Certificate Course in PC Hardware and Networking

Objective of the Course

This course is designed to aim at imparting a basic knowledge of computer and its applications for the common man. It also gives the introduction of basic networking features.

Outline of the Course

S.No.	Topic	Minimum no. of Hours
1.	Architecture of PC peripherals	4 Hrs.
2.	Assembly and disassembly of PC	5 Hrs.
3.	General troubleshooting and maintenance	5 Hrs.
4.	Introduction and Installation Of Windows XP	7 Hrs.
5.	Introduction to Networks	6 Hrs.
6.	Networking Devices	6 Hrs.
7.	Networking Protocol	5 Hrs.
8.	Network Commands	2 Hrs.
	Total Number of Hours	**40** Hrs.

Lectures	**= 40 Hrs.**
Practical	**= 40 Hrs.**
Total	**= 80 Hrs.**

Detailed Syllabus

1. **Architecture of pc peripherals**   **4Hrs.**

   Introduction of PC, block diagram of computer , Microprocessor Organization, Study of various types of Microprocessor , 8086 , Pentium Series, AMD and their uses in PC, Computer memory (primary and Secondary) ROM, RAM, SDRAM, DDR RAM, Floppy Disk Drive, basic principle of operation, disk drive types, installation, cables, connectors and jumper details, formatting and managing hard disk drive, Various interface standards, Block diagram of keyboard circuit, Hard disk drive and interfaces, installing HDD.

2. **Assembly and disassembly of PC**   **5Hrs.**

   Assembly and disassembly of PC and its various parts

3. **General troubleshooting and maintenance**   **5Hrs.**

   Startup problems, run problems their identification and remedy, problem of keyboard, displays, printers, FDD's HDD's, CDD's, SMPS motherboard, their identification and remedy. Servicing and Trouble shooting of Mouse and Keyboard, Maintenance of UPS.

4. **Introduction and Installation Of Windows XP** 7Hrs.

Minimum hardware requirements for the installation, steps involved in installation of Windows XP and the troubleshooting during installation, Booting process of Windows XP, Differences between DOS and Windows XP operating systems, starting and exiting from a program in WINDOWS XP, Desktop, files and folders in Windows XP, copying and moving files under Windows XP, use of explorer, study of control panel and its settings, plug and play feature of Windows XP, automatic detection of new hardware at booting time, registry and its importance, device drivers, addition of new hardware and software to Windows XP operating system, device manager of windows XP, changing of display setting, setting of screen savers and their password protection, configuration of keyboard and mouse in Windows XP.

5. **Introduction to Networks** 6Hrs.

Introduction to Computer Networks, Element of Networks, Types of Networks, Network Topologies: Bus, Star, Mesh, Ring etc.

6. **Networking Devices** 6Hrs.

Common LAN Media: STP, UTP, Coaxial cable, Optical fiber, NIC, Repeaters, Hub and its types, Bridges and their types, Switches, Routers.

7. **Networking Protocol** 5Hrs.

Internetworking, Need for Network Layer, Internet as a datagram network, Internet as a connectionless network, IPv4, Datagram, Fragmentation, IPv6, Advantages of Packet Format

8. **Network Commands** 2Hrs.

Network Commands: netstat, tcpdump, ping, hostname, traceroute, findsmb, nmap, ifconfig, ifup, ifdown, ifcfg, route