

- <https://www.javatpoint.com/html-tutorial>
- <https://www.tutorialspoint.com/html/index.htm>
- <https://www.w3schools.com/html/>
- <https://www.csstutorial.net/>

CS – 03 : COMP. FUNDAMENTALS & EMERGING TECH.

Objective: To aware basics of computer and emerging technology

Unit : 1

Introduction of Computers

- Basics of Computers
 - What is Computer?
 - Characteristics of Computer
 - Data Processing Cycle(Data → Process →information)
- Classification of Computer by Data Processed
 - Analog, Digital and Hybrid Computers
- History and Generations of Computers
 - First to Fifth Generation Computers
- Classification of Computer by Processing Capabilities
 - Micro, Mini, Mainframe and Super Computers
- History and Generations of Computers .
 - First to Fifth Generation Computers
- Simple Model of Computer
 - Input Devices
 - CPU (Central Processing Unit)
 - Arithmetic & Logic Unit
 - Control Unit
 - Internal Memory
- Output Devices
- Secondary Storage Devices

Internal/External parts used with Computer Cabinet

- Introduction to Mother board
- Types of Processors .
 - Dual Core, Core 2 Duo, i2, i3, etc ...
- Memory structure and Types of Memory
 - RAM (SRAM, DRAM, DDR.)
 - ROM (ROM, PROM, EPROM, EEPROM,Cache)
- Slots
 - ISA Slots / PCI Slots / Memory Slots/SATA
- Sockets
- Cables
 - Serial Cable / Parallel Cable / USB Cable/HDMI
- Ports
 - USB (2.0 &3.0)/ Serial / Parellel

- Power Devices :UPS
- Graphic Cards
- Network card, Sound Card

Unit : 2

Input Devices

- Introduction
- Types of Input Devices
 - Keyboard / Mouse / Trackball / Glide - Pad / Game Devices Joystick, etc.) / Light Pen / Touch Screen / Mic (Sound Input) / Camera (Photo and Video Input) / POS (Point of Sale) Terminal (Scanners, etc)
 - MIDI (Musical Instrument Digital Interface) Keyboard,
 - Wireless Devices (Keyboard, Mouse, etc)
- Types of Scanners
 - OMR, MICR, OBR

Output Devices

- Introduction
- Types of Output Devices
- Types of Monitors
 - CRT Display Units
 - LCD
 - LED
 - OLED
- Types of Printers
 - Impact (Dot Matrix Printer, Daisy Wheel Printer)
 - Non Impact (Ink Jet Printer, Laser Printer)
- Plotters
- Other Devices
 - Facsimile (FAX)
 - Headphone
 - SGD (Speech Generating Device)
 - COM (Computer Output Microfilm)
 - Google Glass

Unit : 3

Data Storage

- Introduction
- Types of Magnetic Storage Devices
 - Floppy Disk / Hard Disk / Magnetic Tape / Magnetic Disks
- Storage Mechanism of Magnetic Storage Devices
 - Tracks / Sectors / Clusters / Cylinders
- Reading / Writing Data to and from Storage Devices
- Seek Time / Rotational Delay - Latency / Access
- Time / Response Time
- Other Storage Devices
 - USB - Pen Drive / CD / DVD / Blu-Ray Disk. Flash Memory, Cloud Storage (Like Google

Drive, OneDrive)

Unit : 4

Numbering System and Codes

- Introduction to Binary Codes /
 - Nibble / Bit / Byte / Carry Bit / Parity Bit / Sign Bit
 - KB / MB / GB / TB / HB (etc ...)
- Types of Numbering System
 - Binary / Octal/Decimal / Hex-Decimal
- Conversion
 - Binary to Octal, Decimal and Hexa-Decimal
 - Decimal to Binary, Octal and Hexa-Decimal
 - Octal to Binary, Decimal and Hexa-Decimal
 - Hexa-Decimal to Binary, Octal and Decimal
- Binary Arithmetic
 - Addition
 - Subtraction (1's Compliment and 2's Compliment)
 - Division .
 - Multiplication
- Types of Codes
 - ASCII/BCD / EBCDIC / UniCode
- Parity Check
 - Event Parity System / Odd Parity System

Languages, Operating Systems and Software Packages

- Introduction
- Translator (Assembler / Compiler / Interpreter)
- Types of Languages
 - Machine Level Language
 - Assembly Level Language
 - High Level Language (3GL, 4GL, 5GL, etc.)
- Types of Operating Systems
 - Batch Operating System
 - Multi Processing Operating System
 - Time Sharing Operating System
 - Online and Real Time Operating System
- Uses and applications of Software Packages
 - Word Processing Packages
 - Spread Sheet Packages
 - Graphical Packages
 - Database Packages I
 - Presentation Packages
 - Animation / Video / Sound Packages

Unit : 5

Emerging Technologies and Virus

- Different Communication methods
 - GIS / GPS / COMA / GSM/ VOLTE
- Communication Devices
 - Cell Phones / Modem / Infrared / Bluetooth / WiFi / LiFi
- Virus
 - Introduction to Virus and related terms
 - Origin and History
 - Types of Virus
 - Problems and Protection from Virus
- Cloud Computing
 - What is Cloud Computing?
 - Characteristic & Service Models(Iaas, Paas, Saas)
 - Architecture
 - Security & Privacy

	Class Room	Seminar	Expert Talk	Test	Total
No. Of Lecture	60	05	05	05	75

Reference Books:

No.	Name	Author / Publication
1	Computer Fundamentals	By P.K.Sinha
2	Fundamental of IT for BCA	By S.Jaiswal
3	Engineering Physics	By V.K.Gaur
4	Teach Yourself Assembler	By Goodwin.

Web site References :

- <https://www.javatpoint.com/computer-fundamentals-tutorial>
- https://www.tutorialspoint.com/computer_fundamentals/index.htm
- https://www.tutorialspoint.com/computer_fundamentals/computer_fundamentals_tutorial.pdf
- http://www.kvadilabad.org/admin/downloads/1788662251computer_fundamentals_tutorial.pdf