

CS1CRT01 : Computer Fundamentals and Basics of PC Hardware (Complementary)

Theory: 4 hrs. per week

Credits : 4

Unit I:

Introduction to Computers: Generations of Computer (I-V), Classification of Computers: Analog, Digital and Hybrid Computers, Micro, Mini, Mainframe, Supercomputers, Servers, Laptop and Block Diagram of a Computer, Functions of the Different Units: Input unit, Output unit, Memory unit, CPU (ALU+CU).

Booting Process- POST, BIOS, clock speed, memory speed, memory capacity.

Unit II:

Introduction to Computer Hardware, DC regulated power supply- Block Diagram, Concepts of Switch Mode Power supply, Inverters, UPS and their applications. Basic Components of CPU, MotherBoard.

Unit III:

Expansion Slots- ISA, EISA, MCA, VESA, PCI local bus, Processor, Connectors, CMOS memory, SMPS, Serial and Parallel Ports, USB, BIOS chip, Steps for assembling a PC.

Unit IV:

Input Devices: Keyboard, Point and draw devices: mouse, joystick, track ball, light pen, Data Scanning devices: image scanner, OCR, OMR, MICR, Barcode reader, Voice Recognition Device: Microphone.

Output Devices: Monitor- CRT displays, Non-CRT displays, TFT: LED, LCD, Plasma. Printer, Impact and non-impact, Character, line and Page Printers.

Unit V:

Memory: Primary Memory, RAM- SRAM, DRAM, ROM, PROM, EPROM, EEPROM, flash memory, Secondary memory: Hard Disk: Structure of a hard disk, how data is stored in a hard disk, concept of tracks, sectors, clusters, cylinders, CD-R, RW, DVD-RW, Blue-ray disk, HVD, PC memory Units: SIMM, DIMM, RIMM.

Book of study:

1. Pradeep Sinha and Priti Sinha - Computer Fundamentals, Fourth Edition- 2007, BPB Publications
2. B. RAM, "Computer Fundamentals: Architecture and Organization", New age international (P) Limited.

Reference:

1. Balagurusamy - Fundamentals of Computer, First Edition- 2009, McGraw-Hill
2. Anita Goel - Computer Fundamentals, First Edition-2010, Pearson.
3. Peter Norton, "Introduction to Computers", McGraw Hill