

**Objective(s)**

After completing the course the student shall be able to identify capability of computer in terms of characteristics, speed, accuracy and role of computer, importance of Input and Output devices, Understanding System Hardware and storage and Emerging Technologies, importance of networking and number system, Understanding the importance of operating system and multimedia, importance of Computer Security

**UNIT I**

Introduction, Digital and Analog computer, Characteristics of computer, History of Computer, Generation of Computer, Classification of Computer, Application of Computers, Types of Programming Languages : Machine Languages, Assembly Languages, High Level Languages

**UNIT II****Input/ Output Units**

Computer Keyboard, Pointing Devices: Mouse, Trackball, Touch Panel, and Joystick, Light Pen, Scanners, Various types of Monitors, Touch-sensitive screens, Optical Recognition System, Pen based systems, Digitizers, MICR, OCR, OMR, Bar-code Reader, digital camera. Impact and Non- Impact Printers- Daisy Wheel, Dot Matrix, Line Printer, Non Impact Printers- DeskJet, Laser Printer, Barcode Printers and plotters.

**UNIT III****The Computer System Hardware**

Introduction, Central Processing Unit, Memory Unit : Memory Introduction, Classifications- Volatile Memory and Non- Volatile , Flash Memory, ROM, RAM, EPROM, PROM, EEPROM other types of memory, Microprocessor, Interconnecting the Units of a Computer, Performance of a Computer, Inside a Computer Cabinet, Introduction to Emerging Technologies

**Storage Unit**

characteristics of magnetic disks, characteristics of a hard disk, types of miniature, external, and removable hard disks, characteristics of optical disks, Differentiate among various CD and DVD formats, Identify the uses of tape, PC Cards and the various types of miniature mobile storage media

**UNIT IV****Number Systems, Number Conversions, Logic Gates**

Decimal and Binary Number Systems, Octal and Hexadecimal Number System, Decimal (*Integer*) to Binary Conversion, Decimal to Octal Conversion, Logical Operators, Truth Tables, Boolean Expressions and Logic Gates

### **Networking Fundamentals**

Types of Network, Device and Peripherals, Wire and Wireless Networking, Network topology, Network Protocol, Intranet and Internet Specifications, WWW, Making a Cat5 or Cat6 cable

## **UNIT V**

### **User-Computer Interface, Applications and Security**

#### **Interaction of User and Computer**

Introduction, Types of Software, System Software, Application Software

#### **Operating System**

Introduction, Objectives of Operating System, Types of OS, Functions of OS

User Interface, Examples of Operating Systems, Introduction to Mobile operating systems

#### **MS-DOS**

File naming rules, Wild card characters, Internal & External commands, dir, mkdir, chdir, type, copy, xcopy, delete, rename, format, sys, label, scandisk, attrib, path, prompt, date, time, tree, deltree, defrag, edit, etc. File Allocation Table (FAT), autoexec.bat & Config.sys

#### **Window XP/ 7**

Introduction, Features of Windows XP/7, The Desktop, Structure of Windows, Windows XP/7 Explorer, The Search, The Recycle Bin, Configuring the Screen, Configuring the Mouse, Adding or Removing Programs, Adding New Hardware, System Tools, The Scandisk, Windows XP Media Player, Windows XP/7 Help,

#### **Introduction to Multimedia**

Introduction, Multimedia: Definition, Characteristics of Multimedia System Elements of Multimedia, Multimedia System, Multimedia Applications

#### **Introduction to Computer Security**

Introduction, Security Threat and Security Attack, Malicious Software, Hacking Users Identifications and Authentication

### **Practical(s)**

1. Computer Innards
2. Input and Output Device
3. PC and Laptop Demonstration
4. Computer assembling (using different peripherals)
5. Exploring the Basics of Windows XP/7
6. Dos Commands
7. Introduction to Internet, e-mail, browser, search engines
8. Introduction to Network Component (Switch, Router, Cable, RJ 45, I/O socket, Fibber etc)
9. Draw a network diagram for different places.

10. Cable (Cat5 or Cat6) crimping
11. Installation/Un-installation of System Software in computer
12. Installation/Un-installation of Application Software in windows

**Reference Book(s)**

1. Fundamentals of Computers, By V. Rajaraman Publisher: Prentice-Hall of India.
2. Computer Fundamentals, Author: Dr. LARRY LONG, Publisher: WILEY India Pvt Ltd
3. Computer Fundamentals by Anita Goel
4. Fundamentals of Computers by E Balagurusamy