

CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

THREE YEARS BACHELOR OF COMPUTER APPLICATION PROGRAMME

COURSE CONTENT FOR SEMESTER – II

BCA-201 Mathematics II

Unit – I Sets	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
Unit – II Relations and functions	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
Unit– III Partial order relations and lattices	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
Unit– IV Functions of several variables	Partial Differentiation, Change of Variables, Chain Rule, Extrema of Functions of 2 Variables, Euler's Theorem
Unit – V 3d coordinate geometry	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
Unit – VI Multiple integration	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

Unit – I	Arrays	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
Unit – II	Pointers	Definition and declaration, Initialization; Indirection operator, address of operator; pointer arithmetic; dynamic memory allocation; arrays and pointers; function and pointers
Unit– II	Strings	Definition, declaration and initialization of strings; standard library function: strlen(), strcpy(), strcat(), strcmp(); Implementation without using standard library functions
Unit– IV	Structures	Definition and declaration; Variables initialization; Accessing fields and structure operations; Nested structures; Union: Definition and declaration; Differentiate between Union and structure
Unit – V	Introduction C Preprocessor	Definition of Preprocessor; Macro substitution directives; File inclusion directives; Conditional compilation
	Bitwise Operators	Bitwise operators; Shift operators; Masks; Bit field
Unit – VI	File handling	Definition of Files, Opening modes of files; Standard function: fopen(), fclose(), feof(), fseek(), feof(); Using text files: fgetc(), fputc(), fscanf()
		Command line arguments

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

Unit – I	Fundamentals of Organizational Behaviour	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
Unit – II	Perception, Attitude, Values and Motivation	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 McGregrcr's Theory 'X' and Theory 'Y'
Unit– III	Personality	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
Unit– IV	Work Stress	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
Unit – V	Group Behaviour and Leadership	Nature of Group, Types of Groups; Nature and Characteristics of team; Team Building, Effective Teamwork; Nature of Leadership, Leadership Styles; Traits of Effective Leaders
Unit – VI	Conflict in Organizations	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, 12th 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

Unit – I Logic gates and circuit	Gates (OR, AND, NOR, NAND, XOR & XNOR); Demorgan's laws; Boolean laws, Circuit designing techniques (SOP, POS, K-Map).
Unit – II Combinational Building Blocks	Multiplexes; Decoder; Encoder; Adder and Subtractor.
Unit– III Memories	ROMs, PROMs, EPROMs, RAMs, Hard Disk, Floppy Disk and CD-ROM
Unit– IV Sequential Building Blocks	Flip-Flop (RS, D, JK, Master-slave & T flip- flops); Registers & Shift registers; Counters; Synchronous and Asynchronous Designing method
Unit – V Memory Organization	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", 8th 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", 11th Edition, Sultan Chand & Sons, 2001
5. Shukla and Grewal, "Advanced Accounts", 14th 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