Shakuntala Krishana Institute Of Technology

KD64

SYLLABUS (B.C.A)

BACHELORS OF COMPUTER APPLICATION

Semester-I[st]

Course Code	Course Name	L	T	P	C
BCA-1001	Computer Fundamental &Problem solving Techniques	3	0	0	3
BCA-1002	C Programming	3	0	0	3
BCA-1003	Principle of Management	4	0	0	4
BCA-1004	Business Communication	3	1	0	4
BCA-1005	Mathematics –I	4	0	0	4
BCA-1001P	Computer Laboratory and Practical Work of Office Automation	0	0	3	2
BCA-1002P	Computer Laboratory and Practical Work of C Programming	0	0	3	2
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Course Code	Course Name	L	T	P	C
BCA-1001	Computer Fundamental &Problem solving techniques	3	0	0	3

CO1	Describe the usage of computers and why computers are essential components in business and society.
CO2	Understanding the concept of Computer memory and input/output devices of Computers and how it works and recognize the basic terminology used in computer programming.
CO3	Demonstrate the use of Operating system commands. Understand the basic concepts of computational thinking, including sequential logic, abstractions and problem-solving techniques.
CO4	Possess the ability to design and develop programs to solve basic computational problems, develop algorithms and flowcharts. Explain the working of important application software and their use to perform any engineering activity.
CO5	Possess the ability to extend their knowledge towards learning behavior on windows operating system and Hands on training on MS Office Automation.

Course Outcomes: At the end of the course, the student will be able to,

UNIT-I

Introduction to Computers

Introduction, Characteristics of Computers, Block diagram of computer. Types of computers and features, Mini Computers, Micro Computers, Mainframe Computers, Super Computers. Types of Programming Languages (Machine Languages, Assembly Languages, High Level Languages). Data Organization, Drives, Files, Directories, Number Systems Introduction to Binary, Octal, Hexadecimal system Conversion, Binary Arithmetic Simple Addition, Subtraction, Multiplication

UNIT-II

Memory Organization

Types of Memory (Primary And Secondary) RAM, ROM, PROM, EPROM. Secondary Storage Devices (FD, CD, HD, Pen drive) I/O Devices (Scanners, Plotters, LCD, Plasma Display). Cache, Virtual memory, RAID.

UNIT-III

Operating System and Services in O.S.

History, Files and Directories, DOS (Internal and External Commands), Batch Files, Types of Operating System, File Management System. Introduction to Linux – Features of Linux , Components of Linux

UNIT-IV

Problem solving techniques

Understanding the problem, Analyzing the problem, Developing the solution, **Algorithm and**

Flowcharts - Definition, Characteristics, Expressing Algorithms, Analysis of Algorithms, Advantages and disadvantages, Examples Flowchart: Definition, Define symbols of flowchart, Limitations of Using Flowcharts, Advantages and disadvantages, Activities involved in Program Design, Coding and implementation.

UNIT-V

Windows Operating Environment& Office Automation

Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paintbrush, MS-Word, Purpose, usage, command, MS-Excel, MS-Access, , 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 SureshBasandra
4. Unix Concepts and Application – By SumitabhaDas
5. MS-Office 2000(For Windows) – By SteveSagman

Course Code	Course Name	L	T	P	C
BCA-1002	C Programming	3	0	0	4

Course Outcomes: At the end of the course, the student will be able to:

COs	Description
CO1	Able to understand the basic knowledge of Computer fundamental and its application in computers.
CO2	Able to understand the basic knowledge of Computer fundamental and its application in computers.
CO3	Able to design and develop various programming problems using C programming concepts.
CO4	Able to Implement advance C programming concepts like function, pointer, structure and Union
CO5	Able to understand the file handling using C Programming language.

UNIT-I

Fundamentals of C programming and Control Structures: History, Structure of a C program, C Conventions, Character Set, Identifiers, Keywords, Simple Data types, Modifiers, Variables, Constants, Operators, Operator precedence. Input and Output operation: Single character input and output, formatted input and output. Control Structures, Conditional statement and switch statement. Goto statement. Looping statement, break and continue, nested for statement.

UNIT-II

Arrays and Functions: Introduction (One and multi-dimensional), Declaration of arrays, Initialization of arrays, processing with arrays. String manipulation, declaration of string arrays, string operations. Functions: Introduction, advantages of functions, Function definition, function call, Actual and formal arguments, local and global variables, function prototypes, types of functions, recursive functions, arrays and functions.

UNIT-III

Searching and Sorting: selection sort, bubble sort, insertion sort, quick sort, merge sort Searching: linear and binary search methods, comparison of sorting and searching methods.

UNIT-IV

Structures and Pointers: Introduction to structures, Advantages of structures, accessing elements of a structure, nested structures, array of structures, functions and structures, Pointers: Introduction, pointer variable, pointer operator, pointer arithmetic, pointers and arrays, pointers and strings, array pointers, dynamic allocation.

UNIT-V

Files, Preprocessor, standard library and header files: Files: Introduction, File data type, opening and closing a file, file functions (getc, putc, getw, putw, fscanf, fprintf, fread, fwrite, fgets, fputs,

feof). Preprocessor: #define, #include, #undef, Conditional compilation directives, C standard library and header files: Header files, string functions, mathematical functions, Date and Time functions

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

Course Code	Course Name	L	T	P	C
BCA-1003	Principle of Management	4	0	0	4

Course Outcomes: At the end of the course, students will be able to,

CO1	Understand the concepts related to business.
CO2	Define Management and Demonstrate the roles, skills and Levels of management.
CO3	Describe major management theories, Business ethics and social responsibility in the context of management.
CO4	To analyze and discuss planning, Organizing, controlling, decision making, motivation, leadership, Management of change
CO5	Develop theoretical and critical thinking skills relevant to both academic and management practices.

UNIT-I

Nature of Management: Meaning, Definition, nature purpose, importance & Functions, Management as Art, Science & Profession- Management as social System Concepts of management-Administration- Organization, Management Skills, Levels of Management.

UNIT-II

Evolution of Management Thought: Contribution of F.W. Taylor, Henri Fayol, Elton Mayo, Chester Bernard & Peter Drucker to the management thought. Business Ethics, Social Responsibility of business.

UNIT-III

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.

UNIT-IV

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.

UNIT – V

Management of Change: Meaning, Features of change, Force for Change, Models for Change, Resistance to change , overcoming resistance to change , New Trends in Organization Change, Stress Management.

Referential Books:

1. Essential of Management – Horold Koontz and Iteinz Weibrich- McGraw Hills 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 Hills

Course Code	Course Name	L	T	P	C
BCA-1004	Business Communication	3	1	0	4

Course Outcomes: At the end of the course, students will be able to,

CO1	To participate in an online learning environment successfully.
CO2	To distinguish among various levels of organizational communication and communication barriers while developing an understanding of Communication as a process in an organization.
CO3	To draft effective business correspondence with brevity and clarity.
CO4	To stimulate their Critical thinking by designing and developing clean and lucid writing skills.
CO5	To demonstrate their verbal and non-verbal communication ability through presentations.

UNIT-I

Means of Communication: Meaning and Definition – Process – Functions – Objectives – Importance – Essentials of good communication – Communication barriers, 7C's of Communication.

UNIT-II

Types of Communication: Oral Communication: Meaning, nature and scope – Principle of effective oral communication – Techniques of effective speech – Media of oral communication (Face-to-face conversation – Teleconferences – Press Conference –Video Conferencing– Demonstration – Radio Recording –Meetings –Grapevine – Group Discussion – Mobile Phone Conversation– Oral report). The art of listening – Principles of good listening.

UNIT-III

Written Communication: Purpose of writing, Clarity in Writing, Principles of Effective writing, Writing an e-mail, SMS.

UNIT-IV

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.

UNIT-V

Drafting of business letters : Enquiries and replies – Placing and fulfilling orders – Complaints and follow-up Sales letters – Circular letters Application for employment and resume

Referential Books :

1. Business Communication – K.K. Sinha – Galgotia Publishing Company, New Delhi.
2. Media and Communication Management – C.S. Rayudu – Himalaya 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.

Course Code	Course Name	L	T	P	C
BCA-1005	Mathematics –I	4	0	0	4

CO1 Find out matrix representation of any data.
CO2 Apply the concepts of limit, continuity and differentiability in different science fields.
CO3 Apply Taylors and Maclaurin's theorem to find the expansion of functions as infinite series.
CO4 Evaluate the integrals of complex functions and to find area, volume.
CO5 Apply the concept of vector algebra, scalar triple product, vector triple product.

UNIT-I

Matrices and Determinants: Matrix, Types of matrices, Addition, subtraction, scalar multiplication of a matrix, product of two matrices, Determinants of a square matrix, Co-factor of element of a square matrix, Adjoint, Inverse of a Square Matrix, Cayley Hamilton theorem (statement only) and problems.

UNIT-II

Limits and Continuity: Limit at a Point, Properties of Limit, Computation of Limits of Various Types of Functions, Indeterminate Forms, L' Hospitals Rule, Continuity at a Point, Continuity Over an Interval.

UNIT-III

Differentiation: Derivatives of Sum, Differences, Product & Quotients, Chain Rule, Derivatives of Composite Functions, Logarithmic Differentiation, Rolle's Theorem, Mean Value Theorem), Maxima & Minima. Taylor's and Maclaurin's Theorem

UNIT-IV

Integration: Fundamental Theorem of Calculus (without proof), Indefinite Integrals, Methods of Integration Substitution, By Parts, Partial Fractions.

UNIT-V

Vector Algebra: Definition of a vector in 2 and 3 Dimensions; Double and Triple Scalar and Vector Product.

Referential Books :

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

Course Code	Course Name	L	T	P	C
BCA-1001P	**Laboratory Computer Fundamental & Problem solving techniques**	**0**	**0**	**3**	**2**

Course Code	Course Name	L	T	P	C
BCA-1002P	*Laboratory and Practical Work of C Programming*	*0*	*0*	*3*	*2*