

MODULE - I (T: 160 , P:180)

Unit - I History of Computer & Fundamentals (T: 40)

- Abacus of ENIAC,Computer Generations,Languages,Software and Application, Computer in India.
- Computers- An Introduction.
- Functions of computer : Input,Processing,Output,Functions of ALU,Control, Storage,Input & Output Devices.
- Application of Computer : viz. Railway Reservation,Electricity/Telephone Billing etc.
- Types/Classification:
- Classification of computers : Home,Mini,Micro,Mainframe,Supper Computers.
- Centralised,Decentralised and Distributed systems.
- Networks of Computers-Homogeneous,Heterogenous.
- Characteristics : Clock Speed,Accuracy.
- Functions:
- Bits,Bytes,Characters, Field, Record,File.
- Representation of data, Binary addition and subtraction, Octal,hexadecimal, ASCII, EBCDIC, Positive versus Negative integers Floating point numbers.
- Higher Level and Lower Level Language.

UNIT: 2 HARDWARE AND SOFTWARE CONCEPTS. (T:80)

Computer Hardware :- Electronic Digital Computers

- Input devices:- On line input devices & their importance Dumb terminals, Intelligent terminals,voice recognition device, touch tone terminals, mouse.
- Off-line data input:
key to disk system, key to tap system, key to punched card.
- Source data input:-
Point of sale terminals, laserbeam scanners,optical sense readers, optical character readers(OCR), magnetic ink character readers(MICR).
- Output devices:- Hard copy devices:- Dot matrix printers, InkJet printers, Laser printer, plotter output.
- Soft copy device:- VDU(Monochrome & Colour),LCD (liquid crystal display), Audio response unit,Micro films.
- CPU Architecture/ALU:- Instruction execution, Fetch and execution cycles. Control Units,Microprogramming concept, mismatch between CPU and memory.
- Memory devices :-RAM, ROM,PROM, EPROM,ECC RAM,EDO RAM and their specification, memory storage locations, use of address in programming.
- Secondary memory devices:- Floppy disk, hard disk(Removable/Fixed), Concept of cylinders, track and sectors, advantage and limitation of secondary storage, access time,access methods (sequential, direct, indexed), CD-ROM.
- Software concept:- Applications VS, system software, compiler,interpreter, Multiuser, Multitasking operating systems etc.

UNIT: 3 INTRODUCTION TO PERSONAL COMPUTER/MICRO COMPUTER AND OPERATING SYSTEM (WINDOWS-98/2000, MSDOS, NETWARE) (T:15,P:150)

Introduction to -
PC, PC/XT and PC/AT, LAP-TOP, PLAM-TOP, DESK-TOP & Minimum hardware and Software Configuration of the above.

DOS/WINDOWS commands.

- Profiling an Operating System.
- Booting Sequence: Operating System Files, and Command Processor.
- Definition of a File: File names.
- Booting from Floppy And HDD.
- Warm & Cold reboot.

BASIC DOS COMMANDS

Using WINDOWS

- Start Windows
- Using different windows simultaneously.
- Moving through windows and mouse.
- Maximize/Minimize Windows.
- Use of HELP Feature.
- Exit Windows.
- Starting an Application.
- Run and Manage multiple application.
- Close Application.

Using The Program Manager

- Create/Add Groups using Program Manager.
- Move/Copy/Delete Program Items.
- Change Program Priority.
- Delete Group.
- Open File Manager.
- Expand compressed files and Directories.
- Open and Manage multiple directory and windows.
- View and Sort files.
- Save File Manager Settings.
- Exit File Manager.

Using DeskTop ICONS

- My Computer , Network Neighbourhood , Control Pannel , Add Printer
- Create/Delete/Rename Folder

File Manager Through WINDOWS

- Select Files and Directories.
- Copy.Move,Delete Files and Directories.
- Creating and Renaming Files and Directories.
- Disk Operations using File Manager.

Using Essential Accessories:-

- starting and Using Note-Pad.
- Type and Edit text in a document in Note-Pad.
- Save and Print a document file in Note-Pad .
- Starting and Using PaintBrush.
- Printing a Drawing.

Basic shell commands on UNIX.

- date, echo, who, ls , cp , rm, mv , cd , mkdir, rmdir, chmod, sort, grep , password etc.

Communication & N/W Concepts:-

- Concepts of Batch vs. online Environment,Single user vs. Multi-user Environment,Multi testing and multiprocessing.
- Network Management Concepts.
- Concepts of Batch files in MSDOS.

Unit-IV : CONCEPTS OF INFORMATION & DATA PROCESSING (T:15)

- Information concepts and processing : Evolution of Information Processing, Data,Information,Language and Communication.
- Definition of Information: Difference between Data & Information (analogous to raw material or/and finished product).
- Value of Information: Relevance to Receiver,decision-making potential.
- Data concepts: Symbols which describe record reality: Logical and physical concepts.
- Logical Concepts of Data: entities,Attributes and Relationships.
- Physical Concepts: Storage and retrieval of data,comparison of manual and computer storage and organisation of data as files.
- Data Processing : Storage,Retrieval and processing of data,provision of Information of relevance.
- Techniques/Methods of Data Processing.

MODULE - II (T : 180 , P : 670)

UNIT :-I PROGRAMMING PRACTICES & TECHNIQUES. (T:-25)

- Data capture & validation,Data entry package (Software & Practice)
- Input form Design ,Data Editing ,Key to Disk system, Data validation and control.
- Laboratory exercise on data entry(Speed 8000 Chars./Hrs.) Teletype Writer,Video Display Terminal , Dot Matrix Printer.
- Exercise on data Collection , Data Validation & Verification.
- Exercise on transferring data from one medium to another medium. Including Backup-Restore.

UNIT :- 2 PROGRAMME DESIGN & LOGIC (T:-25)

- Problem analysis , evaluation using stepwise refinement,Algorithem, Flow-Charts, Structure Charts, Decision Tables and Pseudocoding. More Emphasis on Flow-Chart and its Symbols.
- Illustration with Summing Series,Sorting,Searching,Mearging.
- Analysis of algorithm,space and time trade offs.Programe Documentation, Styles in Programming,Program Testing,Flow charts and Data Flow Diagrams.
- Program Testing and Debugging , Efficient programming techniques, Structure Programming.

UNIT - III Language C (T:30, P:220)

- Overview of C.
- Constants , variables and Data type.
- Operators and Expression.
- Managing Formatted/Unformatted Input and Output.
- Dicision making and Branching.
- Dicision Making , Looping.
- Arrays
- Handling of Character Strings.
- User defined Functions
- Structures and Unions
- Pointers.
- File Management in C.

UNIT - IV Programming and Problem Solving through C++ (T:60, P:200)

- Overview of Programming, Introduction to computer based problem solving and strategies for the same,Program Design and Implementation issue,Algorithem, Data organisation,Data Structures,Use of Procedures for modular Design, Documentation of program and program testing.
- Fundamental of C++ Programming , Structure of C++ program,Data types, Data structure,Constants and variables.
- Operators: Arithmetic,Relational,Logical,If-Then,For While.
- Arrays: Array declaration,one and two dimensional array,
- Function : General,Function Arguments,return values.
- Basic I/O , Formatted and Unformatted I/O.
- Advanced Programming Techniques.
- Dynamic Data Structures in C++.
- Miscellaneous Features : File handling.

UNIT :- V INTRODUCTION TO BUSINESS ORGANIZATION (T:40 , P;250)

- Introduction to Business Organisation and their need.
- Introduction to Data Processing , Record and File, Data Collaction and Preparation,Editing,Checking.
- Business Files :Master file , Processing: Sorting,Searching , Mearging , Summarizing.

- Business files : Master and Transaction Files ,File Generation,Backups of Files, File Recovery Procedures.
- Introduction to accounting and Financial Management,Types of Accounts, Books of accounts , simple accounting entries etc.

Computer Applications :

- Financial Accounting.
- Payroll & Invoicing Application.
- Budgeting and Planning.
- Cost Accounting.
- Inventory Control Store Control.
- Sales Accounting and Sales Analysis etc.

MODULE - III (T:180 , P:554)

UNIT-I Office Automation Package (T:40, P:100)

WORD PROCESSING PACKAGE

- Basics of WORD Processing
- Text selection.
- Opening Documents and Creating Documents , Saving Documents and Quitting Documents.
- Cursor Control , Printing Documents.
- Using the Interface(Menus, Toolbars)
- Editing text (Copy,Delete,Move etc.)
- Finding and Replacing Text.
- Spell Check feature/Autocorrect Feature,Grammar Facility.
- Autotext,Character Formatting,Page Formatting.

DOCUMENT ENHANCEMENT

- Adding Borders and shaping,Headers and Footers.
- Setting up Multiple Columns,Sorting Blocks,Margins and Hyphenating Documents.
- Creating Master Documents.
- Merging Documents.
- Using Mailmerge feature for Labels and Envelopes.
- Graphics and Using Templates and Wizards.
- Hands-on experience in Word Processing under DOS
- Familiarity in Word Processing under WINDOWS

UNIT-II SPREADSHEET PACKAGE (T:35 , P:100)

Usage of MS-EXCEL

- Worksheet Basics.
- Data entry in Cells,Entry of Numbers,Text and Formulas.
- Moving Data in a Worksheet.
- Moving around in a Worksheet.
- Selecting data range.
- Using the interface :(Toolbars,Menus)
- Editing basics.
- Working with WorkBooks.

- Saving and Quitting.
- Cell Referencing.

Formatting and Calculations

- Calculations and worksheets-Using Autofill.
- Working with Formulas.
- Efficient Data Display with Data Formatting, Number Formatting etc. (Formatting etc.)
- Working with Ranges.
- Worksheet Printing.

Working with Graphs and Charts

- Adding/Formatting Text Data with Autoformat.
- Creating Embedded Chart using Chart Wizard.
- Sizing and Moving Parts.
- Updating Charts.
- Changing Chart types.
- Creating separate Chart Sheet.
- Adding Titles, Legends, Gridlines.
- Printing charts.

Database Managements

- Finding Records with data form.
- Adding/Deleting Records.
- Filtering Records in a Worksheet.

UNIT :-III Xbase PACKAGE (T:30 , P:110)

- Concept of Database Management System.
 - Difference Between Data files & Database Files.
 - FoxPro/dBASE III PLUS.
 - Creating Database file & Structure.
 - Editing Database file.
 - Record pointer Positioning features.
 - Specific Record Locating Features.
 - Information Display Commands.
 - Indexed files.
 - Create, Delete, Save And Recall Memory Variables.
 - Using the In-built Report Generation facility.
 - Using Label Facility.
 - Format files.
 - Using various Functions and SET Commands available .
 - Handling multiple database files.
- Developing Programmes for Commercial Applications using Windows based, X-base package.

UNIT :- IV AN OVERVIEW OF SELECTED PACKAGES (T: 30, P:110)

- Desktop Publishing
- Office Automation with MS-OFFICE.
- Popular packages on Communication like : CCMAIL,PRUCOMPLUS etc.
- Presentation Graphics Features of CoralDRAW, Power Point etc.
- Multimedia and Animation packages.

UNIT:-V Basic Concepts of Networking/Communication (T:30 , P:104)

- Conceptes of Networking, LAN,WAN,E-Mail
- Internet Connection Setup & sharing.
- Protocols TCP/IP, FTP, ISP , NSP etc.
- Concept of Proxy Server, Web Server, Client-Server etc.
- Concept of Sites & Pages.
- Designing Web-Pages : Static , dynamic.

UNIT:-VI Data Entry in Hindi/Recognised Regional Language (T:10 , P:30)

Data Entry

UNIT:-VII Awareness of IT-Act 2000 (T:05)

- Provisions of Act.
- Types of offences , Imprisonment

UNIT:-VIII Development of Soft Skills

(Will be covered in the time allotted for Extra-Curricular Activities.)

- Work Culture , House Keeping , Communication skills.
- Personality Building vz. Punctuality,obedience,Inter-personal-communication.
- Group-activities: Sports,Debates, Tree plantation, Gardening , Industrial Visit etc.
- Preperation for Viva/Interview.