

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

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

SEMESTER II

COURSE CODE	COURSE NAME
BCA-201	Mathematics II (MATHS)
BCA-202	C Programming (C Prog)
BCA-203	Organization Behavior (OB)
BCA-204	Digital Electronics & Computer Organization (DECO)
BCA-205	Financial Accounting & Management (FAM)
BCA-206P	Computer Laboratory and Practical Work of C Programming

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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(), fewind(); 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 McGregor'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, 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, Singapore) : 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 Trial 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

