

**CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT**  
**THREE YEARS BACHELOR OF COMPUTER APPLICATION PROGRAMME**

**COURSE CONTENT** (w.e.f. August 2011)

**SEMESTER I**

**COURSE CODE**

BCA-101

BCA-102

BCA-103

BCA-104

BCA-105

BCA 106P

BCA-107P

**QUALIFYING PAPER**

008

**COURSE NAME**

Mathematics –I (MATHS)

Programming Principle & Algorithm (PPA)

Computer Fundamental & Office Automation (CFOA)

Principle of Management (POM)

Business Communication (BC)

Computer Laboratory and Practical Work of Office Automation

Computer Laboratory & Practical Work of C Programming

Environmental Studies (EVS)



**SEMESTER II**

**COURSE CODE**

BCA-201

BCA-202

BCA-203

BCA-204

BCA-205

BCA 206P

**COURSE NAME**

Mathematics II (MATHS)

C Programming (C Prog)

Organization Behavior (OB)

Digital Electronics & Computer Organization (DECO)

Financial Accounting & Management (FAM)

Computer Laboratory and Practical Work of C Programming

**CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT**  
**THREE YEARS BACHELOR OF COMPUTER APPLICATION PROGRAMME**

COURSE CONTENT FOR SEMESTER – I

**BCA-101 MATHEMATICS -I**

<b>Unit – I</b>	<b>DETERMINANTS</b>	Definition, Minors, Cofactors, Properties of Determinants <b>MATRICES:</b> Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices, Adjoint, Inverse, Cramers Rule, Rank of Matrix Dependence of Vectors, Eigen Vectors of a Matrix, Caley-Hamilton Theorem (without proof)
<b>Unit – II</b>	<b>LIMITS &amp; CONTINUITY:</b>	Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Continuity at a Point, Continuity Over an Interval, Intermediate Value Theorem, Type of Discontinuities
<b>Unit– II</b>	<b>DIFFERENTIATION:</b>	Derivative, Derivatives of Sum, Differences, Product & Quotients, Chain Rule, Derivatives of Composite Functions, Logarithmic Differentiation, Rolle’s Theorem, Mean Value Theorem, Expansion of Functions (Maclaurin’s & Taylor’s), Indeterminate Forms, L’ Hospitals Rule, Maxima & Minima, Curve Tracing, Successive Differentiation & Liebnitz Theorem.
<b>Unit– IV</b>	<b>INTEGRATION:</b>	Integral as Limit of Sum, Fundamental Theorem of Calculus (without proof.), Indefinite Integrals, Methods of Integration Substitution, By Parts, Partial Fractions, Reduction Formulae for Trigonometric Functions, Gamma and Beta Functions(definition).
<b>Unit – V</b>	<b>VECTOR ALGEBRA:</b>	Definition of a vector in 2 and 3 Dimensions; Double and Triple Scalar and Vector Product and physical interpretation of area and volume.

**Referential Books:**

1. .S. Grewal, “Elementary Engineering Mathematics”, 34th Ed., 1998.
2. Shanti Narayan, “Integral Calculus”, S. Chand & Company, 1999
3. H.K. Dass, “Advanced Engineering Mathematics”, S. Chand & Company, 9th Revised Edition, 2001.
4. Shanti Narayan, “Differential Caluculs”, S.Chand & Company, 1998.

## BCA-102 PROGRAMMING PRINCIPLE & ALGORITHM

<b>Unit – I</b>	Introduction to ‘C’ Language Language Fundamentals	History, Structures of ‘C’ Programming, Function as building blocks.  Character set, C Tokens, Keywords, Identifiers, Variables, Constant, Data Types, Comments.
<b>Unit – II</b>	Operators  Build in Operators and function	Types of operators, Precedence and Associativity, Expression, Statement and types of statements  Console based I/O and related built in I/O function: printf(), scanf(), getch(), getchar(), putchar(); Concept of header files, Preprocessor directives: #include, #define.
<b>Unit– III</b>	Control structures	Decision making structures: If, If-else, Nested If-else, Switch; Loop Control structures: While, Dohile, for, Nested for loop; Other statements: break, continue, goto, exit.
<b>Unit– IV</b>	Introduction to problem solving	Concept: problem solving, Problem solving techniques (Trail & Error, Brain Stroming, Divide & Conquer) Steps in problem solving (Define Problem, Analyze Problem, Explore Solution) Algorithms and Flowcharts (Definitions, Symbols), Characteristics of an algorithm Conditionals in pseudo-code, Loops in pseudo code Time complexity: Big-Oh notation, efficiency Simple Examples: Algorithms and flowcharts (Real Life Examples)
<b>Unit – V</b>	Simple Arithmetic Problems	Addition / Multiplication of integers, Determining if a number is +ve / -ve / even / odd, Maximum of 2 numbers, 3 numbers, Sum of first n numbers, given n numbers, Integer division, Digit reversing, Table generation for n, a <sup>b</sup> , Factorial, sine series, cosine series, <sup>n</sup> C <sub>r</sub> , Pascal Triangle, Prime number, Factors of a number, Other problems such as Perfect number, GCD numbers etc (Write algorithms and draw flowchart), Swapping
<b>Unit-VI</b>	Functions	Basic types of function, Declaration and definition, Function call, Types of function, Parameter passing, Call by value, Call by reference, Scope of variable, Storage classes, Recursion.

### Referential Books:

1. Let us C-Yashwant Kanetkar.
2. Programming in C-Balguruswamy
3. The C programming Lang., Pearson Ecl - Dennis Ritchie
4. Structured programming approach using C- Forouzah & Ceilber Thomson learning publication.
5. Pointers in C - Yashwant Kanetkar
6. How to solve it by Computer - R.G. Dromy
7. Peter Norton’s Introduction to Computers - Tata MGHill

<b>Unit – I</b>	Introduction to Computers	<p>Introduction, Characteristics of Computers, Block diagram of computer.</p> <p>Types of computers and features, Mini Computers, Micro Computers, Mainframe Computers, Super Computers.</p> <p>Types of Programming Languages (Machine Languages, Assembly Languages, High Level Languages).</p> <p>Data Organization, Drives, Files, Directories.</p> <p>\Types of Memory (Primary And Secondary) RAM, ROM, PROM, EPROM. Secondary Storage Devices (FD, CD, HD, Pen drive)</p> <p>I/O Devices (Scanners, Plotters, LCD, Plasma Display) Number Systems</p> <p>Introduction to Binary, Octal, Hexadecimal system</p> <p>Conversion, Simple Addition, Subtraction, Multiplication</p>
<b>Unit – II</b>	Algorithm and Flowcharts	<p>Algorithm: Definition, Characteristics, Advantages and disadvantages, Examples</p> <p>Flowchart: Definition, Define symbols of flowchart, Advantages and disadvantages, Examples</p>
<b>Unit– III</b>	Operating System and Services in O.S.	Dos - History, Files and Directories, Internal and External Commands, Batch Files, Types of O.S.
<b>Unit– IV</b>	Windows Operating Environment	Features of MS - Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paintbrush.
<b>Unit – V</b>	Editors and Word Processors	Basic Concepts, Examples: MS-Word, Introduction to desktop publishing.
<b>Unit – VI</b>	Spreadsheets and Database packages	Purpose, usage, command, MS-Excel, Creation of files in MS-Access, Switching between application, MS-PowerPoint.

**Referential Books:**

1. Fundamental of Computers - By V.Rajaraman B.P.B. Publications
2. Fundamental of Computers - By P.K. Sinha
3. Computer Today- By Suresh Basandra
4. Unix Concepts and Application - By Sumitabha Das
5. MS-Office 2000(For Windows) - By Steve Sagman
6. Computer Networks - By Tennenbum Tata MacGrow Hill Publication

## BCA-104 PRINCIPLE OF MANAGEMENT

<b>Unit – I</b>	Nature of Management:	Meaning, Definition, its nature purpose, importance & Functions, Management as Art, Science & Profession- Management as social System Concepts of management-Administration-Organization, Management Skills, Levels of Management.
<b>Unit – II</b>	Evolution of Management Thought:	Contribution of F.W.Taylor, Henri Fayol, Elton Mayo, Chester Barhard & Peter Drucker to the management thought. Business Ethics & Social Responsibility: Concept, Shift to Ethics, Tools of Ethics.
<b>Unit– III</b>	Functions of Management: Part-I	Planning - Meaning- Need & Importance, types, Process of Planning, Barriers to Effective Planning, levels - advantages & limitations. Forecasting- Need & Techniques Decision making-Types - Process of rational decision making & techniques of decision making Organizing - Elements of organizing & processes: Types of organizations, Delegation of authority - Need, difficulties Delegation - Decentralization Staffing - Meaning & Importance Direction - Nature - Principles Communication - Types & Importance
<b>Unit– IV</b>	Functions of Management: Part-II	Motivation - Importance - theories Leadership - Meaning -styles, qualities & function of leader Controlling - Need, Nature, importance, Process & Techniques, Total Quality Management Coordination - Need - Importance
<b>Unit – V</b>		Management of Change: Models for Change, Force for Change, Need for Change, Alternative Change Techniques, New Trends in Organization Change, Stress Management.
<b>Unit – VI</b>	: Strategic Management	Definition, Classes of Decisions, Levels of Decision, Strategy, Role of different Strategist, Relevance of Strategic Management and its Benefits, Strategic Management in India

### Referential Books :

1. Essential of Management - Horold Koontz and Itainz Weibrich- McGrawhills International
2. Management Theory & Practice - J.N.Chandan
3. Essential of Business Administration - K.Aswathapa, Himalaya Publishing House
4. Principles & practice of management - Dr. L.M.Parasad, Sultan Chand & Sons - New Delhi
5. Business Organization & Management - Dr. Y.K.Bhushan
6. Management: Concept and Strategies By J.S. Chandan, Vikas Publishing
7. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
8. Business organization and Management by Talloo by Tata McGraw Hill
9. Business Environment and Policy - A book on Strategic Management/ Corporate Planning By Francis Cherunilam Himalaya Publishing House 2001 Edition

## BCA-105 BUSINESS COMMUNICATION

<b>Unit – I</b>	Means of Communication:	Meaning and Definition - Process - Functions - Objectives - Importance - Essentials of good communication - Communication barriers, 7C's of Communication
<b>Unit – II</b>	Types of Oral Communication:	Meaning, nature and scope - Principle of effective oral communication (Face-to-face conversation - Teleconferences - Press Conference - Demonstration - Radio Recording - Dictaphone - Meetings - Rumour - Demonstration and Dramatisation - Public address system - Grapevine - Group Discussion - Oral report - Closed circuit TV). The art of listening - Principles of good listening.
<b>Unit– III</b>	Written Communication	Purpose of writing, Clarity in Writing, Principle of Effective writing, Writing Techniques, Electronic Writing Process
<b>Unit– IV</b>	Business Letters & Reports:	Need and functions of business letters - Planning & layout of business letter - Kinds of business letters - Essentials of effective correspondence, Purpose, Kind and Objective of Reports, Writing Reports.
<b>Unit – V</b>	Drafting of business letters:	Enquiries and replies - Placing and fulfilling orders - Complaints and follow-up Sales letters - Circular letters Application for employment and resume
<b>Unit – VI</b>	Information Technology for Communication: Topics Prescribed for workshop/skill lab	Word Processor- Telex - Facsimile(Fax) - E-mail- Voice mail – Internet - Multimedia - Teleconferencing - Mobile Phone Conversation - Video Conferencing -SMS - Telephone Answering Machine - Advantages and limitations of these types. Group Discussion, Mock Interview, Decision Making in a Group

### Referential Books :

- 1) Business Communication - K.K.Sinha - Galgotia Publishing Company, New Delhi.
- 2) Media and Communication Management - C.S. Rayudu - Hikalaya Publishing House, Bombay.
- 3) Essentials of Business Communication - Rajendra Pal and J.S. Korlhalli- Sultan Chand & Sons, New Delhi.
- 4) Business Communication (Principles, Methods and Techniques) Nirmal Singh – Deep & Deep Publications Pvt. Ltd., New Delhi.
- 5) Business Communication - Dr.S.V.Kadvekar, Prin.Dr.C.N.Rawal and Prof.Ravindra Kothavade-Diamond Publications, Pune.
- 6) Business Correspondence and Report Writing - R.C. Sharma, Krishna Mohan – Tata McGraw-Hill Publishing Company Limited, New Delhi.
- 7) Communicate to Win - Richard Denny - Kogan Page India Privat Limited, New Delhi.
- 8) Modern Business Correspondence - L.Gartside - The English Language Book Society and Macdonald and Evans Ltd.
- 9) Business Communication - M.Balasubrahmanyam -Vani Education Books. 10) Creating a Successful CV -Siman Howard – Dorling Kidnersley.

### 106P Computer Laboratory And Practical Work Of Office Automation

Practical will be based on Paper Office Automation: Covers UNIT-III, UNIT-IV, UNIT-V, UNIT-VI of Syllabus

### 107P Computer Laboratory and Practical Work of Programming Principle & Algorithm

Practical will be based on Paper Programming Principle & Algorithm: Covers UNIT-III, UNIT-IV, UNIT-V, UNIT-VI of Syllabus

# QUALIFYING PAPER

## ENVIRONMENTAL STUDIES (CODE-008)

### UNIT-1: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance, Need for Public Awareness.

### UNIT-2: NATURAL RESOURCES

- ❖ Renewable and Non-renewable Resources:

#### Natural resources and associated problems: -

- FOREST RESOURCES: use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
- WATER RESOURCES: use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- MINERAL RESOURCES: use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- FOOD RESOURCES: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- ENERGY RESOURCES: Growing energy needs, renewable and nonrenewable energy sources, use of alternate energy sources, case studies
- LAND RESOURCES: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- ❖ Role of an individual in conservation of natural resources.
- ❖ Equitable use of resources for sustainable lifestyles

### UNIT-3: ECOSYSTEMS

- ❖ Concept of an ecosystem
- ❖ Structure and function of an ecosystem
- ❖ Producers, consumers and decomposers
- ❖ Energy flow in the ecosystem
- ❖ Ecological succession

- ❖ Food chains, food webs and ecological pyramids
- ❖ Introduction, types, characteristic features, structure and function of the following ecosystem: -
  - a) Forest ecosystem
  - b) Grassland ecosystem
  - c) Desert ecosystem
  - d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

#### **UNIT-4: BIODIVERSITY AND ITS CONSERVATION**

- ❖ Introduction – Definition: genetic, species and ecosystem diversity.
- ❖ Biogeographical classification of India
- ❖ Value of biodiversity: Consumptive use, productive use, social, ethical, and aesthetic and option values.
- ❖ Biodiversity at global, National and local levels.
- ❖ India as a mega-diversity nation
- ❖ Hot-spots of biodiversity.
- ❖ Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts.
- ❖ Endangered and endemic species of India
- ❖ Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

#### **UNIT-5: ENVIRONMENTAL POLLUTION**

##### **DEFINITION:**

- ❖ Causes, effects and control measures of: -
  - a) Air pollution
  - b) Water pollution
  - c) Soil pollution
  - d) Marine pollution
  - e) Noise pollution
  - f) Thermal pollution
  - g) Nuclear pollution
- ❖ Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- ❖ Role of an individual in prevention of pollution
- ❖ Pollution case studies
- ❖ Disaster Management: Floods, earthquake, cyclone and landslides.

#### **UNIT-6: SOCIAL ISSUES AND THE ENVIRONMENT**

- ❖ From Unsustainable to Sustainable development
- ❖ Urban problems related to energy.
- ❖ Water conservation, rain water harvesting, watershed management
- ❖ Resettlement and rehabilitation of people; its problems and concerns. Case Studies



- ❖ Environmental Ethics: Issues and possible solutions.
- ❖ Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- ❖ Wasteland reclamation.
- ❖ Consumerism and waste products
- ❖ Environment Protection Act.
- ❖ Air (Prevention and Control of Pollution) Act
- ❖ Water (Prevention and Control of Pollution) Act
- ❖ Wildlife Protection Act
- ❖ Forest Conservation Act
- ❖ Issues involved in enforcement of environmental legislation
- ❖ Public awareness

### **UNIT-7: HUMAN POPULATION AND THE ENVIRONMENT**

- ❖ Population growth, variation among nations.
- ❖ Population explosion: Family Welfare Programme.
- ❖ Environment and human health
- ❖ Human Rights
- ❖ Value Education
- ❖ Women and Child Welfare
- ❖ Role of Information Technology in Environment and human health
- ❖ Case Studies

### **UNIT-8: FIELD WORK**

- ❖ Visit to a local area to document environmental assets-river / forest / grassland / hill / mountain.
- ❖ Visit to a local polluted site – Urban / Rural / Industrial / Agricultural
- ❖ Study of common plants, insects, birds.
- ❖ Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours).

# CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

## THREE YEARS BACHELOR OF COMPUTER APPLICATION PROGRAMME

COURSE CONTENT FOR SEMESTER – II
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### BCA-201 Mathematics II

<b>Unit – I</b>	<b>Sets</b>	Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications
<b>Unit – II</b>	<b>Relations and functions</b>	Properties of Relations, Equivalence Relation, Partial Order Relation Function: Domain and Range, Onto, Into and One to One Functions, Composite and Inverse Functions, Introduction of Trigonometric, Logarithmic and Exponential Functions
<b>Unit– III</b>	<b>Partial order relations and lattices</b>	Partial Order Sets, Representation of POSETS using Hasse diagram, Chains, Maximal and Minimal Point, Glb, lub, Lattices & Algebraic Systems, Principle of Duality, Basic Properties, Sublattices, Distributed & Complemented Lattices
<b>Unit– IV</b>	<b>Functions of several variables</b>	Partial Differentiation, Change of Variables, Chain Rule, Extrema of Functions of 2 Variables, Euler's Theorem
<b>Unit – V</b>	<b>3d coordinate geometry</b>	3D Coordinate Geometry: Coordinates in Space, Direction Cosines, Angle Between Two Lines, Projection of Join of Two Points on a Plane, Equations of Plane, Straight Lines, Conditions for a line to lie on a plane, Conditions for Two Lines to be Coplanar, Shortest Distance Between Two Lines, Equations of Sphere, Tangent plane at a point on the sphere
<b>Unit – VI</b>	<b>Multiple integration</b>	Double Integral in Cartesian and Polar Coordinates to find Area, Change of Order of Integration, Triple Integral to Find Volume of Simple Shapes in Cartesian Coordinates.

#### Referential Books:

1. Kolman, Busby and Ross, "Discrete Mathematical Structure", PHI, 1996.
2. S.K. Sarkar, "Discrete Maths"; S. Chand & Co., 2000

## BCA-202 C Programming

<b>Unit – I</b>	<b>Arrays</b>	Definition, declaration and initialization of one dimensional array; Accessing array elements; Displaying array elements; Sorting arrays; Arrays and function; Two-Dimensional array: Declaration and Initialization, Accessing and Displaying, Memory representation of array [Row Major, Column Major]; Multidimensional array
<b>Unit – II</b>	<b>Pointers</b>	Definition and declaration, Initialization; Indirection operator, address of operator; pointer arithmetic; dynamic memory allocation; arrays and pointers; function and pointers
<b>Unit– II</b>	<b>Strings</b>	Definition, declaration and initialization of strings; standard library function: strlen(), strcpy(), strcat(), strcmp(); Implementation without using standard library functions
<b>Unit– IV</b>	<b>Structures</b>	Definition and declaration; Variables initialization; Accessing fields and structure operations; Nested structures; Union: Definition and declaration; Differentiate between Union and structure
<b>Unit – V</b>	<b>Introduction C Preprocessor</b>	Definition of Preprocessor; Macro substitution directives; File inclusion directives; Conditional compilation
	<b>Bitwise Operators</b>	Bitwise operators; Shift operators; Masks; Bit field
<b>Unit – VI</b>	<b>File handling</b>	Definition of Files, Opening modes of files; Standard function: fopen(), fclose(), feof(), fseek(), rewind(); Using text files: fgetc(), fputc(), fscanf() <b>Command line arguments</b>

### Referential Books:

1. Let us C-Yashwant Kanetkar.
2. Programming in C-Balguruswamy
3. The C programming Lang., Person Ecl - Dennis Ritchie
4. Structured programming approach using C-Forouzah & Ceilberg Thomson learning publication

## BCA-203      Organization Behavior

<b>Unit – I</b>	<b>Fundamentals of Organizational Behaviour</b>	Nature, Scope, Definition and Goals of organizational Behaviour; Fundamental Concepts of Organizational Behaviour; Models of Organizational Behaviour; Emerging aspects of Organizational Behaviour: Meaning Cultural Diversity, Managing the Perception Process
<b>Unit – II</b>	<b>Perception, Attitude, Values and Motivation</b>	Concept, Nature, Process, Importance, Management Behavioural aspect of Perception. Effects of employee attitudes; Personal and Organizational Values; Job Satisfaction; Nature and Importance of Motivation; Achievement Motive; Theories of Work Motivation: Maslow's Need Hierarchy Theory McGregers's Theory 'X' and Theory 'Y'
<b>Unit– III</b>	<b>Personality</b>	Definition of Personality, Determinants of Personality; Theories of Personality- Trait and Type Theories, The Big Five Traits, Mytes-Briggs Indicator; Locus of Control, SType A and Type B Assessment of Personality
<b>Unit– IV</b>	<b>Work Stress</b>	Meaning and definition of Stress, Symptoms of Stress; Sources of Stress: Individual Level, Group Level, Organizational Level; Stressors, Extra Organizational Stressors; Effect of Stress - Burnouts; Stress Management - Individual Strategies, Organizational Strategies; Employee Counselling
<b>Unit – V</b>	<b>Group Behaviour and Leadership</b>	Nature of Group, Types of Groups; Nature and Characteristics of team; Team Building, Effective Teamwork; Nature of Leadership, Leadership Styles; Traits of Effective Leaders
<b>Unit – VI</b>	<b>Conflict in Organizations</b>	Nature of Conflict, Process of Conflict; Levels of Conflict - Intrapersonal, Interpersonal; Sources of Conflict; Effect of Conflict; Conflict Resolution, Meaning and types of Grievances & Process of Grievances Handling.

### Referential Books:

1. Organizational Behavior Text, Cases and Games- By K.Aswathappa, Himalaya Publishing House, Mumbai, Sixth Edition (2005)
- 2.Organizational Behavior Human Behavior at Work By J.W. Newstrom, Tata McGraw Hill Publishing Company Limited, New Delhi, 12<sup>th</sup> Edition (2007)
- 3 Organizational Behavior - By Fred Luthans
- 4 Organizational Behavior - By Super Robbins
5. Organizational Behavior - Anjali Ghanekar
- 6.Organizational Behavior Fundamentals, Realities and Challenges By Detra Nelson, James Campbel Quick Thomson Publications
- 7.Organizational Behavior through Indian Philosophy, By N.M.Mishra, Hikalaya Publication House

## **BCA-204 Digital Electronics & Computer Organization**

<b>Unit – I</b>	<b>Logic gates and circuit</b>	Gates (OR, AND, NOR, NAND, XOR & XNOR); Demorgan's laws; Boolean laws, Circuit designing techniques (SOP, POS, K-Map).
<b>Unit – II</b>	<b>Combinational Building Blocks</b>	Multiplexes; Decoder; Encoder; Adder and Subtractor.
<b>Unit– III</b>	<b>Memories</b>	ROMs, PROMs, EPROMs, RAMs, Hard Disk, Floppy Disk and CD-ROM
<b>Unit– IV</b>	<b>Sequential Building Blocks</b>	Flip-Flop (RS, D, JK, Master-slave & T flip-flops); Registers & Shift registers; Counters; Synchronous and Asynchronous Designing method
<b>Unit – V</b>	<b>Memory Organization</b>	Basic cell of static and dynamic RAM; Building large memories using chips; Associative memory; Cache memory organization and Virtual memory organization

### **Referential Books:**

1. Digital Logic and Computer design (PHI) 1998 : M.M. Mano
2. Computer Architecture (PHI) 1998 : M.M. Mano
3. Digital Electronics (TMH) 1998 : Malvino and Leach
4. Computer Organization and Architecture : William Stallings
5. Digital fundamentals (Universal Book Stall) 1998 : Floyd, L.Thomas
6. Computer Organization (MC Graw-Hill, Signapore) : Hamcher, Vranesic and Zaky

## **BCA-205 Financial Accounting & Management**

- Unit – I** : Overview - Meaning and Nature of Financial Accounting, Scope of Financial Accounting, Financial Accounting & Management Accounting, Accounting concepts & convention, Accounting standards in India
- Unit – II** : Basics of accounting - Capital & Revenue items, Application of Computer in Accounting Double Entry System, Introduction to Journal, Ledger and Procedure for Recording and Posting, Introduction to Trail Balance, Preparation of Final Account, Profit & Loss Account and related concepts, Balance Sheet and related concept
- Unit– III** : Financial statement analysis: Ratio analysis, Funds flow analysis, concepts, uses, Preparation of funds flow statement, simple problem, Cash flow analysis, Concepts, uses, preparation of cash flow statement, simple problem, Break - even analysis
- Unit– IV** : Definition nature and Objective of Financial Management, Long Term Sources of Finance, Introductory idea about capitalization, Capital Structure, Concept of Cost of Capital, introduction, importance, explicit & implicit cost, Measurement of cost of capital, cost of debt.
- Unit – V** : Concept & Components of working Capital. Factors Influencing the Composition of working Capital, Objectives of working Capital Management - Liquidity Vs. Profitability and working capital policies. Theory of working capital: Nature and concepts
- Unit – VI** : Cash Management, Inventory Management and Receivables Management

### **Referential Books:**

1. Maheshwari & Maheshwari, "An Introduction to Accountancy", 8<sup>th</sup> Edition, Vikas Publishing House, 2003
2. Gupta R.L., Gupta V.K., "Principles & Practice of Accountancy", Sultan Chand & Sons, 1999.
3. Khan & Jain, "Financial Accounting"
4. Maheshwari S.N., "Principles of Management Accounting", 11<sup>th</sup> Edition, Sultan Chand & Sons, 2001
5. Shukla and Grewal, "Advanced Accounts", 14<sup>th</sup> Edition, Sultan Chand & Sons.

## **BCA-206 Computer Laboratory and Practical Work of C Programming**

Practical will be based on Paper Programming Principle & Algorithm: Covers UNIT-III, UNIT-IV, UNIT-V, UNIT-VI of Syllabus