope and significance, Theories and techniques, communication , - Definition and significance, Communication Barriers, Building effective communication system. Leadership: Style & Theories, Definition and Elements of Control Techniques, Determinants of an Effective Control System.

SUGGESTED READINGS:
Essentials of Management : Harold Koontz, Heiriz, Weihrich.
Essentials of Management: Maheshwari & Jaiswal
Management, Tasks Responsibility and Practices : Peter F Druckers.
Principles and Practice of Management: L.M Prasad
Principle of Management: VSP Rao

BCH 106 INDIAN ECONOMY & PUBLIC FINANCE

Unit I
Structure of the Indian Economy- Basic features; Broad demographic features of a developing economy; Problem of over-population; Population policy; Infrastructure development; Poverty, unemployment & inflation—causes, effects, remedies, trends. Planning in India-Objectives; Strategy; Broad achievements and failures; Current Five Year Plan — Objectives, allocation and targets.

Unit II

Economic reforms- Rationale behind economic reforms; Progress of privatization and globalization. Agriculture – nature & importance; Trends in agricultural production and productivity; Factors determining productivity; Land Reforms; New agricultural strategy and Green Revolution; Industrial policy of 1948, 1956, 1977 and 1991; Industrial licensing policy; Growth and problems of small scale industries; Disinvestment policy. Industrial Sickness in India: Causes, Consequences & Remedies: Social Security in India.

Unit III

Definition and scope of Public Finance, Principle of Maximum Social Advantage, Sources of Public Revenues, Types of taxes, Principles / Canons of Taxation, The Benefit Approach of Taxation, the ability-to-pay Approach, Incidence and effect of taxation. Principles of Public Expenditure, Wagner's Law, Wiseman Peacock Hypothesis, Effect of Public expenditure on Production and Distribution,

Unit IV

Public Debt: Classification, effect, burden, repayment and management of Public debt. Objectives and instruments of Fiscal Policy, Indian Federal finance: - financial relations between Central Government, State Government, Finance Commissions and their recommendations. Deficit financing: - Concepts, Deficit financing in India, Union Budget.

SUGGESTED READINGS:
Indian Economy: Rudra Datt & Sundharam
Indian Economy: Mishra & Puri
Indian Economy: A.N.Agarwal
Public Finance: T.N.Hajela
Public Finance: H.L.Bhatia
Public Finance: Musgrave & Musgrave

B.COM (HONS) - I YEAR
SEMESTER II

BCH 201 HUMAN RESOURCE MANAGEMENT

Unit I : Introduction: Nature, Functions and Importance of Human Resource Management. Development of Human Resource Management. Contribution of Industrial Psychology. Organization of Human Resource Department, Human Resource Policies. Procurement: Human Resource Planning – Quantitative and qualitative dimensions; Job Analysis, Job descriptions and Job specifications. Sources of recruitment, Selection process – Tests and Interviews, Induction and Socialization.

Unit II : Training and Development: Concepts and Importance. Identification of Training Needs. Types of Training, On-the-job and Off-the-job methods of training. Designing of Training Programme. Methods of Executive Development.

Unit III : Performance Management System: Concept and Objectives, Methods of Performance, Appraisal; Job changes – Transfers and Promotions; Employee-counselling. Compensation and Management: Components of Compensation, Performance Linked Compensation.

Unit IV : Employee Health; Employee Welfare; Social Security, Emerging Horizons in HRM, Human Resource Management and Information Technology, Business Process Reengineering, Downsizing and VRS

SUGGESTED READINGS:
Human Resource Management – Text & Cases, by VSP Rao, Excel Books
Human Resource Management – Text & Cases, by K. Ashwatappa – TMH

Human Resource Management, by Cynthia Fisher, Shaw – Wiley / Biztantra
Human Resource Management, by Gary Dessler, Person Publications

BCH 202 BANKING OPERATIONS MANAGEMENT

Unit I
Indian financial System, Banking System in India, Financial sector reforms in India, RBI – role, functions, monetary policy and credit control, commercial banking in India, Regulatory Environment for commercial bank in Indian core banking.

Unit II
Operational Aspect of commercial banks in India, Relationship b / w Banker and customers, Types of customer a/c, Cheques, Endorsement, Presentment, Dishonour, Rights and liabilities of Paying and collecting Banker, Time Value of money – calculation of interest on loan & deposits, EMIs, Present Value, future value and loan Amortisation.

Unit III
Negotiable Instruments, Bills of Exchange and Promissory notes, Rights and liabilities of parties, Bills discounting and purchasing, ancillary Services of the Bankers.

Unit IV
Employment of funds by Commercial Banks Financial statement analysis, Types of securities, mode of creating charge, Bank guarantees, Asset – liability management in commercial Banks. Basel norms

SUGGESTED READINGS
Jaiswal Bimal : Banking Operations Management
Jhinghan M.L. : Banking Theory & Practice

BCH 203 MANAGEMENT INFORMATION SYSTEM

Unit I
Foundation of Information System: Introduction to system, its types and characteristics Introduction to information, fundamentals of information systems, Solving business problems with information systems, Types of information systems, Effectiveness and efficiency criteria in information system.

Unit II
Management Information Systems: Definition of MIS, Concept of an MIS, Structure of MIS, MIS verses Data processing, MIS & Decision Support Systems, MIS & Information Resources Management.

Unit III
Concepts of planning & control: Concept of organizational planning, The Planning Process, Computational support for planning, Characteristics of control process, The nature of control in an organization.

Unit IV
Applications of IT in Business: Internet & e – commerce, Internet, Extranet & Enterprise Solutions, Data, Information, Database Management System, its advantages, Concept of Data Warehousing and architecture, Information System for Business Operations, Information System for Managerial Decision Support Security & Ethical challenges, Planning & Implementing changes, Advanced Concepts Enterprise Resource Planning, Supply Chain Management, Customer Relationship Management and Procurement Management

SUGGESTED READINGS
- Boockholdt, J.L. *Accounting Information System: Transaction Processing and Control*, Irwin Mcraw-Hill.
- Hall, J.A., *Accounting Information System*, South-Western College Publishing
- Gelinas, Ulric J., and Steve G. Sutton, *Accounting Information System,* South Western Thomson Learning.
- Rajaraman, V., *Introduction to Information Technology*, PHI.

BCH 204 BUSINESS COMMUNICATION & OFFICE MANAGEMENT
Unit I

Communication: definition, main features, classification of communication, barriers to communication. Typing and Duplicating. Introduction to the essentials of business communication: Theory and Practice, Citing references, and using bibliographical and research tools. Writing a project report, writing reports on field work/visits to industries, business concerns etc. business negotiations.

Unit II

Communication: Oral & Written (Meaning, Advantages/Disadvantages, Types) Summarizing annual report of companies. Writing minutes of meetings. E-correspondence. Spoken English for business communication, making oral presentations; Correspondence: handling correspondence, drafting correspondence (types and essentials of letter writing.)

Unit III

Definition and elements of Office Management. Functions of a Modern Office. Office Manager – Job Analysis. Office accommodation and layout. Office environment. Office Reports: kinds of reports, preparing a good report. Record Management: Classification; filing system; Indexing. Public Relations:

UNIT IV

Office automation: machines and equipment used. Computers: application and advantages. Office Information Management: definition, difference between information and data, process. Office systems and procedures and flow of work. Personnel Management: Office Personnel relations, Office supervision, work measurement, standards of performance and control.

SUGGESTED READING:
- Debashish S.S. & Das B., Business Communication, Prentice Hall India.
- K.K.Sinha, Business Communication, Galgotia Publishing Company, New Delhi.
- C.S. Rayudu,Media and Communication Management Himalaya Publishing House, Bombay.
- Rajendra Pal and J.S. Korlhalli, Essentials of Business Communication, Sultan Chand & Sons, New Delhi.
- R.K.Madhukar, Business Communication, Vikas Publishing House Pvt. Ltd.

BCH 205 STATISTICAL METHODS
Unit I

Definition, scope, importance and limitation of Statistics, Types and method of collection of data. Preparation of frequency distribution and their graphic presentation including histogram. Types of series. Measures of central tendency- Mathematical

averages including arithmetic mean, geometric mean and harmonic mean. Positional averages - mode, median and quartiles. Measure of dispersion - range, quartile, deviation, mean deviation and standard deviation ; Absolute and relative measures.

Unit II

Correlation analysis - introduction, importance and types of correlation, Measures of correlation - scatter diagram method, Karl Pearson's coefficient of correlation, Spearman's coefficient of rank correlation. Regression analysis: Difference between correlation and Regression, lines of Regression, properties of Regression lines. Fitting straight lines, Regression coefficient and their properties; estimation of dependent variable.

Unit III

Probability - definition, objective and subjective approachs, addition and multiplication theorem of probability, permutation ande combination, conditional probability, Bay's theorem. Probability Distribution : Binomial, Poisson and Normal distribution-Properties and applications.

Unit IV

Time series analysis - utility of time series, components of time series, measurement of trend - graphic method, moving average methods, method of least squares. Seasonal variations- estimation of seasonal variations, method of simple averages, ratio to trend method, ratio to moving average method. Index number - meaning and uses of index numbers, construction of index numbers: fixed and chain base; uni-variate and composite, Consumer price index

SUGGESTED READINGS:

Gupta S.P. and Gupta M.P. : Business Statistics.

Elhans, D.N. : Fundamental of Statistics.

Gupta C.B. : Institutional of Statistical Methods.

Sancheti & Kapoor : Statistics- Theory methods & Applications.

BCH 206 BUSINESS ENVIRONMENT

Unit I

The concept of Business Environment, its significance and Nature, Matrix of Different Environmental Factors. The process of Environmental Scanning, Basic Philosophies of Capitalism and Socialism with their variants.

Unit II

The Politico-Legal Environment, The relationship between Business and Government in India, An introduction to some important business laws like MRTP, Industries (Development and Regulation) Act, FEMA, SEBI, the competition law, The Changing Dimension of these Laws and their impact on Business.

Unit III

The Economic Environment, Strategy and planning in India. The concept of mixed economy, The public Sector- and the private sector and their changing Roles. The Industrial Policy in India in recent years. The new Economic Policy- Liberalization, Globalization and privatization and their impact on businesses, The Monetary Policy and Fiscal Policy and Union Budget as an instrument of growth and their impact on business. Foreign Trade Policy.

Unit IV

Socio-Cultural Environment in India, Salient features of Indian Culture and Values and their Implications for Industrialization and Economic growth, New Demand for Consumer Industries; theory of Consumerism, Development of Business Entrepreneurship in India, Social Responsibility of Business, Policy for Research and

Development in India. The Problem of Selecting Appropriate Technology. The Multinationals as a source of Technology.

SUGGESTED READINGS

Fernando AC: Business Environment, Pearson

Cherunilum, Francis, Business Environment, Himalaya Publishing House

Dutta and Sundaram, Indian Economy, S. Chand and Co.

Mamoria, C.B., Social Problems and Social Disorganization in India, Kitab Mahal

Mathew, M.J., Business Environment, RBSA Publishers, Jaipur, 1996.

BCH 207 Comprehensive Viva- Voce

B.Com (Hons) - II Year
SEMESTER- III

BCH 301 COST ACCOUNTING

Unit I Introduction: Meaning, Definition, Relevance, objectives and advantages, difference between cost accounting and financial accounting. Classifications of cost, cost unit, cost centre, Elements of cost- Material, labour, Overheads Material: Inventory valuation and control Methods of Pricing of material issues- Material losses and their treatment.

Unit II Accounting for Labour Cost Overheads: Classification, allocation, apportionment and absorption of overhead. Machine Hour Rate, unit costing: cost sheet. Statement of cost, Tender Price.

Unit III Contract and Job costing, Process costing, Operating Costing. Activity based costing.

Unit IV Cost-Volume-Profit Analysis, Reconciliation of cost Accounts with Financial Accounts Cost Control, Cost Audit, Cost Reduction

Suggested Readings:

Cost Accounting	M.N. Arora
Cost Accounting	Bimal Jaiswal & Leena Shimpi
Cost Accounting	M. Tuka Ram Rao
Cost Accounting	Khan& Jain
Advanced cost Accounting	S.P. Jain & Marang
Cost Accounting	M.L. Agarwal

BCH 302 BUSINESS LAWS

UNIT- I: The Indian Contract Act 1872, Contract – meaning, characteristics and kinds, Essentials of valid contract - Offer and acceptance, consideration, contractual capacity, free consent, legality of objects. Void agreements, Discharge of contract – modes of discharge including breach and its remedies.

UNIT II : Contingent contracts, Quasi - contracts, Contract of Indemnity and Guarantee, Contract of Bailment, Contract of Agency

UNIT III : Indian Sale of Goods Act 1932, Contract of sale, meaning and difference between sale and agreement to sell. Conditions and warranties, Caveat benefits, Transfer of ownership in goods including sale by non-owners Performance of contract

of sale, Unpaid seller – meaning and rights of an unpaid seller against the goods and the buyer. Consumer Protection Act.

UNIT IV : Negotiable Instrument Act: kinds and characteristics of Negotiable Instruments, Holders and Holder-in-due course, Privileges of Holders-in-due course. Negotiation and endorsement, crossing of cheques, types of crossing, bouncing of cheques. Information Technology Act 2000: Definitions; Digital signature; Electronic governance; Attribution, acknowledgement and dispatch of electronic records Regulation of certifying authorities, Digital signatures certificates, Duties of subscribers (h) Penalties and adjudication, Appellate Tribunal.

SUGGESTED READINGS
Gulsan & Kapoor : Business Law including Company Law.
Singh, Avtar : Principles of Mercantile Law
Pandiya , R.S. : Principles of Mercantile Law
Shukla M.C. : A Manual of Mercantile Law
Bare Acts. : Indian Contract Act, 1872. Sale of Goods Act, 1930 Partnership Act, 1932. The Negotiable Instruments Act, 1881 .

BCH 303 OPERATIONS MANAGEMENT
Unit I
Operations Management. Duties and Responsibilities of Operations Management. Production Function Systems approach to Operations Management. Manufacturing system Mass Batch, Job-Shop and Project.
Unit II
Plant location: 'Nature, Factors considered in location, Methods and Type of areas. Plant layout Objective of good layout, Factors influencing layout and Types of layout. Material Handling Equipment. Importance, Objective, Principles, Factors affecting selection equipment and types of handling equipment.
Unit III
Work Study: Method study and work measurement- Importance, Objectives, Application areas Steps in method study and Techniques of work measurement. Production Planning and Control Role and Scope of PPC in Operations Management, Factors influencing production planning and benefits of production control.
Unit IV
Materials Management.Inventory Management: Factors influencing and Objectives of inventory management, Techniques of inventor management, Quality Control and Statistical Quality Control: control charts.
SUGGESTED READINGS

Production & Operations Management, by Upendra Kachru, Excel Books.

Operations Now, by Byron J Finch, Tata Mc Grawhill

Operations Management, by Gaither & Fraizer, Thomson South Western.

Operations Management: Ashwathappa

BCH 304 MARKETING MANAGEMENT
UNIT I : Introduction: Nature and scope of marketing, Modern marketing concept, Marketing mix. Marketing management process: an overview. Marketing environment - macro & micro environmental components; consumer buying process; factors influencing consumer buying Behaviour.

UNIT II : Marketing segmentation – meaning & benefits, basis & criteria of segmentation; Positioning – meaning and importance, major basis of positioning a product. Product: Concept, Product classifications, Major product decisions: Product

attributes, Branding, Packaging and labelling, after sales service, Concept of product mix and product line.

UNIT III : Pricing: Significance, Factors affecting price determination, major pricing methods Pricing policies: Geographical pricing, product line pricing, Discounts and rebates. Distribution: Channels of Distribution-Meaning and importance, Types of distribution channels, Functions of distribution middleman. Retailing and Wholesaling: Distribution Logistics; Objectives, concepts and elements and types

UNIT IV : Promotion: Nature and importance, Communication process, Methods of promotion: their distinctive characteristics, Concept of integrated communication. Promotion mix and factors affecting promotion mix. Rural marketing: Growing Importance; Distinguishing characteristics of rural markets; Understanding rural consumers and rural markets; Marketing mix planning for rural markets

SUGGESTED READINGS

Marketing Management -Ramaswamy & Namakumari, Macmillan

Marketing Management - Arun Kumar & Meenakshi, Vikas

Principles of Marketing - Philip Kotler, Armstrong, Pearson Education

BCH 305 INTERNATIONAL FINANCE

Unit I: International Finance- Meaning, Need, Developments, Foreign Exchange Markets and International Financial Markets, International Financial System & Institutions: Introduction and Importance, IMF (Drawing and loan instruments), SDR (Nature and Utilization), IBRD (Functions and Lending Activities). Objectives & Methods of Exchange control.

Unit II: Ready Exchange rates, Exchange Quotations (Direct& Indirect), Forward Margins and factors determining it, Spot and Forward rates, Factors determining spot rates, Exchange Arithmetic (Cross rates, Calculation of forward premium and Discounts), Calculation of forward rates, Exchange Rate Forecasting.

Unit III: Parity Conditions in International Finance, Arbitrage and the Law of One Price, The Fisher Effect, The International Fisher Effect, Inflation Risk And Its Impact on Financial Markets

Unit IV: International Finance Instrument, Forward Contracts, Future Contracts, and Currency Options, Foreign Exchange Risk Exposure: Definition, Accounting Exposure, Economic Exposure.

SUGGESTED READINGS

Multinational Financial Management Alan C. Shapiro

International Financial Management: P. G. Apte

Foreign Exchange Management: C. Jeevanandan

International Finance: Bimal Jaiswal

International Financial Management: V K Bhalla

BCH 306 BUSINESS ECONOMICS

Unit I

Nature and scope of Business Economics; Relationship between Economic theories and Business Economics, Law of demand. Elasticity of demand: Concept, types and methods of measurement; Significant of elasticity of demand in business decisions, Demand Estimation and Demand Forecasting. Indifference Curve Technique: Some applications of indifference curves.

Unit II

Production Function; Cobb Douglas Production Function, Law of Returns; Returns to scale and scope; Economies and diseconomies of scale, Costs in the Short Run; Long-Run Cost Curves; 'L' shaped cost curves, Cost functions ; Derivation of AC and MC functions-simple calculations. Break Even Analysis. Concept and measurements

Unit III

Price and Output Decisions under Perfect Competition, Monopoly and Monopolistic Competition through diagrams and numerical measurements. Oligopoly- Features, price leadership, Kinked Demand under oligopoly. Pricing policies.

Unit IV

National Income Analysis-Concepts and measurements. Consumption function and investment function, Business Cycles-Various phases and theories. Inflation-meaning, causes and effects.

SUGGESTED READINGS:

Managerial Economics: H.L.Ahuja
Managerial Economics: G.S.Gupta
Managerial Economics: H.L.Bhatia
Modern Economics Theory: K.K.Dwett

B.COM (HONS) II YEAR
SEMESTER - IV

BCH401 MANAGEMENT ACCOUNTING

Unit I Management Accounting- Introduction, objectives nature, function, difference between Management Accounting and Financial Management. Role of Management Accountant. Managerial Reporting, Responsibility Accounting.

Unit II Budgeting and budgetary control, Preparation of different budgets, variance Analysis with budgeted figures. Standard Costing & variance Analysis Material, Labour, Overhead.

Unit III Accounting for managerial decisions – Fixation of selling price, Exploring new market, Make or Buy, Product- Mix, sales- Mix, operate or shut down, etc Absorption costing, Marginal Costing and Standard Costing.

Unit IV Analysis and interpretation of Financial Statements. Ratio Analysis, Fund Flow Analysis, Cash Flow Analysis comparative and common size Statements.

Suggested Readings:

Cost and Management Accounting   Jain & Narang
Cost and Management Accounting   M.N Arora
Accounting for Managers   J. Madegowda
Cost and Management Accounting   Ravi. M. Kishore
Management Accounting   S.P. Gupta

BCH 402 ORGANIZATIONAL BEHAVIOUR

Unit I

Meaning and Concepts of Organization Behaviour, Role of Manager in organization Direct and Indirect Environmental forces impact of various field of OB,

Unit II

Sources of Motivation, Theories of Motivation, The Content Theories of work Motivation Perception – components, factors influencing perception process. Learning and Behaviours Reinforcement Case study, Case Study.

Unit III

Group Behaviour- Reasons far Group Formation, Types of Groups, Factors Contributing to Group Cohesiveness Group Decision making, Communication process making barriers Leadership in organization, Case Study.

Unit IV

Differentiation of Groups, Nature of Conflict in organization Changing view conflict, Types of conflict and situation causes of conflict, Organization culture, organization change and development. Case Study.

SUGGESTED READINGS

Robins, Stephen P. - Orgnaisational Behaviour

Schen - Organisational Psychology

Jaiswal, B & Verma, D – Human Behaviour at work

Davis, K & Newstorm - Human Behaviour at Work

Prasad, L.M. - Oranisational Behaviour

BCH 403 COMPANY LAWS & SECRETARIAL PRACTICES

Unit I

Introduction: Concept of lifting of corporate veil. Types of companies, association not for profit, illegal association. Formation of company – Promoters, their legal position, pre-incorporation contract and provisional contracts. Documents – Memorandum of Association, Articles of Association, Doctrine of ultra vires, Constructive Notice and Indoor Management, Prospectus and its types, Book Building.

Unit II

Share Capital & Secretarial duties – issue, allotment and forfeiture of share, demat of share, transmission of shares. Members and shareholder – their rights and duties. Convening and conduct of shareholders meetings; types & procedures. Dematerialization of shares. Depositories act 1996.

Unit III

Management – Directors, their dis-qualifications, appointment, legal position, powers and duties. Disclosures of interest, removal of directors, board. Company secretory; appointment, rights, duties and liabilities. Meaning& Essentials of a valid meeting, Notice, Agenda, Proxy, Motion, Resolution, Minutes and Reports.

Unit IV

Winding up – concept and modes of winding up, Emerging issues in company law: Producer Company – concept and formation, Specimen of certificates of incorporation, certificate of commencement of business, share certificates and share warrants.

SUGGESTED READINGS :

Sherlerkar - Company Law and Secretarial Practice

Avtar Singh - Company Law

M.C. Kuchal: Company Law and Secretarial Practice

BCH 404 OPERATIONS RESEARCH

Unit I

Operations research: Origins and development of Operations Research, Nature of Operations research, Definitions of operations research, Features (characteristics) of operations research. Phases of operations research. Models and modelling in operations research, classifications of O.R. models: Methods for solving O.R. models: Methodology of operations research, Operations research techniques. Scope of operations research in commercial applications.

Unit II

Linear programming problem: Formulation and Graphical method. Basic terminology requirements, Applications area of Linear Programming, formulation of Linear Programming models, General mathematical formulation of Linear Programming Problems equality sign; Definitions Graphical solution method search approach: The simplex method: Introduction standard form of linear programming problem c1evelopmellt of simplex method. Simplex method (Maximization case), Simplex method (minimization case). Economic interpretation of the optimum simplex solution.

Unit III

Transportation models introduction, Mathematical statement of the transportation problem, Methods for finding initial solution, North-West Corner method; least cost method: Vogel's approximation method. Optimality test, stepping stone method: Modified distribution (MODI) method. Profit maximization in transportation problem Assignment problem: Introduction and mathematical models for assignment Hungarian method for assignment problem. Special cases in assignment problems: Maximization Case III assignment problem, multiple optimal solutions.

Unit IV

Decision theory: Introduction, Decisions situations, Types of decisions- making environment, Decision making certainty, Risk and uncertainty, Decision- tree analysis. Game theory introduction, definitions, Two -person zero sum game payoff matrix, Pure strategies: (Games with saddle points, The rule of dominance. Mixed strategies: Games without saddle point.

SUGGESTED READINGS

Kapoor, V.K. :   Operations Research
Sharma, J.K. :   Operations Research
Taha, Hamdy A.   :   Operations Research, An Introduction
Kothary, C.R. :   An Introduction to Operational Research
Gupta & Sharma   :   Operations Research

BCH 405 INCOME TAX LAW AND ACCOUNTS

Unit I: Basic Concepts: Income, agricultural income, casual income, assessment year previous year, gross total income, total income person. Tax evasion, avoidance and tax planning. Basic of Charge; Scope of total income, residence and tax liability, income which does not form part of total income. Deduction from Gross total income

Unit II: Head of the Income: Salaries; Income from house property; Profit and gains to business or profession. Capital gains; Income from other sources.

Unit: III Computations of total income of an individual, H.UF and firm.

Unit : IV Deemed income: Aggregation of Income, Set-off and carry forward of losses; Tax Authorities; Assessment procedures.

SUGGESTED READING:

Shukla S.K. – Direct Tax : Laws and Accounts (Hindi & English)
Singhanai V.K. – Students, Guide of Income Tax, Taxman, Delhi
Prasad, Bhagwati: Income Tax Law & Practice; Wiley Publication, New Delhi
Mehrotra, H.C. – Income Tax Law & Accounts;
Dinker Pagare: Income Tax Law and Practice; Sultan Chand & Sons, New Delhi
Grish Ahuja & Ravi Gupta, Syustematic approach to income tax, Sahitya Bhawan publication, New Delhi.

BCH 406 INTERNATIONAL BUSINESS

Unit I - An Overview of International Business: Introduction, Definition of International Business, difference between international and domestic business, Advantages and Disadvantages of International Business, Approaches to International Business, Changing Environment of International Business.

Unit II - Investment Theories: Mercantilism; Complimentary trade theories – stopler – Samuelson theorem, International Product life Cycles, International Business Strategies, International Human Resource Management.

Unit III - International Institution:, IMF, Role of IMF, IBRD, Features of IBRD, WTO, Role and Advantages of WTO India's patent policy and trips. Regional Economic Integration.

Unit IV - Foreign Exchange Determination Systems: Basic Concepts Relating to Foreign Exchange, Various types of Exchange Rate Regimes – Floating Rate Regimes, Managed Fixed Rate Regime, Purchasing Power Parity Theory, Factors Affecting Exchange Rates, Brief History of Indian Rupees Exchange Rates. International Business Negotiations, Future Trends in International Business

SUGGESTED READINGS

Jaiswal Bimal - International Business (Himalaya Publication)

Hill C.W. - International Business (TMH, 5th Ed.)

Cherunilam F - International Trade and Export Management (Himalaya, 2007)

Varshney R.L, Bhattacharya B - International Marketing Management (Sultan Chand & Sons, 9th Ed.)

BCH 407 Comprehensive Viva – Voce

Note: Students have to go for Summer Internship for 6 to 8 weeks in the month of May & June after Fourth Semester Examination. Report Preparation and Viva- Voce of Summer Internship will be conducted along with Fifth Semester Examination.

B.COM (HONS) III YEAR
SEMESTER – V

BCH 501 EXPORT IMPORT PROCEDURES AND DOCUMENTATION

Unit I: Introduction to India's Foreign Trade. India's foreign trade-Direction and Composition, Exports-planning: Adaption, Standardisation and Packaging. Export Marketing: Meaning & Importance. Getting ready for Exports, Procurement and processing of an export order and Export Contract, INCO Terms, Foreign trade policy.

Unit II: Export Costing & Pricing, Export Documentation. Methods/Terms of payments for Exports: Documentary credit and collection, Export Financing: Pre Shipment and Post Shipment Financing. Export Credit Guarantee Corporation of India (ECGC of India). Quality control and inspection in Exports. Type of risks, Cargo insurance: Contract, procedures and documentation for cargo loss claims,

Unit III: Central Excise and custom clearance regulations- Procedures and Documentation. Containerisation: Practice, Advantages & Disadvantages, CONCOR: Inland Container Depot (ICD) & Container Freight Station (CFS).

Unit IV: Institutional Support for India's Foreign Trade, DGFT, Export Incentives (Financial & Non- Financial Incentives). Schemes for import of capital goods,

Procedures and documentation for new / second hand capital goods, Export / trading / star trading / superstar trading houses; Objective criteria and benefits, procedures and documentation; Policy for EOU / FTZ/ EPZ units, Objectives, criteria and benefits, International Logistics.

SUGGESTED READINGS:

Bimal Jaiswal & Kamal Y, Export Import Procedure & Documentation
R.L.Varshney & Bhattacharya, International Marketing Management, Sultan Chand
Jaiswal Bimal, International Business, Himalaya Publications.
Justin Paul, International Business, McGraw Hill

BCH 502 INDUSTRIAL LAWS

Unit I

The Industrial Dispute Act, 1947, Introduction, Scope and Objectives, Definitions: Industry, Lay Off, Lockout, Strike, Retrenchment, Authorities, under this Act, Power and duties of authorities, Strikes and lock out, Unfair labour practices, Penalties.

Unit II

The Payment of Wages Act, 1936, Introduction, Definitions: Industrial or other establishments, Wages, Responsibility for payment of wages, Fixation of wages, Time of payment, Mode of payment, Deductions from wages. The Child Labour (Prohibition and Regulation) Act 1986. Object and Scope, Hours and periods of works, weekly holiday, Notice to inspector, Health and Safety, Penalties.

Unit III

The Payment of Bonus Act, 1965. Definition: Accounting Year, Salary or Wages, Employer, Employee, Eligibility for Bonus, Disqualification for Bonus, Payment of minimum and maximum bonus, Calculation of number of working days, Adjustment of customary or interim bonus against bonus payable, Deduction of certain amounts from bonus payable under the Act, Time limit for payment of bonus, Recovery of bonus from employer. Workman compensation Act.

Unit IV

The Factory Act, 1948. Introduction, Definitions: Manufacturing Process, Factory, Occupier, Inspector, Powers of Inspector, Health, safety, Welfare measure, working hours of Adults, Restriction on employment of women, Annual leave with wages, General penalty for offence.

Suggested Readings:

Labour Legislation: Goswami V.G
Companies Act and Corporate Laws, Bharat House Pvt. Ltd.

BCH 503 CONSUMER BEHAVIOUR & ADVERTISING MANAGEMENT

Unit I: Meaning and nature of Consumer Behaviour, Factors affecting Consumer Behaviour, Consumer Perception, attitudes, changes in attitudes, Consumer motivation.

Unit II: Models of Consumer Behaviour , difference between consumer buying and industrial buying, nature and factors affecting industrial buying. Factors influencing purchase decision of a consumer.

Unit III: Definition, Nature and evolution of advertising, its functions and role, criticism, social, economic and legal aspects of advertising. Place of advertising in Marketing Mix, Indian advertising industry, copy writing: different elements of a

copy and layout

Unit IV: Advertising budget: Objectives, preparation and methods of advertising budget; advertising agency: function, selection and compensation.Advertising media: different types of media, function, merits and demerits of media, selection of media and its vehicles.

SUGGESTED READINGS

Kanuk & Shiffman, Consumer Behaviour.

Peter & Olson, Consumer Behaviour and Marketing Strategy.

Peter and Donnelly, A Preface of Marketing Management.

Wilkie, William, Consumer Behaviour.

D.OGILVY, ADVERTISING

Chunawala, Advertising

Sontakki, Advertising

Manvendra Mohan, Advertising

Kazmi and Batra, Advertising and Sales Management, Excel

BCH 504 BUSINESS FINANCE

Unit I

Meaning, scope, objective and Function of finance, Finance Department, Duties & Responsibilities of Finance Manager, Time value of money, Risk and return, Valuation of securities.

Unit II

Sources of long term finance, Leverage operating, financial and Combined, EBIT-EPS analysis, Cost of Capital: estimation of components of cost capital—equity, debt and preference capital and WACC.

Unit III

Capital Budgeting Process, Cash flow Estimation, financial evaluation- Non discounted and discounted cash flow techniques, Dividend policy Models: Relevance & Irrelevance.

Unit IV

Working capital management: Concepts and factors affecting working capital, risk – return trade – off, working capital financial policy, Cash management, Inventory management.

SUGGESTED READINGS

Horne, James Van- Financial Management & Policy

Jaiswal, B & Shimpi, L – Business Finance

Rustagi R.P.- Introduction to Financial Management

Kuchal, S.C.- Financial Management

Pandey, I.M.- Financial Management

HONOURS IN ACCOUNTING DECISIONS & APPLICATIONS

BCH 505(ADA) SPECIALIZED ACCOUNTING

Unit I Social Accounting - meaning, importance, relevance objective, approaches to corporate social responsibility, social reporting Model, compilation of information for social Accounting, Social reporting models, limitations of social reporting, Social cost benefit analysis, social Audit, Environmental Accounting: audit and reporting.

Unit II Inflation Accounting: limitations of historic Accounting, Meaning, Definition, Objectives techniques of Inflation Accounting - current purchasing power method, current cost accounting method, Preparation of income statement and Balance Sheet.

Unit III Value Added Accounting - definition, Emergence of Value addition concept. Preparation of value added statements. Human Resource Accounting. Overview Human Resource Accounting Model.

Unit IV Accounting of Banking Companies: Preparation of Final Account Accounting of Insurance Companies.

Suggested Readings:

Advanced Accounting Vol. II	S.N. Maheshwari
Accounting Theory & Practice	Jawaher Lal
Advanced Accounting Vol II	R.L. Gupta & M. Radhaswami
Environmental Accounting	N. Dasgupta
Accounting Text & Cases	Robert N. Anthony Hawkins & Merchant

BCH 506(ADA) PERSONAL FINANCE DECISION

Unit- 1

Personal Financial Basics, Time Value of Money, Financial Aspects of Career Planning, Money Management Strategy: Statements and Budgeting, Planning Your Tax Strategy

Unit-II

MANAGING YOUR PERSONAL FINANCES: Savings Plans and Payment Accounts, Introduction to Consumer Credit, Choosing a Source of Credit: The Cost of Credit Alternatives, Consumer Purchasing Strategies and Legal Protection

Unit-III

INVESTING YOUR FINANCIAL RESOURCES :Investing Fundamentals, Investing in Stocks, Investing in Bonds, Investing in Mutual Funds, Investing in Real Estate and Other Investment Alternatives ,The Housing Decision: Factors and Finances.

Unit-IV

INSURING YOUR RESOURCES: Property and Motor Vehicle Insurance, Health, Disability, and Long-Term Care Insurance, Life Insurance, CONTROLLING YOUR FINANCIAL FUTURE: starting Early: Retirement Planning, Estate Planning.

Suggested Readings:

Jack Kapoor, Les Dalbay, Robert J. Hughes Personal Finance
Jack Kapoor-personal Finance, TMH
Shaikh M W- Personal Finance
Lokatia RN- Tax smart personal investment A-Z

HONOURS IN FINANCIAL OPERATIONS & SERVICES

BCH 505(FOS) FINANCIAL MARKET OPERATIONS

Unit I :

Concept of Financial System, Evolution of Financial System. Structure & Functions of Indian Financial Systems, Role of the Financial System in the Economy, Indian Money Market: Features, Functions, Instruments, Defects & Measures. Recent Trends in Indian Financial Sector: Reforms. Role of Acceptance and Discount House.

Unit II :

Indian Capital Market: Features, Functions, Structure & Instruments. Primary Market: Functions & Issue Mechanism (IPO, Book Building, Stock Option etc.), & SEBI guidelines. Recent Marketing Strategies for Public Issue, Intermediaries in Primary Market.

UNIT III:
Secondary Market: Components, Functions & Role. Listing of Securities: Types, Procedure & Guidelines, Delisting. Investor's Protection: Need, common grievances of investors, Methods of redressal of grievances, Grievance redressal authorities, Role of Press, Judiciary, SEBI & Company Law Board.

Unit IV :
Stock Exchanges: Major Stock Exchanges, Type of Operations & Operators in Stock Exchanges, Demutualisation of Stock Exchanges. The Securities Contracts (Regulation) Act, 1956 : Objectives, SEBI purpose & Functions, Measures taken by SEBI. Mutual Funds.

Suggested Readings:
Financial Market Operations: Jaiswal B & Venkatraman B
Financial Markets and Institutions, Bhole, L.M.
Indian Financial Systems, Khan, M.Y.,
Management of Indian Financial Institutions, Srivastava, R.M.,

BCH 506(FOS) INSURANCE AND RISK MANAGEMENT

Unit I
Introduction: History of insurance in general and in India in particular. Basic nature of insurance. Definition of insurance. Comparison of Life Insurance with other forms of insurance. Principles of contract and its applicability to the valid insurance contract.

Unit II
Principles of Life insurance and its impact on insurability. Morality tables and its kind.Basic elements in computation of premium. Peculiarities of life insurance product and the classification Nature of group insurance and types of group Insurance covers Policy claims and its procedures for settlement of various type of claims.

Unit III
Study of various proposal and policy forms used in general Insurance Scope of coverage of fire insurance and Marine insurance, Motor insurance Various kinds of miscellaneous insurances Describe classes of insurances requiring specialized knowledge i.e. industrial all risk insurance, aviation insurance, oil and gas insurance Regulatory provisions under Insurance Act 1938, and IRDA Act 1999. Underwriting practice and procedures, types and classification of hazards

Unit IV
Basic concept of risk, classification of risks, and process of risk management. Identification and evaluation of risk – risk analysis. Risk control – loss prevention and its importance. Risk financing and transfer of risks. Risk retention and its importance/basis of reinsurance.

SUGGESTED READING:
Books published by Insurance Institute of India.
"Life Insurance", - By Kenneth Black (Jr.) and Harold Skipper (Jr.),
"Fundamentals of Risk and Insurance", by Emmett J. Vaughan, Therase Vaughan
"Principles of Risk management and Insurance", by George E. Rejda

BCH 507 Summer Internship Report and Viva-Voce

BCHNC 508 FOREIGN LANGUAGE   (Non-credit)
<u>German or French</u>

German Language
Unit-1: Introduction to Germany, Basic grammar structure, Nouns(singular , plural), Numbers, Days, Months, Seasons, Colours
Unit-2: Personal Pronouns, Verbs, Conjunctions, Prepositions, Articles , Adjectives, Prepositions
Unit-3: Tenses, Sentence construction, Interrogative sentences, Affirmative sentences, Negative sentences
Unit-4: Comprehension,Texts,Paragraph,writing,Vocabulary

French Language
Unit-I
Articles Gender and number of nouns and adjectives. Personal and Toique pronouns, Demonstrative and Possessive Adjectives Preposition and adverbs Pronominal verbs.
Unit-II
Conjugation of verbs of all the Groups in Present Tense and Introduction to Past and Future Tense.Intetrrogation, Negotion and Imperatives.
Unit-III
Name of days, seasons, months, colours, garments, body parts and numbers. Conversational French between known and unknown people. Telephonic conversation with friends and clients.
Unit-IV
Topical writing, self Introduction, Biodata, Description of person, place or things as family, house, class, city, country etc. Letter writing. Profession and nationality. To reply question in French based on comprehension of a French text.
SUGGESTED READINGS
Two Units of Le Nouveau Sans Frontieres Part-I

B.COM (HONS) - III YEAR
SEMESTER VI

BCH 601 Goods and Services Tax in India

Unit-I :
Introduction : Concept and types of Indirect Tax; Right to impose indirect tax by Centre (Union)/State and Union Territory Governments before and after 101th Amendment in Constitution of India ; Introduction of GST in India; Definition - Supply, Aggregate Turnover, Person, Business , Appropriate Government, Mixed Supply, Composite Supply, GSTN, GSTIN, E-Commerce Input Tax Credit etc. GST Models: Single GST & Dual GST; Types of GST:- CGST,SGST/UTGST,IGST ; Levy and Collection of GST.
Unit –II :
Registration under GST : Persons liable to get registered, compulsory registration, procedure for registration, Documents required for registration; Reverse Charge Mechanism, Composition Scheme and assessment under composition scheme; Zero rated supply; Exemption from GST, GST tax rate.
Unit-III :
Input Tax Credit (ITC), Eligibility and conditions for taking Input Tax Credit, Apportionment of ITC and Blocked Credit ; Various Documents under GST- Tax Invoice, Bill for Supply, Debit Note, Credit Note, Payment Voucher, Receipt Voucher, E-way bill, HSN Code and SAC Code.

Unit-IV:

Assessment and Administration of GST:- Types of GST Returns, Types of Assessment & Assessment Procedure, Role and Functions of GST Council, Tax Authorities and their powers; Tax Deduction at Source & Tax Collection at Source, Refund of Tax.

Suggested Readings:
1. S.K. Shukla : GST in India (Hindi & English)
2. Bare Act
3. Taxman

BCH 602 BUSINESS POLICY

Unit I

Strategic Management, Concept of strategy, Dimension of strategic decision, Levels of strategy, Strategy from modes, Overview of process of strategic planning & management.

Unit II

"Mission" vision, objective setting, Business definitions, summery statement of strategy, Deducing strategy fraction & endeavours.

Unit III

Formulation of strategy, Components of environment & Environmental analysis, analysis of internal capabilities using different approaches, Strengths, Weakness, Opportunities, Threats (SWOT Analysis).

Unit IV

Strategic alternatives for growth, stable combinations & inter-national strategies. Choice of Strategies, Generic Business Strategies, Portfolio Analysis, Overview of Implementation Aspects.

SUGGESTED READINGS

Kazmi, Azhar - Business Policy

Keneth, A. Andrews - Concept of Corporate Strategy

Igor, M. Ansoff - Business Strategy

Christensen - Business Policy Text and Cases

Gluhck, William F. - Business Policy   Strategy

BCH 603 GOVERNANCE & BUSINESS ETHICS

Unit-I Introduction ; Definition & nature Business ethics, Characteristics, Ethical theories; Causes of unethical behaviour; Ethical abuses; Work ethics; Code of conduct; Public good.

Unit-II Management of Ethics – Ethics analysis [Hosmer model]; Ethical dilemma; Ethics in practice- ethics for managers; Role and function of ethical managers- the Comparative ethical behaviour of managers; Code of ethics; Competitiveness, organizational size, profitability, and ethics; Cost of ethics in Corporate ethics evaluation. Business and ecological/environmental issues in the Indian context and case studies.

Unit-III Ethic in Functional Area, Marketing, Finance, Human Resource and Information Technology.

Unit-IV Environmental Ethics, Corruption and Gender Issues—Gender Ethics, Harassment and Discrimination.

SUGGESTED READINGS:

Business Ethics and Corporate Governance: B.N.Gosh, TMH
Governance & Business Ethics: Bimal Jaiswal & Deepak Verma

BCH 604 CONTEMPRARY AUDIT

Unit I

Introduction: meaning and objectives of Auditing; Types of audit; Internal audit, Audit Process: Audit programme; Audit and books Working papers and evidences; consideration for commencing an audit, Routine checking and Test checking Intern Check System: Internal Control, Internal auditing.

Unit II

Audit Procedure: Vouching; Verification of assets and liabilities. Audit of Limited Companies: Company Auditor – Appointment, Powers, Duties and Liabilities.

Unit III

Auditing Standards- Appointment, Powers, Duties and Liabilities of Auditors. Board Outlines of Company Audit and Auditor's Report. Special Audit of banking companies, Audit of educational institutions, Audit of insurance companies, Audit of non-profit companies, When Fraud is suspected and . When a running a business is proposed. Investigation; Divisible Profit and Dividend.

Unit IV

Recent trends in Auditing- Nature and Significance of Cost Audit, Tax Audit; Management Audit and Computerized Audit.

SUGGESTED READINGS:

Principles and Practice of Auditing: R.G.Saxena
Principles and Practice of Auditing: T.R.Sharma

HONOURS IN ACCOUNTING DECISIONS & APPLICATIONS

BCH 605(ADA) CORPORATE ACCOUNTING

Unit I

Accounting For Share Capital: Issue, forfeiture and reissue of shares- rights Issues, bonus shares. Buy back of shares. Redemption of preference shares. International Financial Reporting Standards.

Unit II

Issues and Redemption of Debentures, underwriting Managerial Remuneration, Preparation of Final Accounts.

UNIT III

Valuation of Goodwill and Valuation of Shares. Amalgamation and reconstruction of companies.

Unit IV

Accounts of Holding Companies, Liquidation of Companies

Suggested Readings:

Advanced Accounting Vol II: S .N. Maheshwari
Company Accounts : Bimal Jaiswal & Leena Shimpi
Advanced Accounting Vol II: R.L. Gupta M. Radhaswami
Corporate Accounting: S.M. shukla

Corporate Accounting: Joseph

BCH 506(ADA) ENTREPRENEURSHIP & PROJECT MANAGEMENT
Unit I
Entrepreneur, entrepreneurship and entrepreneurial process: conceptual issues. Entrepreneurship versus Management Entrepreneurship Role of entrepreneurship in economic development. Role and functions of entrepreneur. Theories of Entrepreneurship; entrepreneurial competencies; Innovation and entrepreneurial orientation in a developing economy. Development of women entrepreneur. Problems of entrepreneurship,
Unit II
Industrialization and motivating forces for entrepreneurial growth; Entrepreneurial scene in India Genesis and evolution of Government of India's SSI policy; Technology Parks; SEZ's in fostering entrepreneurship development. Entrepreneurship Development Programmes (EDP's); Non- Government Organisation initiatives, Public Private partnership (PPP)
Unit III
Basic Concept of a Project, categories of projects, Forms of Project organisations. Phases of Project: Project identification & Project formulation. Project Appraisal Techniques: Market and Demand analysis, Technical Analysis and social appraisal of the industrial projects.
Unit IV Financial Appraisal: Cost of project, means of financing, estimates of cost, financial projections. Project Appraisal Criteria Payback period, ARR, NPVI, IRR and risk analysis. Implementation &Monitoring.
SUGGESTED READINGS
Prasanna Chandra Project : Preparation, Appraisal, Budgeting and Implementation
Nagendra P. Singh Emerging Trends in Entrepreneurship Development
D.K. Jain Project Planning and Appraisal in Planned Economy
M. Mohsin Project Planning and Control

HONOURS IN FINANCIAL OPERATIONS & SERVICES

BCH 605(FOS) FINANCIAL SERVICES
Unit I:
Financial Services: Concept, Functions, Growth and Problems. Merchant Banking: Concept, Functions, categorization and Regulatory Framework. The lead manager and its role in management of capital issues. Venture capital: Meaning, Origin, Objectives, Stages, problems of venture capital financing, growth of venture capital services in India.
Unit II:
Leasing concept - types, Advantages, Limitations, tax aspects and accounting aspects. Financial evaluation of lease structuring, Qualitative factors in lease decisions. Lease agreements, Hire Purchase agreement – Types, difference between hire purchase and lease. Housing Finance: Major Issues, Growth Factors and Institutions in India.
Unit III:
Credit Rating – Concept and types, functions of credit rating agencies, credit rating of Debt and other securities. Credit rating agencies in India - their rating scale and rating process. Factoring – The concept and characteristics, Types of factoring. Factoring and Forfaiting.

Unit IV:

Securitization, Depositories & Custodians, Discounting and rediscounting of bills, Internet Banking: electronic money (Smart Cards and Digital Cash), Home Banking, Virtual Banking, Insurance Services.

Suggested Book(S)

J.C. Verma, Merchant Banking

Bimal Jaiswal, Financial Services

J. Vanhorne, Financial Management & Policy

BCH 606(FOS) SECURITY ANALYSIS & PORTFOLIO MANAGEMENT

Unit I :

Nature and scope of investment decision, Investment & speculation, type of investment, investment opportunities, investment in securities & other instruments, Risk & Return, Trade off; Investment Environment: Investment process, Investment media.

Unit II:

Equity Analysis & Valuation: General valuation framework, Time value of money, discounting & compounding, valuation of equity & preference shares different models, Fundamental Analysis, Efficient Market Hypothesis & its implications to investors. Bond Analysis Bonds: Characteristics, valuation, risk & return.

Unit III   :

Portfolio Management: Nature and Scope, Traditional Vs Modern Portfolio Management, Portfolio Risk and Return – Diversification & Portfolio Risk, Mean Variance Criterion. Portfolio Construction: Markowitz Theory, Portfolio Analysis & optimum portfolio for an investor.

Unit IV   :

Pricing of capital Assets: Capital Market Theory, CAPM model- capital market line, security market line. Arbitrage pricing theory. Portfolio Revision & Performance Valuation: Need for revision of portfolio, portfolio performance evaluation, managed portfolio & its performance evaluation

SUGGESTED READINGS:

Investment: Sharpe,Alexander and bailey, Willey Press

Investment Management: V.A.Avadhani, Himalaya

Investment Analysis and Portfolio Management: Reilly and Brown, South Western

BCH 607 COMPREHENSIVE VIVA - VOCE

UNIVERSITY OF LUCKNOW

STUDY AND EVALUATION SCHEME

BACHELOR OF COMPUTER APPLICATION

YEAR: THIRD, SEMESTER –V

Sl. No.	Paper Code	Subject	Periods			Evaluation Scheme				Sub Total	Credit
						Sessional Exam			Exam.		
			L	T	P	CT	TA	Total	ESE		
1	BCA-501	Data Communication and Computer Network	3	1	0	20	10	30	70	100	4
2	BCA-502	Design and Analysis of Algorithm	3	1	0	20	10	30	70	100	4
3	BCA-503	Web design Concept	3	0	0	20	10	30	70	100	3
4	BCA-504	UNIX and Shell Programming	3	1	0	20	10	30	70	100	4
5	BCA-505X	Elective-I	3	0	0	20	10	30	70	100	3
PRACTICALS											
6	BCA-506P	UNIX Lab	0	0	2	10	10	20	30	50	1
7	BCA-507P	Web Design lab	0	0	3	10	10	20	30	50	2
8	BCA-508P	Viva-Voce on Summer Training	0	0	2	10	10	20	30	50	1
9	BCA-GP	General Proficiency	-	-	-	-	-	-	-	50	-
		Total	15	3	7					700	22

Elective-I

1. BCA-5051   Data Mining and Ware Housing
2. BCA-5052   Software Testing Methodology
3. BCA-5053   Open Source Software
4. BCA-5054   Information System: Analysis, Design & Implementation

UNIVERSITY OF LUCKNOW

STUDY AND EVALUATION SCHEME

BACHELOR OF COMPUTER APPLICATION

YEAR: THIRD, SEMESTER –VI

Sl. No.	Paper Code	Subject	Periods			Evaluation Scheme				Sub Total	Credit
						Sessional Exam			Exam.		
			L	T	P	CT	TA	Total	ESE		
1	BCA-601	E-Commerce	3	1	0	20	10	30	70	100	**4**
2	BCA-602	Cyber Law and Internet Security	3	1	0	20	10	30	70	100	**4**
3	BCA-603	Mobile Computing	3	0	0	20	10	30	70	100	**3**
4	BCA-604X	Elective-II	3	1	0	20	10	30	70	100	**4**
PRACTICAL/PROJECT											
5	BCA-605P	Advanced Technology (Dot Net) Lab	0	0	3	10	10	20	30	50	**2**
6	BCA-Pro	Project	0	0	6	-	50	50	150	200	**5**
7	BCA-GP	General Proficiency	-	-	-	-	-	-	-	50	**-**
		Total	**1 2**	**3**	**9**					**700**	**22**

Elective-II

1. BCA-6041   Optimization Techniques
2. BCA-6042   Microprocessor
3. BCA-6043   Data Compression
4. BCA-6044   Cryptography

Data Communication and Computer Network

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Unit-1   08
Introduction Concepts: Goals and applications of networks, network structure and architecture, the OSI reference model, services, network topology design, delay analysis, back bone design, local access network design, physical layer transmission media, switching methods, ISDN, and terminal handling.

Unit-2   12
Medium Access Sub Layer: Medium access sub layer - channel allocations, LAN protocols - aloha protocols - overview of IEEE standards - FDDI.
Data Link Layer: Elementary data link protocols, sliding window protocols, and error handling.

Unit-3   12
Network Layer: Point - to point Networks, routing, congestion control Internetworking -TCP /IP, IP packet, IP address, and IPv6.
Transport Layer: Transport layer - design issues, and connection management.

Unit-4   08
Session Layer: Design issues and remote procedure call.
Presentation Layer: Design issues.
Application Layer: File transfer, access and management, electronic mail, virtual terminals, other application. Example networks - internet and public networks.

Text Books:
1. Forouzen, "Data Communication and Networking", TMH.
2. A.S. Tanenbaum, "Computer Networks", Pearson Education.
3. W. Stallings, "Data and Computer Communication", Macmillan Press.

Reference Books:
1. Anuranjan Misra, "Computer Networks", Acme Learning
2. G. Shanmugarathinam, "Essential of TCP/ IP", Firewall Media.
3. Ying-Dar Lin, Ren-Hung Hwang, Fred Baker, "Computer Networks: An Open Source Approach", Mc Graw Hill Publisher.

Design and Analysis of Algorithm

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Unit-1   08
Introduction: Algorithms, analyzing algorithms, complexity of algorithms, growth of functions, performance measurements, sorting and order statistics - shell sort, quick sort, merge sort, heap sort, comparison of sorting algorithms, and sorting in linear time.

Unit-2   12
Advanced Data Structures: Red-Black trees, B – trees, Binomial Heaps, Fibonacci Heaps.
Divide and Conquer Sorting, Greedy methods with examples such as Optimal Reliability Allocation, Knapsack, Single source shortest paths - Dijkstra's and Bellman Ford algorithms.

Unit-3   12
Dynamic Programming: Knapsack, all pair shortest paths – Warshal's and Floyd's algorithms, resource allocation problem. Backtracking, branch and bound, graph coloring, n-queen problem, Hamiltonian cycles, and sum of subsets.

Unit-4   08
Selected Topics: Algebraic computation, fast Fourier transform, string matching, theory of NP-completeness, approximation algorithms, and randomized algorithms.

Text Books:
1. Thomas H. Coreman, Charles E. Leiserson and Ronald L. Rivest, "Introduction to Algorithms", Printice Hall of India.
2. E. Horowitz & S Sahni, "Fundamentals of Computer Algorithms", Galgotia Press.
3. Aho, Hopcraft, Ullman, "The Design and Analysis of Computer Algorithms" Pearson Education.

Reference Books:
1. Jon Kleinberg and Éva Tardos, "Algorithm Design", Pearson.
2. Michael T Goodrich and Roberto Tamassia, "Algorithm Design: Foundations, Analysis, and Internet Examples", Wiley.
3. Harry R. Lewis and Larry Denenberg, "Data Structures and Their Algorithms", Harper Collins.

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BCA–503
Web Design Concept

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Unit-1   **12**
Introduction: Introduction and web development strategies, history of web and internet, protocols governing web, introduction to client-server computing, web applications, web project, and web team.

Unit-2   **08**
Web Page Designing: HTML: List, table, images, frames, forms, CSS, document type definition, object Models, presenting and using XML, **XML Processors**: DOM and SAX, and dynamic HTML.

Unit-3   **10**
Java script: Introduction, documents, forms, statements, functions, objects, introduction to AJAX, and VB script.

Unit-4   **10**
Server Site Programming: Introduction to active server pages (ASP), introduction to Java Server Page (JSP), JSP application design, JSP objects, conditional processing, declaring variables and methods, sharing data between JSP pages.

Text Books:
1. Burdman, Jessica, "Collaborative Web Development" Addison Wesley.
2. Xavier, "Web Technology and Design", New Age International.
3. Ivan Bayross, "HTML, DHTML, Java Script, Perl & CGI", BPB Publication.

Reference Books:
1. Ramesh Bangia, "Internet and Web Design", New Age International.
2. Deitel, "Java for programmers", Pearson Education.
3. Uttam k. Roy, "Web Technologies", Oxford.

BCA-504
UNIX and Shell Programming

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Unit-1   **08**
UNIX Architecture: The UNIX operating system, LINUX and gnu. The UNIX architecture, features of UNIX, POSIX and single UNIX specification, internal and external commands, command structure, man browsing and manual pages on-line.
The file system: The parent – child relationship, the home variable, pwd, cd, mkdir, absolute pathname, and relative pathname.

Unit-2   **10**
Basic File Attributes: Listing directory contents, the UNIX file system, ls –l, -d option, file ownership, file permissions, chmod, directory permissions, changing file ownership, file attributes.
The Process: Process basics, process status, system processes (-e or –a), mechanism of process creation, process states and zombies, and running jobs in background.

Unit-3   **10**
Simple Filters: pr, head, tail, cut, paste, sort, uniq, tr.
Filters using regular expressions – grep and sed: grep, Basic Regular Expressions (BRE), Extended Regular Expressions (ERE) and egrep, the stream editor, and line addressing using multiple instructions (-E and -F) context addressing.

Unit-4   **12**
The Shell: The shell's interpretive cycle, shell offerings, pattern matching, escaping and quoting, redirection, pipes, tee, command substitution, shell variables, and essential shell programming.

Text Books:
1. Sumitabha Das, "UNIX – Concepts and Applications", Tata McGraw Hill.
2. Behrouz A. Forouzan, Richard F. Gilberg, "Unix and shell Programming", Thomson Learning.
3. Neil Matthew and Richard Stones, "Beginning Linux Programming", Wrox.

Reference Books:
1. Kernighan and Pike, "Unix programming environment", Pearson Education.
2. Rosen, Host, Klee, Farber, Rosinski, "The Complete Reference Unix", TMH.
3. Yashavant P. Kanetkar, "Unix Shell Programming", BPB Publications.

BCA-5051
Data Mining and Data Warehousing

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Unit-1   **08**
Introduction: Data mining-definition & functionalities, data processing, form of data pre-processing, data cleaning: missing values, noisy data, binning, clustering, regression, inconsistent data, data integration and transformation, and data reduction.

Unit-2   **12**
Concept Description: Association rule mining, mining single-dimensional Boolean association rules from transactional databases, Apriori Algorithm, **Classification and Predictions:** Decision tree, Bayesian Classification, and K-nearest neighbour classifiers.

Unit-3   **08**
Data Warehousing: Overview, definition, delivery process, difference between database system and data warehouse, multi-dimensional data model, data cubes, stars, snowflakes, fact constellations, concept hierarchy, process architecture, 3 tier architecture, and data marting.

Unit-4   **12**
OLAP: Aggregation, historical information, query facility, OLAP function and tools. OLAP servers, ROLAP, MOLAP, HOLAP, data mining interface, security, backup and recovery.

Text Books:
1. M. H. Dunham, "Data Mining: Introductory and Advanced Topics", Pearson Education.
2. Jiawei Han, Micheline Kamber, "Data Mining Concepts & Techniques", Elsevier.
3. Ian H. Witten, "Data Mining: Practical Machine Learning Tools and Techniques", Morgan Kaufmann

Reference Books:
1. Sam Anahory, Dennis Murray, "Data Warehousing in the Real World: A Practical Guide for Building Decision Support Systems", Pearson Education.
2. Mallach, "Data Warehousing System", McGraw –Hill.
3. Alex Berson and Stephen J. Smith, "Data Warehousing, Data Mining, & OLAP", Tata McGraw-Hill Education.

BCA-5052
Software Testing Methodology

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Unit-1   **10**
Introduction: Principles of software testing, error, fault, failure, incident, error and fault taxonomies, test cases, limitations of testing, code inspections, desk checking, group walkthroughs and peer reviews and overview of graph theory for testers.

Unit-2   **10**
Functional Testing: Boundary value analysis, equivalence class testing, decision table-based testing, cause effect graphing technique.
Structural Testing: Path testing, DD-paths, cyclomatic complexity, graph metrics, data flow testing and slice-based testing.

Unit-3   **08**
Testing Activities: Unit testing, levels of testing, integration testing, system testing, debugging, regression testing and extreme testing.

Unit-4   **12**
Object Oriented Testing: Issues in object-oriented testing, class testing, GUI testing, object-oriented integration and system testing. Testing internet applications: overview and challenges and strategies of testing internet applications.

Text Books:
1. Paul Ammann and Jeff Offutt, "Introduction to Software Testing", Cambridge University Press, Cambridge, UK.
2. Mauro Pezze, Michal Young, "Software Testing and Analysis: Process, Principles and Techniques", Wiley India.
3. Yogesh Singh, "Software Testing", Cambridge University Press, New York.

Reference Books:
1. William Perry, "Effective Methods for Software Testing", John Wiley & Sons, New York.
2. Cem Kaner, Jack Falk, Nguyen Quoc, "Testing Computer Software", Van Nostrand Reinhold, New York.
3. Boris Beizer, "Software Testing Techniques", Van Nostrand Reinhold, New York.

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BCA-5053
Open Source Software

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Unit-1   **08**
Introduction- Introduction to open sources, need of open sources, advantages of open sources and application of open sources.

Unit-2   **12**
Open Source Operating Systems: LINUX- Introduction, general overview, kernel mode and user mode, process, advanced concepts, scheduling, personalities, cloning and signals.

Unit-3   **08**
Open Source Database: MySQL- Introduction - setting up account-starting, terminating and writing your own SQI programs, record selection technology, working with strings - date and time, sorting query results.

Unit-4   **12**
Open Source Programming Languages: PHP- Introduction - programming in web environment, variables, constants, datatypes, operators, statements, functions, arrays and OOP - string manipulation and regular expression.
Perl: Perl backgrounder, Perl overview, Perl parsing rules, variables and data -statements and control structures, subroutines, packages, and modules- working with files and data manipulation.

Text Books:
1. Martin C. Brown, "Perl: The Complete Reference", Tata McGraw-Hill Publishing Company Limited, Indian Reprint
2. Vikram Vaswani, "MYSQL: The Complete Reference", Tata McGraw -Hill Publishing Company Limited, Indian Reprint.
3. Paul Kavanagh, "Open Source Software: Implementation and Management", Elsevier.

Reference Books:
1. Rasmus Lerdorf and Levin Tatroe, "Programming PHP", O'Reilly.
2. Wesley J. Chun, "Core Phython Programming", Prentice Hall.
3. Steven Holzner, "PHP: The Complete Reference", Tata McGraw-Hill Publishing Company Limited, Indian Reprint.

BCA-5054
Information System: Analysis and Design & Implementation

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Unit-1   12
Basic Concept of Systems: The system: definition and concepts, elements of a system: input, output processor, control, feedback, environment, boundaries and interface, characteristics of a system, types of systems -physical and abstract system, open and closed systems, man-made systems, information and its categories.
Information systems: TPS, OAS, MIS, DSS, ESS; System analyst: role and need of system analyst and system analyst as an agent of change.

Unit-2   08
System Development Life Cycle: Introduction to SDLC. Various phases: study, analysis, design, development, testing, implementation, and maintenance.
System documentation: Types of documentation and their importance.

Unit-3   10
Tools for System Analysis: Data flow diagram (DFD), logical and physical DFDs, developing DFD, system flowcharts and structured charts, structured English, decision trees and decision tables.
System design module specifications: Module coupling and cohesion, top-down and bottom-up design, logical and physical design and structured design.

Unit-4   10
System Implementation and Maintenance: Need of system testing, types of system testing, quality assurance; system conversion, conversion methods, procedures and controls, system evaluation and performance.

Text Books:
1. Perry Edwards, "System Analysis & design", Mc Graw Hill Publication.
2. Jeffrey A. Hofer Joey F. George Joseph S. Valacich, "Modern System Analysis and Design", Addison Weseley.
3. Shouhong Wang, "Information Systems Analysis and Design", Universal-Publisher Boca Raton.

Reference Books:
1. Elias m. Awad, "System Analysis and Design", Galgotia Publications Pvt. Ltd.
2. Henry C. Lucas, "Analysis, Design and Implementation of Information Systems", McGraw-Hill Education.
3. Whitten, Bentaly and Barlow, "System Analysis and Design Methods", Galgotia Publication.

1. Execute the following list of basic commands in UNIX:

      (i) pwd (ii) mkdir (iii) cd

2. Execute the following list of basic commands in UNIX:

      (i) who (ii) echo (iii) cat

   2. Execute the following list of basic commands in UNIX:

      (i) rm (ii) mv (iii) wc (iv) cp

4. Execute the basic file attributes with all possible options:

      (i) ls (ii) chmod

5. Execute basic commands using vi editor:

      a. input mode commands

      b. saving text and quitting

6. Execute basic commands using vi editor

      a. navigation

      b. editing text

      c. searching pattern

7. Execute the following filters using regular expressions with all possible options:

      (i) grep (ii) sed

8. Write a shell script to display current date and calendar.

BCA-507P
Web Design Lab

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1. HTML program to create resume preparation using tables.

2. HTML program for home page creation using frames.

3. HTML program for form creation.

4. Create a web page to embed an image map in a web page using HTML.

5. Create a web page to get the coordinates from an image using java script.

6. Create a web page with all types of cascading style sheets.

7. Write HTML/Java scripts to display your CV in navigator, your institute website,
   Department website and tutorial website for specific subject.

8. Design HTML form for keeping student record and validate it using Java script.

9. Writing program in XML for creation of DTD, which specifies set of rules.

10. Create a style sheet in CSS/ XSL & display the document in internet explorer.

Note: The Instructor may add/delete/modify/tune experiments, wherever he/she feels in a justified manner.

BCA-601

E-Commerce

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Unit-1   12

Introduction: What is E-commerce, forces behind E-commerce industry framework, brief history of ecommerce, inter organizational E-commerce intra organizational E-commerce, and consumer to business electronic commerce, architectural framework.

Unit-2   08

Mobile Commerce: Introduction to mobile commerce, mobile computing application, wireless application protocols, WAP technology, mobile information devices, web security introduction to web security, firewalls & transaction security, client server network, emerging client server security threats, firewalls and network security.

Unit-3   08

Encryption: World wide web & security, encryption, transaction security, secret key encryption, public key encryption, virtual private network (VPN) and implementation management issues.

Unit-4   12

Electronic Payments: Overview of electronics payments, digital token-based electronics payment system, smart cards, credit card I debit card-based EPS, emerging financial instruments, and online banking**.**

Text Books:
    1. Greenstein and Feinman, "E-Commerce", TMH.
    2. Ravi Kalakota, Andrew Whinston, "Frontiers of Electronic Commerce", Addision Wesley.
    3. Pete Lohsin , John Vacca "Electronic Commerce", New Age.

Reference Books:
    1. Denieal Amor, "The E-Business Revolution", Addision Wesley.
    2. Diwan, Sharma, "E-Commerce", Excel.
    3. Bajaj & Nag, "E-Commerce: The Cutting Edge of Business", TMH.

Cyber Law and Internet Security

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Unit-1   12
Cyber Space Jurisdiction: Jurisdiction issues under IT Act, 2000, traditional principals of jurisdiction, extra-terrestrial jurisdiction and case laws on cyber space jurisdiction.
E–commerce and Laws in India: Digital / Electronic signature in Indian laws, E–commerce; issues and provisions in Indian law, and E –Governance.

Unit-2   08
Intellectual Property Rights, Domain Names and Trademark Dispute: Concept of trademarks in internet era, cybersquatting, reverse hijacking, jurisdiction in trademark disputes, copyright in the digital medium, and copyright in computer programs

Unit-3   10
Developing Secure Information Systems: Information security governance & risk management, security architecture & design security issues in hardware, data storage & downloadable devices, physical security of IT assets, access control, CCTV and intrusion detection systems and backup security measures.

Unit-4   10
Security Policies: Development of policies, WWW policies, email security policies, policy review process-corporate policies-sample security policies, publishing and notification requirement of the policies.

Text Books:
1. Prashant Mali, "Cyber Law & Cyber Crimes", Snow White publications, Mumbai.
2. Dr. Surya Prakash Tripathi, Ritendra Goyal and Praveen Kumar Shukla, "Introduction to Information Security and Cyber Law", Willey Dreamtech Press.
3. Sarika Gupta & Gaurav Gupta, "Information Security and Cyber Laws", Khanna Publishing House.

Reference Books:
1. Farooq Ahmad "Cyber Law in India", Pioneer Publications.
2. Vakul Sharma, "Information Technology Law and Practice", Universal Law Publishing Co. Pvt. Ltd.
3. Suresh T. Vishwanathan, "The Indian Cyber Law", Bharat Law House New Delhi.

BCA-603
Mobile Computing

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Unit-1 10
Introduction: Issues in mobile computing, characteristics of mobile computing, structure of mobile computing and overview of wireless telephony: cellular concept.

Unit-2 10
Evaluation of Mobile System and Wireless Network: GSM, CDMA, FDMA, TDMA; **Wireless networking**: Wireless LAN overview, Bluetooth, wireless multiple access protocols, TCP over wireless, wireless applications, data broadcasting, mobile IP and WAP.

Unit-3 08
Data management issues: Management issues, hoarding techniques, data replication for mobile computers, adaptive clustering for mobile wireless networks and file system.

Unit-4 12
Mobile Agents and Routing algorithms: Mobile agent, security and fault tolerance, transaction processing in mobile computing environment, Mobile Adhoc Networks (MANETs), Routing protocols, Global State Routing (GSR), Destination Sequenced Distance Vector routing (DSDV) and Dynamic Source Routing (DSR) and Ad Hoc On-demand Distance Vector routing (AODV).

Text Books:

1. Jochen Schiller, "Mobile Communications", Addison-Wesley.
2. Raj Kamal, "Mobile Computing", Oxford University Press.
3. Asoke K Talukder, Hasan Ahmed, Roopa R Yavagal, "Mobile Computing, Technology Applications and Service Creation", Mc Graw Hill.

Reference Books:

1. Charles Perkins, "Mobile IP", Addison Wesley.
2. Charles Perkins, "Ad hoc Networks", Addison Wesley.
3. Upadhyaya, "Mobile Computing", Springer.

BCA-6041
Optimization Techniques

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Unit-1 10
Linear programming: Central problem of linear programming various definitions included statements of basic theorem and also their properties, simplex methods, primal and dual simplex method, transport problem, tic-tac problem, and its solution. Assignment problem and its solution. Graphical method formulation and linear programming problem.

Unit-2 10
Queuing Theory: Characteristics of queuing system, classification of queuing model single channel queuing theory and generalization of steady state m/m/1 queuing models (model-I, model-II).

Unit-3 08
Replacement Theory: Replacement of item that deteriorates replacement of items that fail. Group replacement and individual replacement.

Unit-4 12
Inventory Theory: Cost involved in inventory problem- single item deterministic model economics long size model without shortage and with shorter having production rate infinite and finite. **Job Sequencing:** Introduction, solution of sequencing problem, and Johnson's algorithm for n jobs through two machines.

Text Books:
1. S S Rao, "Enginering Optimization – Theory and Applications", New Age International (P) Ltd.
2. A.M. Natarajan, P. Balasubramani, A. Tamilarasi," Operations Research", Pearson Education.
3. Gupta V.G., "Optimization Theory Techniques of Operations Research", Oxford Book Company.

Reference Books:
1. Abidi Mongi A. "Optimization Techniques in Computer vision", Springer.
2. Falk Heiko, "Source Code Optimization Techniques for Data Flow Dominated Embedded Software", Springer Verlag New York.
3. Evtushenko Yurij G. "Numerical Optimization Techniques", Springer Verlag New York.
4. Prakash Om, "Information Theory and Optimization Techniques in Scientific Research", VDM Verlag.

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Unit-1   08
Microprocessors: Introduction, Advances in semiconductor technology, Organization of microprocessor-based system, and 8085 microprocessor.

Unit-2   10
The 8085 MPU architecture: 8085 bus organization, demultiplexing the bus AD7-AD0, generating control signals. ALU, timing and control unit, instruction register and decoder, register array, decoding and executing an instruction.

Unit-3   10
8085 Machine: Machine cycles and bus timings opcode fetch machine cycle, memory read machine cycle, memory k machine cycle, IO read machine cycle, IO write machine cycle and execution time of the instruction cycle.

Unit-4   12
Counters and time delays: Time delay using single register and register pair, Stack and subroutines, Call and return instructions, Advanced subroutine concept. Assembly language program Hexadecimal counter, Sum of odd and even numbers, Hex to BCD conversion and Interrupts.

Text Books:
1. Gaonkar, Ramesh S., "Microprocessor Architecture, Programming, and Applications with the 8085", Pen Ram International Publishing.
2. Ray, A.K. & Burchandi, "Advanced Microprocessors and Peripherals: Architecture Programming and Interfacing", Tata McGraw Hill.
3. B. Ram, "Fundamentals of microprocessor and microcontroller", Dhanpat Rai Publishing Co Pvt Ltd.

Reference Books:
1. Hall D.V, "Microprocessor and Interfacing", Tata McGraw Hill.
2. B.P. Singh & Renu Singh, "Microprocessors and Microcontrollers", New Age International.
3. Deniel Tabak, "Advance Microprocessor", TMH.
4. Triebel & Singh, "The 8088 and 8086 Microprocessors", Pearson Education.

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BCA-6043
Data Compression

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Unit-1   10
Compression Techniques: Loss less compression, lossy compression, measures of performance, modeling and coding, mathematical preliminaries for lossless compression: A brief introduction to information theory, models: Physical models, probability models, Markov models, composite source model, uniquely decodable codes and prefix codes.

Unit-2   10
Huffman coding algorithm: Minimum variance Huffman codes, adaptive Huffman coding, update procedure, encoding procedure, decoding procedure, applications of Huffman coding: loss less image compression, text compression and audio compression.

Unit-3   12
Coding a sequence: Generating a binary code, Comparison of Binary and Huffman coding, Applications, Bi-level image compression-The JBIG standard, JBIG2, Image compression, Introduction of Dictionary Techniques, **Static Dictionary:** Diagram Coding, and Adaptive Dictionary.

Unit-4   08
Distortion criteria, Models, Scalar Quantization: The Quantization problem, uniform quantizer, adaptive quantization and non-uniform quantization.

Text Books:
1. Khalid Sayood, "Introduction to Data Compression", Morgan Kaufmann Publishers.
2. Peter D. Johnson Jr., Greg A. Harris, D.C. Hankerson, "Introduction to Information Theory and Data Compression", CRC.
3. David Salomon, "Data Compression: The Complete Reference 4th Edition", Springer.

Reference Books:
1. Drozdek, "Elements of Data Compression", Cengage Learning.
2. Timothy C., "Text Compression", Bell Prentice Hall.
3. Nitin Chikani, "The Complete Format of Data Compression & Decompression", Lambert.

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BCA-6044
Cryptography

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Unit-1   **10**
Introduction to Security: Introduction to security: Attacks, services & mechanisms, security. Conventional encryption model, classical encryption techniques, steganography, modern techniques: simplified DES, block cipher principles, DES standard, DES strength, differential & linear cryptanalysis, block cipher design principles and block cipher modes of operation.

Unit-2   **08**
Conventional Encryption Algorithms: Conventional Encryption Algorithms: Triples DES, blowfish, International data encryption algorithm, RC5, placement of encryption function and key distribution.

Unit-3   **10**
Public Key Encryption: Public Key Encryption: public, key cryptography: principles of public, key cryptosystems, RSA algorithm, key management, Fermat's & Euler's theorem, primality test and the Chinese remainder theorem.

Unit-4   **12**
Message Authentication & Hash Functions: Message Authentication & Hash Functions: Authentication requirements, authentication functions, message authentication codes, hash function, md5 message digest algorithm, secure hash algorithm (SHA), and digital signatures.

Text Books:
1. William Stallings, "Cryptography and Network Security: Principles and Practice", Prentice Hall, New Jersey.
2. Atul Kahate, "Cryptography and Network Security", TMH.
3. Douglas R. Stinson, "Cryptography: Theory and Practice", CRC press.

Reference Books:
1. William Stallings, "Network Security Essentials: Applications and Standards", Prentice Hall.
2. Johannes A. Buchmann, "Introduction to cryptography", Springer, Verlag.
3. Wenbo Mao, "Modern Cryptography: Theory and Practice", Prentice Hall PTR.
4. Simon Rubinstein Salzedo, "Cryptography", Springer.

BCA-605P
Advanced Technology (Dot Net) Lab

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1. Familiarization with IDE.

2. Programming Console applications using VB.NET covering all the aspects of VB.NET fundamentals

3. Object oriented programming using VB.NET covering objects, Inheritance, Polymorphism, Constructors, Static Classes, and Interfaces.

4. Programme to illustrate Exception Handling concepts.

5. Programme to illustrate use of Collections.

6. Programme to perform File I/O Operations.

7. Programming Windows applications using VB.NET covering all major controls and components, Menus, MDI, Event Handling.

8. Creating windows installer.

9. Programme to interact with Database from a Windows Desktop Application.

10. Programming to build web applications using web controls, maintaining state.

Note: The Instructor may add/delete/modify/tune experiments, wherever he/she feels in a justified manner.