

Module 1.2: COMPUTER APPLICATION & HARDWARE

Introduction

DOS Commands, Generation of PC, Basic computer structure, communication inside PC, An overview of H/W & OS

Microprocessor

PC Technologies –PC- XT & PC - AT, specifications of some latest processors of Intel Pentium-MMX technology, Pentium II, III, IV, Celeron processors, Cyrix, AMD Athlon, Itanium processor, Xeon , difference between RISC & CISC Processors, processor speeds and markings versus motherboard speed, How cache works? (L1,L2&L3 cache memory & its working) Different .types of processor sockets and slot types. Processor Benchmarks, Introduction to 64 Bit Computing

Motherboard

Motherboard components, Processor sockets/slots, chipset, super I/O chip, ROM Bios, SIMM/DIMM/RIMM (RAM memory) sockets, ISA/PCI/AGP bus slots, CPU voltage regulator, battery (identification and working principle) motherboard interface connectors, mother board selection criteria, I/O Ports & Connectors, Jumper Settings,

Buses

Data I/O bus, Address bus, Internal registers

Memory

memory basics, ROM, DRAM, SRAM (cache), RAM types (SDRAM, DDR RAM, EDO,RD RAM), identification, basic principle and utilization

HDD

Types (include all of these types IDE, SCSI, SATA, FC SAS), Principle, Operation, Construction, configuration and features, fixed storage & removable storage Practical –Attaching, Partitioning and Formatting

FDD

Definition, operation, construction, configuration and features

CDROM

Magnetic principle, operation, construction, configuration and features
Practical – CD Burning, Copying, CD Images

INPUT DEVICES

Keyboard, Mouse (types, principle and operation) Scanner (Principle, operation), troubleshooting

POWER SUPPLY

AT, ATX (principle, operation, maintenance & troubleshooting)

OUTPUT DEVICES

Monitor & Printer (DMP, Inkjet, Laser) (principle I, operation, maintenance & troubleshooting)

I/O INTERFACES

serial, parallel, USB port, FireWire

OTHER PERIPHERALS

Zip drive DVD ROM, Web Cam, Modem, Flash Disk (identification, utilization and basic principle)

ASSEMBLING

BIOS: basics, CMOS set up, Bios Boot Process, Bootable floppy, Partitioning for- matting, Disk Utility Software, bios features, error messages, Password Protection, Optimization of BIOS Parameters

OPERATING SYSTEMS

Fundamentals of O/S, Installation of Win 98. Driver installation, Troubleshooting of 98, 2003 Server, Troubleshooting of 2000,XP. Installation of XP, Internet, Virus – ant virus

TESTING and MAINTENANCE

Power On Self Test, O/S diagnostics, beeps identification, testing with debug card , Using Windows XP Recovery and Console Debugging

DATA RECOVERY & BIOS UPGRADING

LAPTOP BASICS