

34684 – COMPUTER HARDWARE AND NETWORKS PRACTICAL

DETAILED SYLLABUS

OBJECTIVES

On completion of the following exercises, the students must be able to

- Know the various indicators, switches and connectors used in Computers.
- Familiarize the layout of SMPS, motherboard and various Disk Drives.
- Configure Bios set up options.
- Install various secondary storage devices with memory partition and formatting.
- Know the various types of printer installation and to handle the troubleshooting ability.
- Assemble PC system and checking the working condition.
- Installation of Dual OS in a system.
- Identify the problems in Computer systems, software installation and rectification
- Assembling and disassembling of Laptop to identify the parts and to install OS and configure it.
- Enable to perform different cabling in a network.
- Configure Internet connection and use utilities to debug the network issues.
- Configure router for any topology
- Install and configure Windows 2008 / 2013 Server
- Design Windows server Active directory Services.
- Install and configure server hardware devices.

LAB EXERCISES

PART A - COMPUTER SERVICING AND NETWORK PRACTICAL

Identification of system layout (Study Exercise)

- a. Front panel indicators & switches and front side & rear side connectors.
 - b. Familiarize the computer system Layout: Marking positions of SMPS, Motherboard, HDD, DVD and add on cards.
 - c. Configure bios setup program and troubleshoot the typical problems using BIOS utility.
1. HARD DISK
- a. Install Hard Disk.
 - b. Configure CMOS-Setup.
 - c. Partition and Format Hard Disk.

- d. Identify Master /Slave / IDE Devices.
- e. Practice with scan disk, disk cleanup, disk De-fragmentation, Virus Detecting and Rectifying Software.
2. a) Install and Configure a DVD Writer & Blu-ray Disc Writer.
b) Recording a Blank DVD & Blu-ray Disc.
3. Assemble a system with add on cards and check the working condition of the system and install Dual OS.
4. Identification of mobile phone components (Study Exercise)
 - a) Basic mobile phone components.
 - b) Familiarizing the basic circuit board components: Marking position of different IC and Switches in the Network and Power sections of the PCB.
5. Flashing, Unlocking and Formatting memory cards in Mobile phones.
6. Do the following cabling works in a network
 - a) Cable Crimping
 - b) Standard Cabling
 - c) Cross Cabling
 - d) I/O Connector Crimping
 - e) Testing the Crimped cable using a Cable tester
7. a) Configure Host IP, Subnet Mask and Default Gateway in a system in LAN (TCP/IP Configuration).
b) Configure Internet connection and use IPCONFIG, PING / Tracert and Netstat utilities to Debug the Network issues.
8. Transfer files between systems in LAN using FTP Configuration. Install a printer in LAN and share it in the network.

PART B – SYSTEM ADMINISTRATION PRACTICAL

1. Installation of Windows 2008 / 2013 Server.
2. Installation and configuration of DHCP Server.
3. Installation and configuration of Mail Server.
4. a) Installation of Red Hat Linux using Graphical mode.
b) Installation of Red Hat Linux using VMware.
5. a) Creating a user in Linux Server and assigning rights.
b) Configuring and troubleshooting of /etc/inittab
6. a) Configuring and troubleshooting of /etc/grub.conf
b) Configuring and trouble shooting of /etc/passwd