AXOMTECH
SKILL EDUCATION COUNCIL

Syllabus: Diploma In Computer Hardware & Networking

- **Duration:** 6 Months
- **Eligibility:** 10th Pass

Evaluation Scheme

- **Full Marks:** 200
- **Theory:** 100 Marks
- **Practical/Project Works:** 80 Marks
- **Internal Assessment/Viva (Oral Test):** 20 Marks

Course Syllabus

This diploma course provides extensive hands-on training in computer hardware assembly, software installation, network configuration, and troubleshooting, preparing students for roles as IT support technicians and network administrators.

Module 1: Advanced PC Hardware

- In-depth study of Motherboards, Processors (Intel vs. AMD), and RAM types.
- Storage Solutions: HDD, SSD (SATA, NVMe), and RAID configurations.
- Understanding Power Supply Units (SMPS) and calculating power requirements.
- Peripheral Devices: Printers, Scanners, and other I/O devices.

Module 2: Assembling, BIOS & OS Installation

- PC Assembling: Step-by-step practical guide.
- BIOS/UEFI Configuration: Boot order, security settings, and system monitoring.
- Operating System Installation: Windows and introduction to Linux.
- Driver Installation and management.

Module 3: Networking Fundamentals

- Introduction to Computer Networks: LAN, MAN, WAN.
- Network Topologies: Bus, Star, Ring, Mesh.
- OSI Model and TCP/IP Protocol Suite.
- Networking Devices: Hub, Switch, Router, Modem.

Module 4: Practical Networking

- IP Addressing: Subnetting and IP classes.

- Cabling and Crimping: Creating Ethernet cables (Straight-through & Crossover).
- Configuring a Local Area Network (LAN).
- Sharing resources: Files, Folders, and Printers over the network.
- Introduction to Wireless Networking.

Module 5: System & Network Troubleshooting

- Diagnosing hardware failures using POST codes and diagnostic tools.
- Troubleshooting OS and software issues.
- Basic network troubleshooting using commands like ping, ipconfig, and tracert.
- Virus, Spyware, and Malware removal techniques.

Module 6: Final Project

- Students will assemble a PC and set up a small office network.
- **Example Project:** Assemble two PCs, install operating systems, connect them using a switch, configure IP addresses, and successfully share files and a printer between them.