

PC Hardware Maintenance and Troubleshooting.

UNIT – I : PC Hardware Overview.

Introduction to Computer Organization – memory – PC family – PC hardware – Interconnections between boxes – inside boxes – mother board, daughter boards, floppy disk drive, HDD, speaker – front panel indicators and control – mother board logic memory space – I/O port address – wait state – interrupts – I/O data transfer – DMA channels.

UNIT – II : Peripheral Devices.

Floppy drive controller – overview – disk format – FDC system interface – FDD interface – hard disk controller – Overview – Disk drives and interface – controller post description – hard disk format – display adapter – CRT controller principle – 6845 display controller – printer controller – centronics interface hardware overview.

UNIT – III : Motherboard Circuits.

Mother board functions – functional units and inter communications – reset logic – CPU nucleus logic – DMA logic – Wait state logic – speaker logic – keyboard interface – SMPS.

UNIT – IV : Installation and Maintenance.

Production – pre - installation planning – installation practice – Routine checks – special configuration – memory upgradation – Hard disk upgradation – DOS command (internal and external) preventive maintenance.

UNIT – V : Trouble shooting.

Computer faults – nature of faults – types of faults (Hardware or Software) – diagnostic programs and tools – fault elimination – systematic troubleshooting procedure – mother board problem – serial port problems – FDC, HDC problems – display adaptor problems – printer problem – monitor problems – HDD, FDD problems.

Books for Study:

1. IBM PC and Clones, B.Govindarajulu, Tata McGraw Hill Co – 1995.
2. IBM PC Trouble Shooting and Repair Guide, Robert C.Brenner, BPS Publication.
3. Hardware Bible, Winn and Rosch, Techmedia.