

Identification of System Layout (Study Exercise)

Aim: To identify the front panel indicators and switches and front side & rear side connectors

(a)Front panel indicators and switches

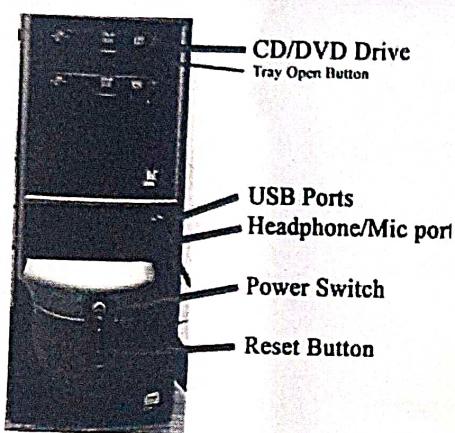
Hardware Requirements: A tower case model PC

Front panel switches:

- 1.Power switch: To start your computer, you have to turn on the power supply.
- 2.Reset switch: It will restart your computer.

Front panel Indicators:

- 1.Power LED: It will give indication when the power is given to your system
- 2.Hard Drive LED: This light will flicker , while the hard drive is being accessed



Front side and rear side connectors

Front Side Connectors

- (i)Power switch connector: Power switch is used to switch on / off the system.
- (ii)Reset switch connector: Reset switch is used to reset the system.
- (iii)Power LED connector: Power LED light shows when the system is on.
- (iv)Speakers connector: Speakers will give beep sounds during booting.

Rear side connectors:

- (i)Serial port connector: It is either 9 or 25 pin connector to connect devices like mouse,modem.
- (ii)Parallel port connector: It is 25 pin connector used to connect devices such as printer
- (iii)VGA video port: It is a 15pin connector used to connect VGA monitor.
- (iv)Keyboard connector: It is used to connect keyboard
- (v)Audio connector: It is used to connect multimedia devices like mic,speaker
- (vi)RJ45: It is used to establish connection with a Local Area Network(LAN).

Result: Thus, the front panel indicators and front & rear side connectors are identified in a Tower case model computer.

(b) Familiarize the computer system layout; Marking position of SMPS, Motherboard, HDD, DVD and add on cards

Aim: To study a computer system layout and to mark the position of SMPS, Motherboard, HDD, DVD drive and add on cards in a Tower model system.

Hardware Requirements: A Pentium motherboard, HDD, SMPS, DVD Drive and other add on cards like

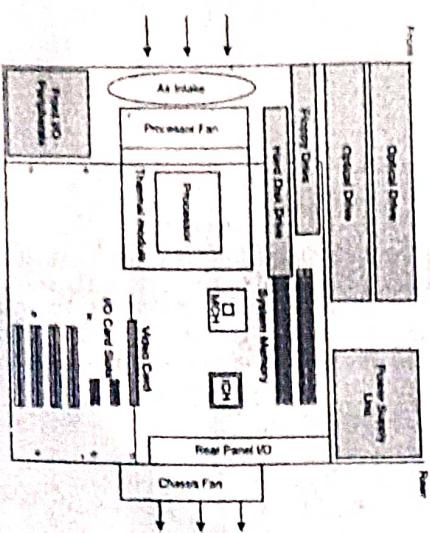
Network card, sound card etc...

System Layout: The following figure shows the various components in the system layout.

1. Power Supply
2. Motherboard: It contains the following
 - (i) Microprocessor (ii) Memory (iii) Drive controllers (iv) Hard Disk Drives
3. DVD-ROM Drives
4. Network cards
5. Video cards
6. Sound card

System Layout

The following shows the various components in the system layout.



(c) BIOS set up

Aim: To configure the BIOS setup program and troubleshoot the problems using BIOS utility

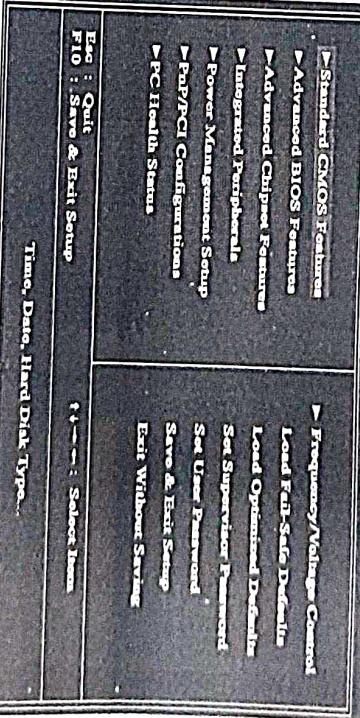
Hardware Requirements: Intel Core2 Duo Processor/ 1GB RAM / 150GB Hard disk
configure the BIOS setup program. Press the DEL key to start the setup utility.

Standard CMOS setup features:

1. Date(yyyy:dd:yy): Used to set the system date
2. Time(hh:mm:ss): Used to set the system clock
3. Configuring Hard disk: Choose Standard CMOS features and also select "Auto Detect" option
4. Primary Display/Video: Choose the type of video display adapter available in the system.
5. Security screen: Security screen allows you to set password for Supervisors and users
6. Power screen: This screen allows the users to setup power saving options.

When you are finished with your changes, you should choose "Save changes" and exit.

Phoenix - Award Workstation BIOS CMOS Setup Utility



Troubleshoot the problems using BIOS utility

Beep sound	Failed Component
Continuous beep	Power supply
Repeating short beeps	Power supply
1 long and 1 short beep	Motherboard
1 long and 2 short beeps	Display adapter
1 short beep and blank display	Display adapter / VGA cable
1 short beeps/ No disk boot	Hard disk/Floppy disk

Result: Thus, the BIOS was configured and the problems are trouble shoted using BIOS utility.

Result: Thus the components of a Pentium system are identified with the help of the above diagram.

Hard Disk Drive Installation

Ex.No:1



Aim:

- Install Hard Disk
- Configure CMOS setup
- Partition and Format Hard Disk
- Identify Master/slave IDE devices.
- Practice with scan disk, disk cleanup, disk De-fragmenter, Virus Detecting and Rectifying Software

Hardware Requirements: Pentium system | Hard Disk Drive|SATA Data cable
Software Requirements: Windows 7 / Avast Free Antivirus Software

Procedure:

(a) Installing hard disk drive:

Physical connection:

- ❖ Switch off the system
- ❖ Fix the hard disk drive in the slot available inside the system
- ❖ Connect a SATA power cable to the hard drive's power connector
- ❖ Connect HDD and motherboard with SATA data cable.
- ❖ Close the cabinet and connect the power cable, monitor cable and keyboard cable.

(b) Configuring CMOS setup for HDD:

- ❖ Invoke CMOS setup utility by pressing F10 key during the start up.
- ❖ Choose Standard CMOS features and also select "Auto Detect" option
- ❖ Now reboot the system and HDD is ready for use.

(c) Partitioning and Formatting the Hard Disk:

- ❖ Select "My Computer" icon and right click the mouse and choose 'manage' option.
- ❖ Select "Disk Management" option under "Storage" tree.

1. Select Unallocated disk space. Right click mouse and choose "New partition" option.
2. Select "Extended partition" option and set maximum available size for the disk and click Finish button.
3. Select partitioned disk space. Right click mouse and choose "New logical drive" option.
4. Select "Logical drive" option and set maximum available size for the disk and click Finish button.
5. Assign the drive letter E: and Format the drive with NTFS file system

(d) Master/slave IDE Drives: To make a hard disk as master, connect HDD to the primary connector in the data cable and also check the jumper setting in the rear side of Hard disk drive. To set as slave disk connect the disk in the middle connector of the data cable. Other end of the cable is plugged into the IDE slot available in the motherboard.

(e) ScanDisk, Disk Cleanup,disk De-fragmenter, Anti Virus Software

Scan Disk: It is used to check your hard disk for errors.

1. Double click "My Computer" icon in the desktop
2. Select D: drive and choose properties option from shortcut menu
3. Click on "Tools" tab and click "Check Now" button for error checking
4. Choose appropriate check disk options and click "Start" button
5. A dialog box appears with "Disk check complete" message.

Disk Cleanup: It will free the memory by deleting unwanted files.

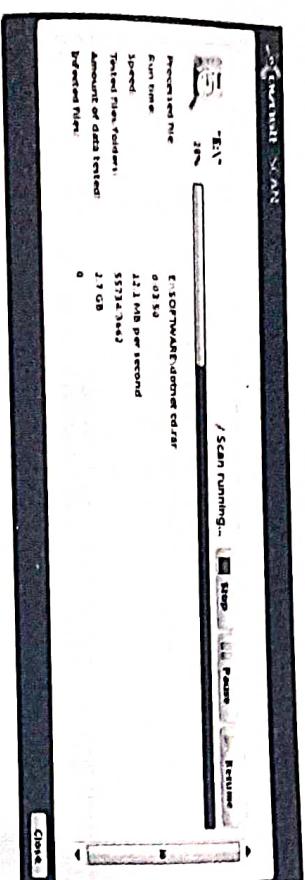
1. Go to "My Computer" and right click on C: drive and click on properties option.
2. Click the "Disk cleanup" button
3. After completing the scanning process it will display a list of files to be deleted.
4. Select the files from the list and click ok button.

Disk Defragmenter: It will remove the fragments between the memory sections containing files.

1. Go to "My Computer" and right click on C: drive and click on properties option.
2. Click the "Tools" tab.
3. Click the "Defragment Now" button
4. Select the disk drive you want to defragment and click on "Analyze" button.
5. Select your hard disk drive and click the Defragment button.

Detecting and rectifying Virus:

1. Go to "My computer", select the disk you want to scan
2. Right click and select "Scan E:" option
3. After the scanning process is complete, click on "Show Report" option.



Result: (a) Hard disk is installed successfully (b) CMOS setup for HDD is configured successfully
(c) Hard disk is partitioned and formatted successfully (d) Connection of master/slave IDE device is identified (e) scan disk, disk cleanup, disk defragmenter and antivirus softwares are executed successfully!

Ex.No.2

DVD/ Blu-ray Disc Writer Installation

Alm: (a) Install and Configure a DVD Writer and a Blu-ray Disc writer

Hardware Requirements:

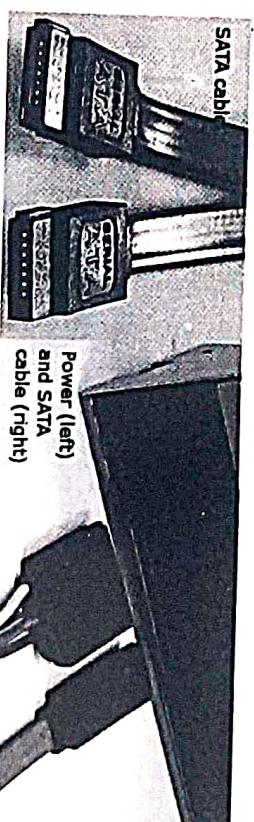
- Intel Core2 Duo Processor/1GB RAM/150GB Hard disk /DVD writer/Blu-ray writer

Software Requirements: Windows 7 / Driver software

Procedure:

Install and configure a DVD writer

- Shutdown your system and open the cabinet
- Fix the DVD drive into an open bay in the cabinet
- Connect power cable to the DVD drive
- Attach one end of the SATA cable in the slot and the other end to the SATA port in the mother board.
- Configure the device in the CMOS.
- Switch on the computer. Now, System will automatically detect the DVD writer.
- Insert the disc into DVD drive on your system.



DVD Drive Rear panel

Install and configure a Blu-ray Disc writer

- Check your monitor's display settings. 720p, 1080i and 1080p are suitable resolutions for high-definition (HD) playback.
- Upgrade your video card to an HD Graphics card.
- Give power supply to the burner. Locate the SATA port in your motherboard and insert the burner cable into the port. Connect the other end to the burner.
- Start the computer. Put the drivers in the CD-ROM drive. Follow the prompt menus to install them.

Result: Thus the DVD/Blu-ray Disc writers are installed successfully

Recording a blank DVD and Blu-ray Disc

Ex.No.:

Printer Installation and Servicing

Aim: (b) Recording a Blank DVD

Hardware Requirements: Desktop Computer 2, DVD writer 3, Blu-ray writer

Software Requirements: Any DVD Blu-ray burning software (e.g. Nero Express ImgBurn)

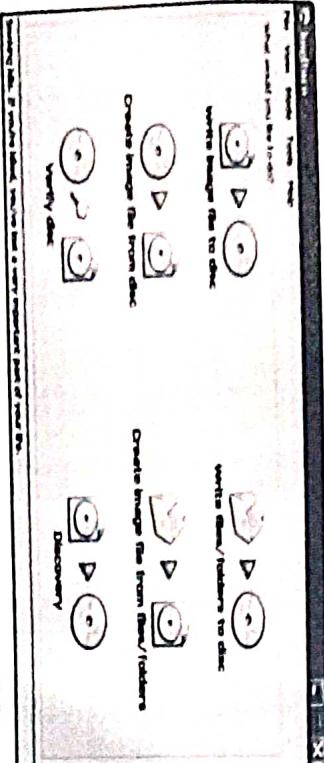
Procedure:

(i) Recording a blank DVD

- Insert the blank DVD in a DVD writer
- Double click the Nero icon in the desktop
- Select the option "What would you like to burn?"
- Then "Nero Express" window will be opened
- Click "Add" button to select the required files to be written on the blank disk
- Now click "Burn" button to write into the blank CD/DVD.

(ii) Recording a Blank Blu-ray Disc

1. Install and launch ImgBurn, and then select "Write Files/Folders to Disc" option.



2. From the File menu, select "Browse for a source folder..." option.

3. Locate the 'Disc' folder that contains your Blu-ray contents, which usually includes two subfolders: the 'BDMV' folder and the 'CERTIFICATE' folder.
4. On the left panel, go to Options tab and select the File System and version (UDF 2.5 or UDF 2.6 require 5. It's optional to set the Blu-ray Disc labels, name and other information in the Labels tab.
6. Click the "Write Files" icon and Click 'Yes' to burn Blu-ray disc.

Result: Thus, a blank DVD and Blu-ray Disc are written successfully.

Ex.No.:

Printer Installation and Servicing

a) install and configure Dot matrix printer and Laser printer

b) Troubleshoot the above printers

Procedure:

a) install and configure Dot matrix printer and Laser printer

Aim: To install and configure Dot matrix and Laser printer

Hardware Requirements: Desktop Computer / Laser printer / Dot matrix printer

Software Requirements: Device drivers for the Dot matrix / Laser printers

Install and configure Dot matrix printer

- Connect the printer with computer and give power supply
- Click Start->Control panel->Printers and Faxes option
- Under printer tasks, click Add printer. Now Add Printer wizard window starts.
- Select only "Local printer attached to this computer" option and click "Next". Make sure to uncheck "Automatically detect and install my plug and play printer" option
- Under select a printer port option, select the LPT1 port and click "Next"
- Under the manufacturers list, select "Wipro" and click "Next"
- Make your printer as "Default printer" and click "Finish"

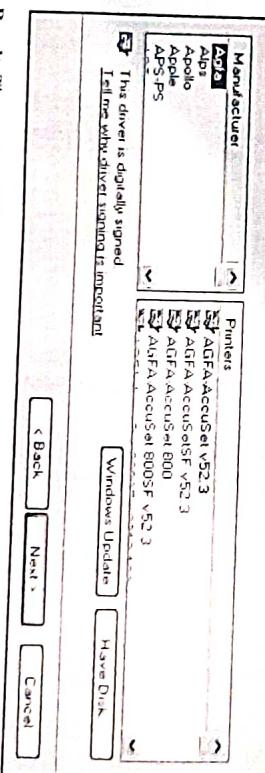
Install and configure Laser Printer: Connect the printer with the computer.

- Insert the CD-ROM which contains printer driver files.
- Click Start->Control Panel->Printers and Faxes. Choose "Add printers" option.
- Under the manufacturers list, select "HP" and choose correct printer model and click "Finish"

Add Printer Wizard

Install Printer Software

Select the manufacturer and model of your printer. If your printer came with an installation disk, click Have Disk. If your printer is not listed, consult your printer documentation for compatible printer software.



Result: Thus, a Dot matrix printer and Laser printers were installed successfully.

Troubleshoot the DMP / Laser printers

Aim: (b) To troubleshoot a Dot matrix and a Laser printer

Hardware Requirements:

A system with Dot matrix printer/Laser printer

Procedure:

Troubleshooting Dot Matrix Printer:

Problem	Reason	Solution
Printer does not print	1. Printer is offline 2. Printer is out of paper 3. Printer is not connected	1. Turn printer online 2. Insert papers in the tray 3. Check cable connections
Error LED flashes	Printer overload	Remove all pending print jobs and try again.
Print results are too light	Ribbon cartridge is out of ink	Replace ink ribbon

Troubleshooting Laser Printer:

Problem	Reason	Solution
Print results are too light	Toner is low.	Replace toner cartridge.
Print job is being sent to the wrong printer	Some other printer is set as default printer.	Select the correct printer.
Print job is not reaching the printer	Printer is offline	Set the status of printer to online.
Paper jamming	Paper could be too light or heavy	Load the correct paper.

Result: Thus, the troubleshooting of laser and Dot matrix printer are performed successfully.

Ex.No.4 Assemble a system and install Dual OS.

Aim: To assemble a system with ADD on cards and check the working condition of the system

Hardware Requirements: Micro ATX Motherboard/HDD/DVD Writer / VGA card / Sound card

Procedure: Assemble a system with ADD on cards

1. Micro ATX motherboard with Intel G33 Chipset is fixed in cabinet.
2. Core 2 Duo CPU is fixed in CPU socket T (LGA 775)
3. 24 pin SMPS power connector is fixed in mother board.
4. 160GB Hard disk is connected in SATA port 1
5. DVD writer is connected in SATA port 2
6. 1GB DDR2 SDRAM is fixed in memory socket
7. 9pin cable male connector of monitor is connected to the 15 pin male connector of VGA card.
8. Keyboard/ mouse is connected in USB ports.
9. Sound card is connected with PCI slots in the motherboard.
10. Speaker/mic is connected with the corresponding connector in the sound card.

Install Dual operating systems in a PC

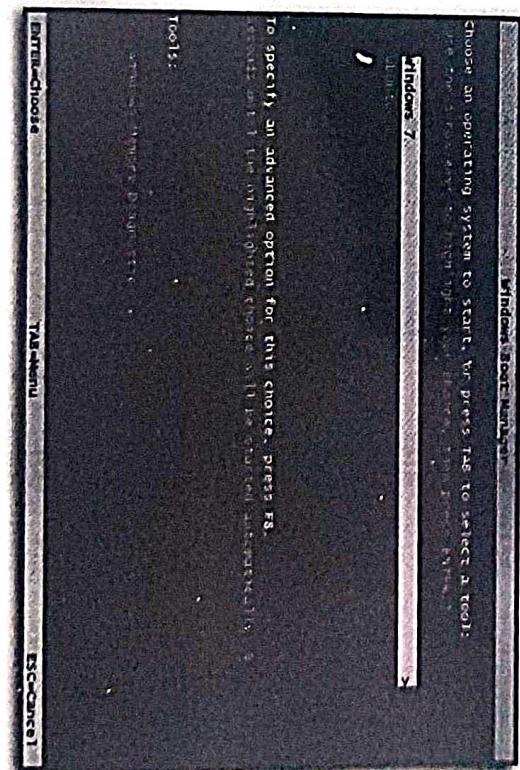
Procedure: Boot the system in Windows 7.

1. Keep "Ubuntu Linux" iso image and "Ubuntu Installer" programs in same folder.
2. Double click "Ubuntu Installer" and select following options.

(i) Installation drive : c: (ii) Installation size: 5GB (iii) Desktop environment: Ubuntu

(iv) Language : Tamil (v) Type admin administrator password

3. Reboot your computer when the installation is complete. You will see a multi-boot screen.



Result: Thus, a system is assembled and Dual Operating systems installed successfully.

Identification of Mobilephone Components (Study Exercise)

Aim: (b) Familiarizing the basic circuit board components: Marking position of different IC and Switches in the Network and Power sections of the PCB.

Aim: (a) To identify the Basic mobile phone components.

Hardware Requirements: basic mobile phone

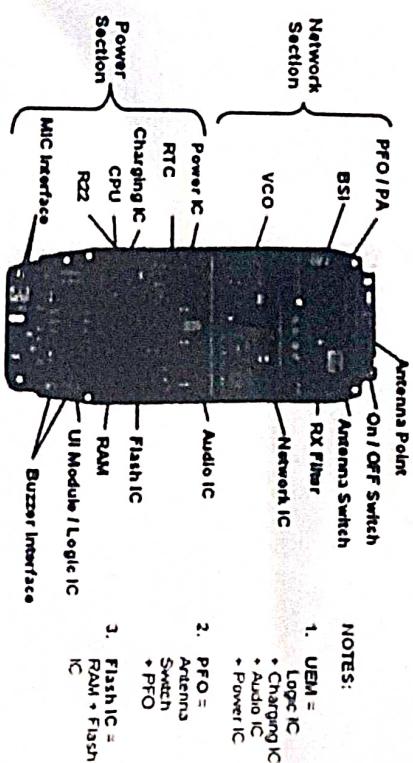
(i)Battery and Antenna: The battery supplies the electricity that makes the phone work. The antenna is a port through which the phone is linked to other phones.

(ii)Microphone and Speaker: When you speak into the microphone, your voice turns into electrical signal which get digitized and then transmitted out through the antenna. When the signal from another phone still get digitized and then converted to sound.

(iii)Keyboard and LCD Screen: By pressing buttons on the keyboard, you issue data and commands to phone e.g. turn on, turn off. The LCD screen will display informations e.g. number dialed.

(iv)Circuit Board: It transforms digital signals to analog, and analog signals to digital. It also contains several components e.g. buzzer and vibrator that alerts you to incoming calls.

Result: Thus the components of a basic mobile phone are identified clearly.



Result: Thus the basic circuit board components of a mobile phone are identified clearly.

Hardware Requirements: A basic mobile phone

Basic Circuit Board Components:

1. **Antenna Point:** The point where antenna is connected is called antenna point.

Network Section: The section below antenna point and above power section is called network section.

2. **Antenna Switch:** It is found in the network section. It has 16 points or legs.

3. **PFO:** Power Frequency Oscillator. It is present beside the antenna switch.

4. **Network IC:** It is below the antenna switch and PFO.

Power Section: This section is below the Network Section.

5. **Power IC:** It derives power from battery and provides to all the hardware components of a mobile phone.

6. **CPU:** Central Processing Unit. In the power section, the largest IC is the CPU.

7. **Flash IC:** This IC is found beside the CPU.

8. **Logic IC:** The IC with 20 legs is the Logic IC.

9. **Charging IC:** In the Power Section, the IC beside R22 is the Charging IC.

10. **Audio IC:** The IC parallel to Power IC is the Audio IC.

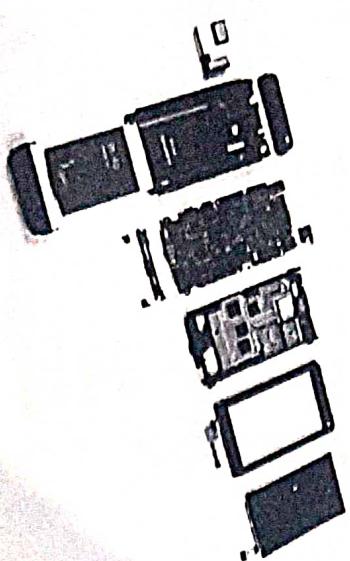
Ex.No.5 Assembling and Disassembling of Mobile Phones

Aim: (a) Assembling and Disassembling of Mobile Phones.

Hardware Requirements: (i) A basic mobile phone (ii) TS, T6 and Forehead Precision Screwdriver (iii) Tweezers

Procedure:

- Take OFF and remove the battery cover and back fascia of the mobile phone. You should use a moe opener tool to remove the back Fascia.
- Remove the battery, SIM card and memory card.
- You will find several small screws at the back. Using suitable screwdriver, unscrew and remove all screws.
- Once all the screws are open, remove the front cover.
- Now you have the internal Fascia. It is attached to the mobile phone PCB with screws. Unscrew and e all the screws.
- Remove connectors for display and camera and pull the display and the camera out.
- Reassemble the mobile phone by reversing the steps used to disassemble it.



Result: Thus, a mobile phone is disassembled and assembled successfully.

Troubleshooting a Mobile Phone

Aim: (b) Fault finding and troubleshooting of Earpiece, Microphone, Keypad and Display Sections of Mobile Phones.

Hardware Requirements: (i) Basic mobile phone (ii) TS, T6 and Forehead Precision Screwdriver (iii) Tweezers

Types of Problems with Earpiece

- No sound during phone call.
- Less sound during phone call.
- Sound with interruption.

Solutions

- Check Speaker Volume during Phone Call.
- If speaker volume is OK then Check Earpiece / Speaker by Keeping the Multimeter in Buzzer Mode. If the Value is not between 25-35 Ohm then change the Earpiece / Speaker.
- If the problem is not solved then Change Audio IC.
- If the problem is still not solved then Change the CPU.

Types of Problems with Microphone

- No sound or Less Sound during phone call.
- Sound with interruption

Solutions

- Check Microphone settings.
- Check and clean Microphone Tips and Connector.
- Check Microphone by Keeping the Multimeter in Buzzer Mode. If the Value is not between 600-1800 Ohm then change the Microphone.
- Change Microphone IC.
- Change Audio IC / Power IC.
- Change CPU.

Types of Problems with Keypad

- No Key Working or only Some Key Working.
- Keys need more pressure to work. Or when pressed a key works continuously.

Solutions

- Check Fascial of the Keypad.
- Clean Key pad and Keypad Points.
- Keep Multimeter in Buzzer Mode and Check Row and Column of the Keypad. If there is Beep Sound then Pad is OK.
- Change Keypad IC / Interface IC.
- Change the CPU.

Types of Problems with Display

- Display is blank.
- Display not working properly.

Solutions

- Clean Display Tips and Display Connector.
- Resold the Display Connector.
- Change the Display.
- Check Display Track.
- Resold or Change the Display IC.
- Change the CPU.

Result: Thus, fault finding and trouble shooting of a mobile phone is performed successfully.

Ex.No.6 Flashing, Unlocking Mobile Phones

Aim: Flashing, unlocking and formating memory cards in mobile phones

Hardware Requirements: (i) A basic mobile phone (ii) PC (iii)USB cable

Software Requirements: Flash program

Flashing a mobile phone 1. Download a free software flash program to your computer.

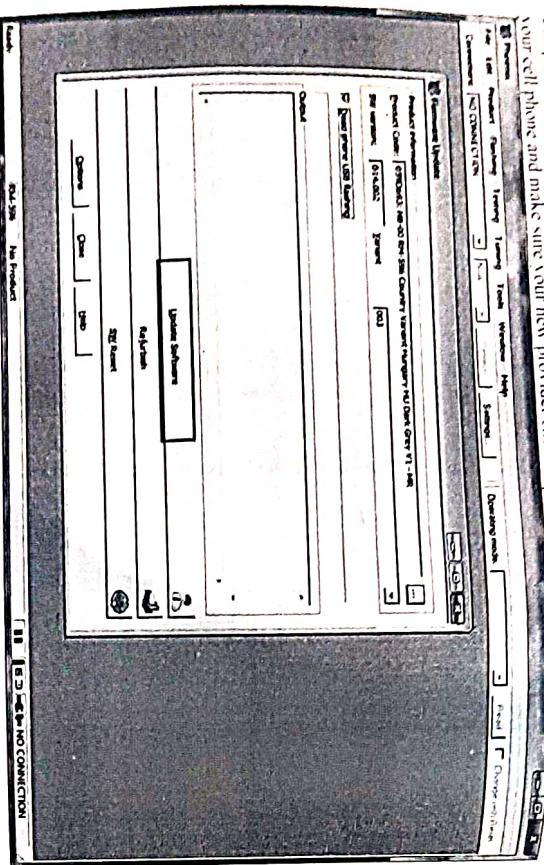
2. Select the option for "7zzip" to unpack the files from the zip folder.

3. Connect your cell phone to your computer using the USB cable.

4. The flash procedure will disable your current provider's settings and reprogram them to your new provider.

5. Open control panel and choose Device Manager program. Click on "USB Controllers and Ports" to view

your cell phone and make sure your new provider shows up as evidence of a successful flash.



Ex.No.7 Network Cable Crimping

Aim: Do the following Cabling works in a network

a) Cable Crimping b) Standard Cabling c) Cross Cabling d) IO connector crimping

e) Testing the crimped cable using a cable tester

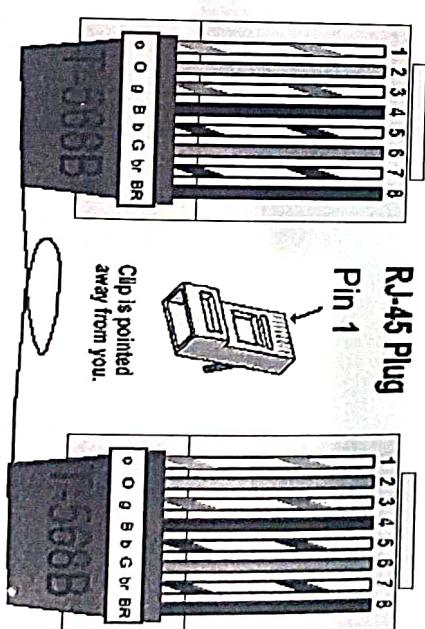
Requirements: Core2 Duo Computer / UTP (cat5e) cable – (length: 1 mtr) / Two RJ45 connectors/ RJ45 crimping tool/ network cable tester

Procedure:

Cable crimping

- 1) Strip off insulation
- 2) Untangle wires
- 3) Place wires in correct order using the following codes & straighten.
- 4) Trim wires to desired length.
- 5) Slide wires all the way into the plug. Make sure not to disrupt the color scheme.
- 6) Crimp plug.
- 7) Repeat steps 1-6 for the other end.
- 8) Test wire using optional test equipment.

Standard cabling color code (both ends are the same i.e. TIA/EIA 568B Wiring):



Unlocking mobile phones:

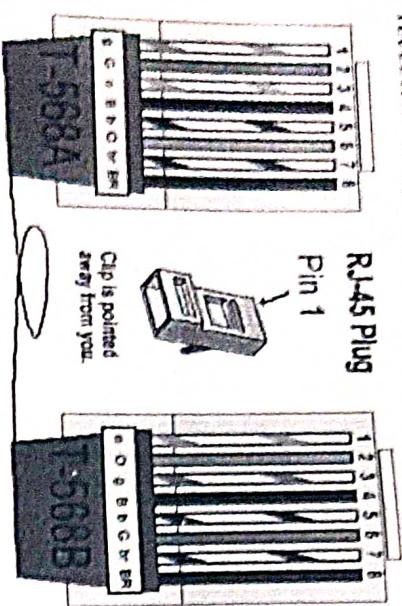
1. Contact your network service provider and get unlock code
2. Insert new sim card and use unlock code

Formatting memory cards:

1. Insert the SD card into your mobile phone
2. Open "Settings" menu of your mobile phone
3. Select "Memory Card" from the menu options and then choose "Format SD Card".

Result: Thus, a mobile phone is flashed, unlocked and formated memory card successfully.

- a) Crosscabling
Cross cabling cable code: End 1 should follow TIA/TIA 568A Wiring and End 2 should follow TIA/TIA 568B Wiring



c) Testing the crimped cable using a cable tester

Testing Standard cable: If we connect a straight LAN cable, we notice that the LEDs glow one by one successively. If a wire is broken, the corresponding LED will not glow.

Testing Cross cable: If we connect a cross wire cable, then LEDs will glow in the following order which means there is no problem in cable crimping.

1	3
2	6
3	1
4	4
5	5
6	2
7	7
8	8

Result: Hence we have created network cable(Standard Crossover) using crimping tool and verified it via LAN cable tester.

Fox.S TCP/IP Configuration

- 8** (a) Configure Host IP, SubnetMask and Default Gateway in a system in LAN TCP/IP Configuration.
 (b) Configure Internet connection and use IPCONFIG, PING / Traceroute and Netstat utilities to detect the network issues

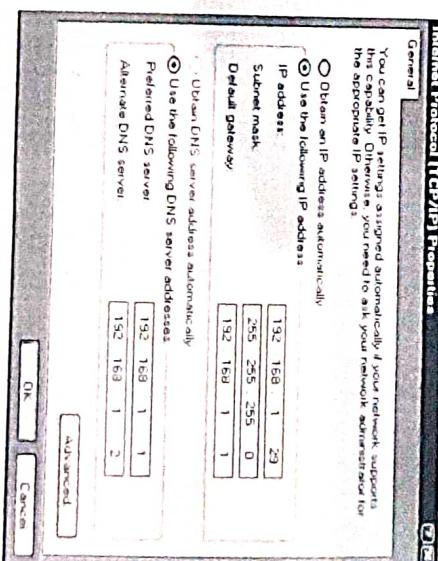
Aim: To configure TCP/IP protocol of Requirements:

- Pentium Core2Duo Computer
- Windows 7
- TCP/IP Protocol

Procedure:

- (a) IP address Configuration**
 To configure IP address, follow the following steps:
 a) In Windows 7, click Start menu-> Control Panel.
 b) Double-click the Network and sharing center and select change adapter settings.
 c) Right-click the Local Area Connection and click the Properties menu. In the middle window, double-click the Internet Protocol (TCP/IP) option.
 d) Click the Use the following IP address button and type following details.

IP address : 192.168.1.29
 Subnet mask : 255.255.255.0
 Default Gateway : 192.168.1.1



(b) Configure Internet connection and use IPCONFIG, PING / Traceroute and Netstat utilities to network issues

1.Ipconfig: It is used to show information on TCP/IP
Click start-> run and in the box type "cmd".
Type ipconfig in this window.

2.PING: It is used to verify if a network host is reachable from the site where the ping command is issued.
Click start-> run and in the box type "cmd".
Type ping www.google.com in this window.

3.Traceroute: It allows you to trace every router that a packet has traversed during its journey to destination.
Click start-> run and in the box type "cmd".
Type tracert www.google.com in this window.

4.Netstat: This command allows a user to identify if a particular port is free or not.

Click start-> run and in the box type "cmd".
Type netstat

Proto	Local Address	Foreign Address	State
TCP	hope:4409	www.computerhope.com:telnet	ESTABLISHED
TCP	hope:7708	multicity.com:80	CLOSE_WAIT
TCP	hope:4750	www.google.com:80	CLOSE_WAIT

Result: Hence, TCP/IP is configured successfully and network issues are troubleshooted successfully.

Ex.No.9 Install and configure Network Devices

Aim: To establish a network using Hub/Switch and Router

Hardware Requirements: Computers with Ethernet NICs / Router/Switch/Hub

Software Requirements: Windows 7 Professional Edition

Setting up a network using a hub

1. Give power supply to the hub.
2. Turn on your computer.
3. Plug one end of a LAN cable into any free port on the hub then plug the other end into the network jack on the computer.
4. Repeat Step 2 through Step 3 for each computer on the network.

To set up a network using a router and hub:

1. If you are using a hub, plug one end of a LAN cable into the uplink port on the hub. Plug the other end of the cable into the uplink port on the router.
2. Plug one end of a LAN cable into any free port on the hub and Plug the other end of the cable into the network connector on the computer.
3. For an internet connection, use a straight-through cable from the WAN port on the router to the DSL modem.

Result: Thus a Network is established using connectivity devices hub/switch/router successfully.

- (b) Install and Configure Wired and Wireless NIC and share files between systems

To install Wired and Wireless NIC / Wireless Router

Min. To install: Windows 7 Professional Edition

Hardware Requirements: 2 Computers / NIC / Wireless NIC / Wireless Router

Software Requirements: Windows 7 Professional Edition

Install Wireless Network Card in a Desktop Computer

Installing Wireless Network Card in a Desktop Computer

- Insert the CD that comes with the adapter, and install the new hardware.
- Connect your USB adapter.
- After a moment, Windows automatically detects and installs the new hardware.

Transfer files between systems in LAN and Wireless LAN

Click Start Control Panel Network and Sharing Center Change Advanced Sharing Settings. Click Save Changes.



Change sharing options for different network profiles. You can choose specific options for each profile.

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Ex.No.10 Transfer files using FTP

Aim: To transfer files between systems in LAN using FTP

Hardware Requirements: Intel Core2Duo CPU / 1GB RAM / 500 GB Hard Disk

Software Requirements: Windows Server 2008 / Windows 7 (Client PC)

Procedure:

1. In the command prompt type **ftp**. Ex. **C:\>ftp** and hit Enter.

Syntax:

- a. **ftp>open IP address / server computer name** example: **ftp>open 192.168.221.129**
- b. **ftp>dir** – These commands are used to view the list of directories available in the default directory.
- c. **ftp>get file name** – It is used to copy the file from the remote computer to working computer
- d. **ftp>put file name** – It is used to copy the file from working computer to remote computer
- e. **ftp>quit** – It is used to exit from the ftp command.

```
C:\Windows\system32\cmd.exe
C:\Users\Admin\1>ftp
ftp> open 192.168.221.129
Connected to 192.168.221.129.
220 Microsoft FTP Service
user 192.168.221.129:anonymou
333 anonymous access allowed, no password
password:
230 anonymous user logged in.
ftp> dir
200 PORT command successful.
150 Opening ASCII mode data connection for /h.txt...
12-28-13 09:24PM
226 Transfer complete.
ftp> get h.txt
200 PORT command successful.
150 Opening ASCII mode data connection for h.txt (9 bytes).
150 Transfer complete.
226 Transfer complete.
ftp> quit
221
C:\Users\Admin\1>
```

- 3) Open Windows Explorer. Right-click any folder you wish to share, point to "Share With" and select user who can access the shared folder and specify the permission.

- 4) Repeat above steps 1 to 3 in your PC2.

- 5) Connect remote computer with username and password to access shared files and folders.

Result: Hence, Wired/Wireless NIC is installed and configured successfully. Files and Folders transferred between systems in LAN and Wireless LAN.

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Aim: To install Print server in a LAN and share the printer in a network.

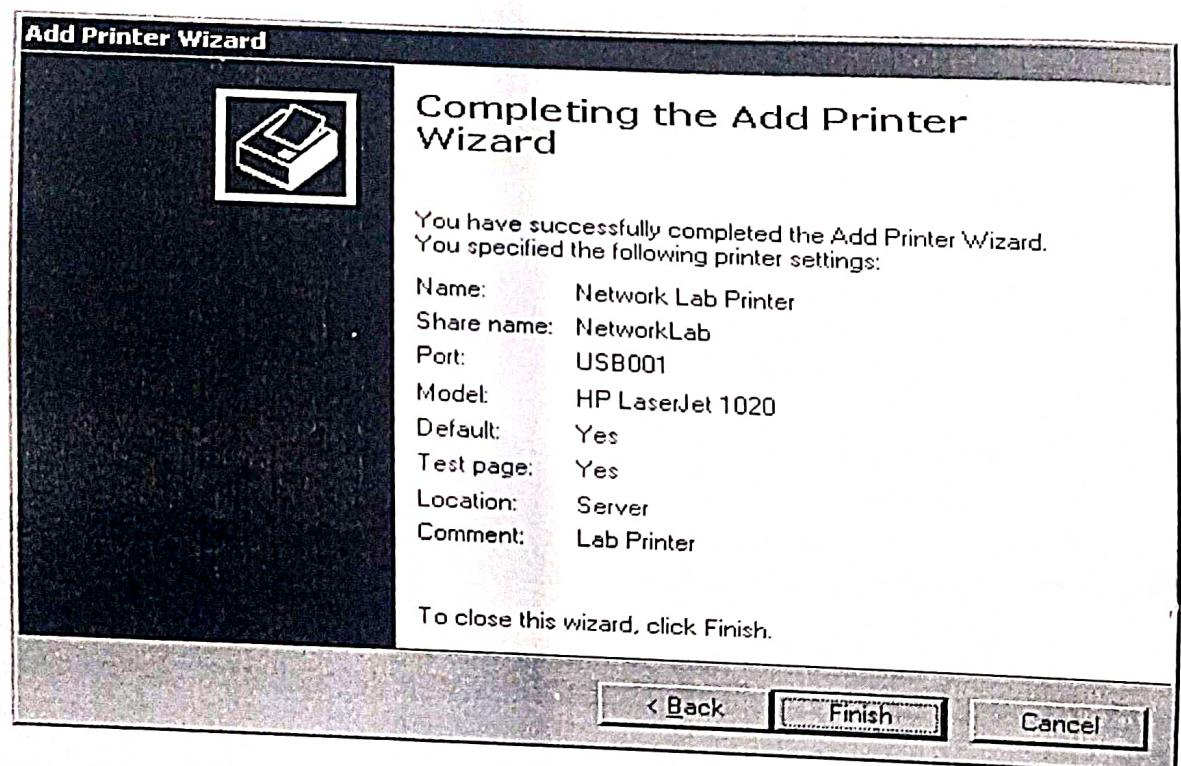
Hardware Requirements: Intel Core2Duo CPU /1GB RAM/500GB Hard Disk /Laserjet Printer

Software Requirements: Windows 7 / HP Laserjet Driver software

Procedure:

Printer sharing:

1. Open Printer and Faxes by clicking Start -> Control panel. And click Add Printer icon in the new window.
2. Choose the option “Local Printer attached to this computer” and click Next Button.
3. Then select the type of the port for establishing the connection.
4. If your printer driver is not available in the list then you should click the button “Have Disk”
5. Select the location of the driver with the help of Browse button and click ok to continue.
6. Give the name for the printer and click next.
7. If you plan to use this printer as a network printer then select Share name option and type name
8. Next you must give the location of the printer (e.g. Server).Now click Next Button.
9. If you want to print a test page, Select Yes and click next to continue
- 10.Finally, click finish to close the wizard.



Result: The printer is successfully added.