

Task 1: Learn about Computer

Aim: To identify the internal parts of a computer, and its peripherals. Represent the same in the form of diagrams including Block diagram of a computer. Write specifications for each part of a computer including peripherals and specification of Desktop computer. Submit it in the form of a report.

To identify the peripherals of a computer

Generations of Computers :

First Generation (1940-1956) Vacuum Tubes

The first computers used vacuum tubes for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms. They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions. The UNIVAC and ENIAC computers are examples of first-generation computing devices.

Second Generation (1956-1963) Transistors

Transistors replaced vacuum tubes in the second generation of computers. The transistor was invented in 1947 but did not see widespread use in computers until the late 1950s. The transistor was far superior to the vacuum tube, allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation predecessors.

Third Generation (1964-1971) Integrated Circuits

The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers. Instead of punched cards and printouts, users interacted with third generation computers through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different applications at one time with a central program that monitored the memory. Computers for the first time became accessible to a mass audience because they were smaller and cheaper than their predecessors.

Fourth Generation (1971-Present) Microprocessors

The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand. The Intel 4004 chip, developed in 1971, located all the components of the computer—from the central processing unit and memory to input/output controls—on a single chip. In 1981 IBM introduced its first computer for the home user, and in 1984 Apple introduced the Macintosh.

Fifth Generation (Present and Beyond) Artificial Intelligence

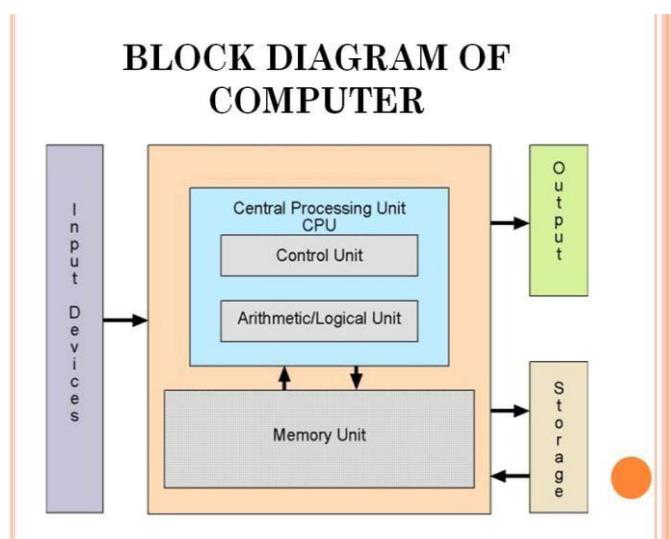
Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition, that are being used today. The use of parallel processing and superconductors is helping to make artificial intelligence a reality. Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come. The goal of fifth-generation computing is to develop devices that respond to natural language input and are capable of learning and self-organization.

Computer Types

Many types of computers exist that differ widely in Size, Cost, Computational Power and intended Use

1. **Personal Computer/ Desktop computers:** which is found in homes, Schools and business offices
2. **Portable Notebook Computers:** A compact version of PC with all of these components packaged into a single unit the size of a thin briefcase.
3. **Work Stations:** with high-resolution graphics I/O capability. Used in the engineering applications, Interactive design works.
4. **Enterprise System Servers:** used for business data processing in medium to large corporations that require much more computing power and storage capacity than workstations.
5. **Super Computers:** Contain sizable database storage units and are capable of handling large volumes of requests to access the data.
6. **Hand-held computers:** A portable computer that is small enough to be held in one's hand. Although extremely convenient to carry, handheld computers have not replaced notebook computers because of their small keyboards and screens. Hand-held computers are also called PDAs, palmtops and pocket computers

Block Diagram of Computer:



A computer can process data, pictures, sound and graphics. They can solve highly complicated problems quickly and accurately.

Input Unit:

Computers need to receive data and instruction in order to solve any problem. Therefore we need to input the data and instructions into the computers. The input unit consists of one or more input devices. Keyboard is the one of the most commonly used input device.

Storage Unit:

The storage unit of the computer holds data and instructions that are entered through the input unit, before they are processed

1. Primary Storage: Stores and provides very fast.
2. Secondary Storage: Secondary storage is used like an archive.

Memory Size:

All digital computers use the binary system, i.e. 0's and 1's. The size of the Primary storage is specified in KB (Kilobytes) or MB (Megabyte). One KB is equal

to 1024 bytes and one MB is equal to 1000KB. The size of the primary storage in a typical PC usually starts at 16MB. PCs having 32 MB, 48MB, 128 MB, 256MB memory are quite common.

Output Unit:

The output unit of a computer provides the information and results of a computation to outside world. Printers, Visual Display Unit (VDU) are the commonly used output devices..

Arithmetic Logical Unit:

All calculations are performed in the Arithmetic Logic Unit (ALU) of the computer.. The ALU can perform basic operations such as addition, subtraction, multiplication, division, etc and does logic operations viz, >, <, =, 'etc.

Control Unit:

It controls all other units in the computer. The control unit instructs the input unit, where to store the data after receiving it from the user.

Central Processing Unit:

The control unit and ALU of the computer are together known as the Central Processing Unit (CPU). The CPU is like brain performs the following functions:

- It performs all calculations.
- It takes all decisions.
- It controls all units of the computer.

Introduction to Computer Hardware:

Hardware is the physical appearance of the devices or tools. It is what which we can touch and feel.

Computer Hardware consists of the Monitor, CPU, Keyboard, Mouse and all other devices connected to the computer either externally or internally.

A typical computer (personal computer, PC) consists of a desktop or tower case(chassis) and the following parts:

1. **CPU** The central processing unit contains the heart of any computer, the processor. The processor is fitted on to a Mother Board. The Mother Board contains various components, which support the functioning of a PC.



2. System board/Motherboard which holds the Processor, Random Access Memory and other parts, and has slots for expansion cards
3. **RAM (Random Access Memory)**- For program execution and short term data- storage, so the computer doesn't have to take the time to access the hard drive to find something. More RAM can contribute to a faster PC.

The main memory is used for the following purposes:

1. Storage of the copy of the main software program that controls the general operation of the computer. This copy is loaded on to the main memory when the computer is turned on, and it stays there as long as the computer is on.
2. Temporary storage of a copy of application program instruction, to be received by CPU for interpretation and processing or execution.
3. Temporary storage of data that has been input from the key board, until instructions call for the data to be transferred in to CPU for processing.

ROM (Read Only Memory)

Instructions which are critical to the operation of a computer are stored permanently on Read only Memory. (ROM) chip installed by the manufacturer inside the computer. This ROM chip is also called firm ware, retains instructions in a permanently accessible on volatile form. When the power in the computer is turned off, the instructions stored in ROM are not lost. It is necessary and also convenient to have instructions stored in ROM. lowered the cost to the point where manufacturers are beginning to include additional software instructions.

Differences between ROM &RAM

ROM (Read only memory)

1. You can only read the data.
2. Data can't be written every time, to write the data we need PROM, EPROM,OR EEPROM.
3. ROM is non volatile in nature. The data stored in ROM is permanent innature.
4. Size of the ROM has nothing to do with processing.

RAM (Random access memory):

1. You can read and write data on the chip.
2. RAM has volatile memory. It loses its contents when the power is switched off.
3. Size of the RAM makes difference in the processing i.e., bigger the size of the RAM more is the speed of processing.
4. The data can be read and written at anytime.

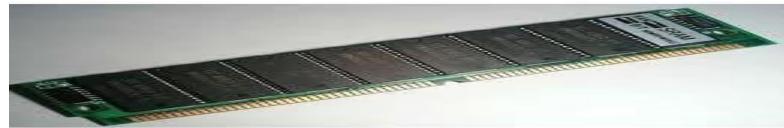
Dynamic RAM (DRAM)



- Synchronous DRAM (SDRAM)



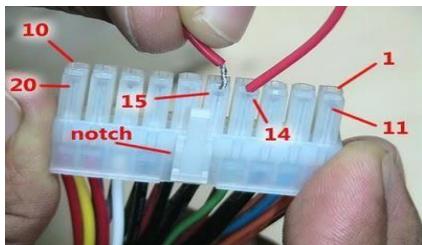
- Static RAM (SRAM)



4. Buses : PCI bus, PCI-E bus, ISA bus (outdated), USB, AGP



5. Power Supply - a case that holds a transformer, voltage control and fan



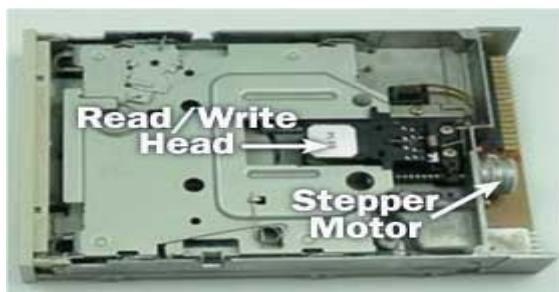
Molex

Berg

6. Storage controllers, of IDE, SCSI or other type, that control hard disk, floppy disk, CD-ROM and other drives; the controllers sit directly on the motherboard(on-board) or on expansion cards
7. Video display controller that produces the output for the computer display
8. computer bus controllers (parallel, serial, USB, Fire wire) to connect the computer to external peripheral devices such as printers or scanners
9. Some type of a removable media writer:
10. CD - the most common type of removable media, cheap but fragile.
CD-ROM, , CD-RW, CD-R, DVD, DVD-ROM., DVD-RW,
DVD-R,
11. Floppy disk



Floppy Disk Drive

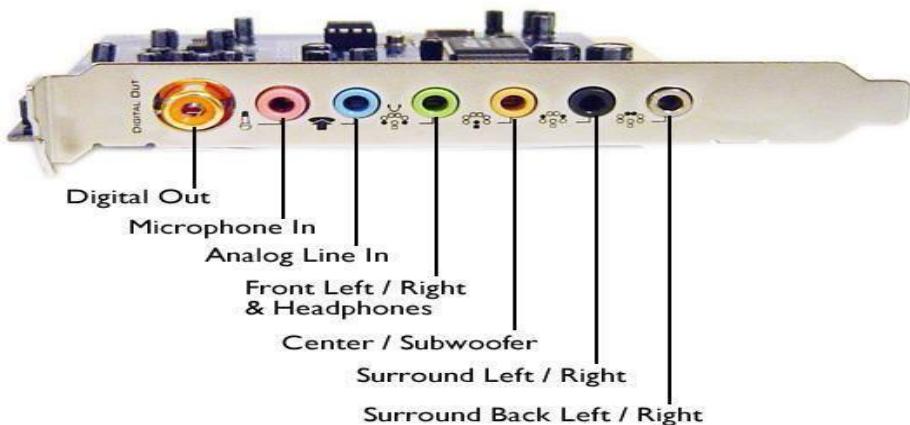


12. **Tape Drive** - mainly for backup and long-term storage
13. **Internal storage** - keeps data inside the computer for later use.
14. **Hard disk** - for medium-term storage of data.

15. Disk array controller

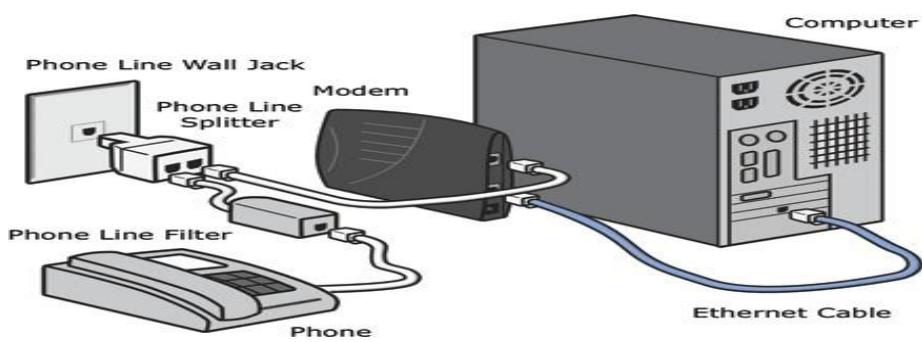


16. Sound card - translates signals from the system board into analog voltagelevels, and has terminals to plug in speakers.



17. Networking - to connect the computer to the Internet and/or other computers

18. Modem - for dial-up connections



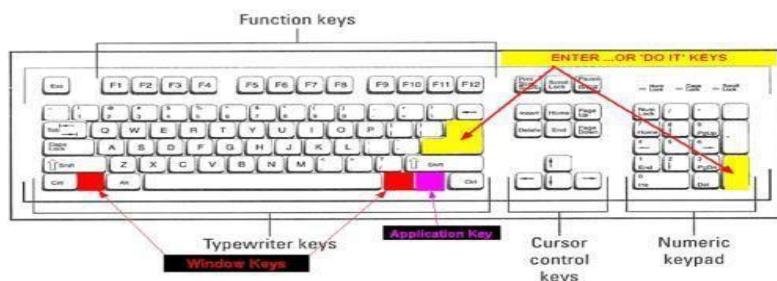
19. Network card - for DSL(Digital Subscriber Line)/Cable internet, and/or connecting to other computers.



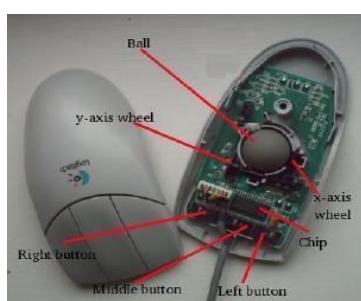
20. Other peripherals: In addition, hardware can include external components of a computer system. The following are either standard or very common.

Standard input devices:

Keyboard



Mouse



Alternate input devices:

Pens, Touch screens, Game controllers(joy stick), Touch pad, Trackball.

Optical input devices: Barcode reader, Image scanners.

Audio visual input devices: Microphones, Video input, Digital cameras

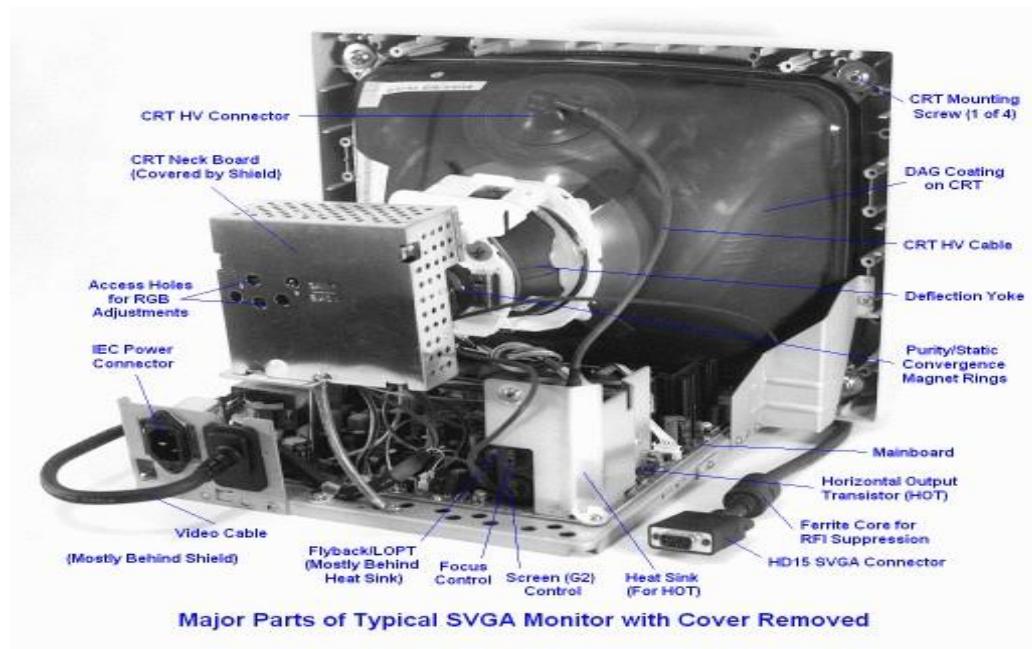


4. Output : The output devices are:

Standard output devices: Monitor

Types of monitors

CRT(cathode ray tube) monitors



LCD(liquid crystal display) monitors



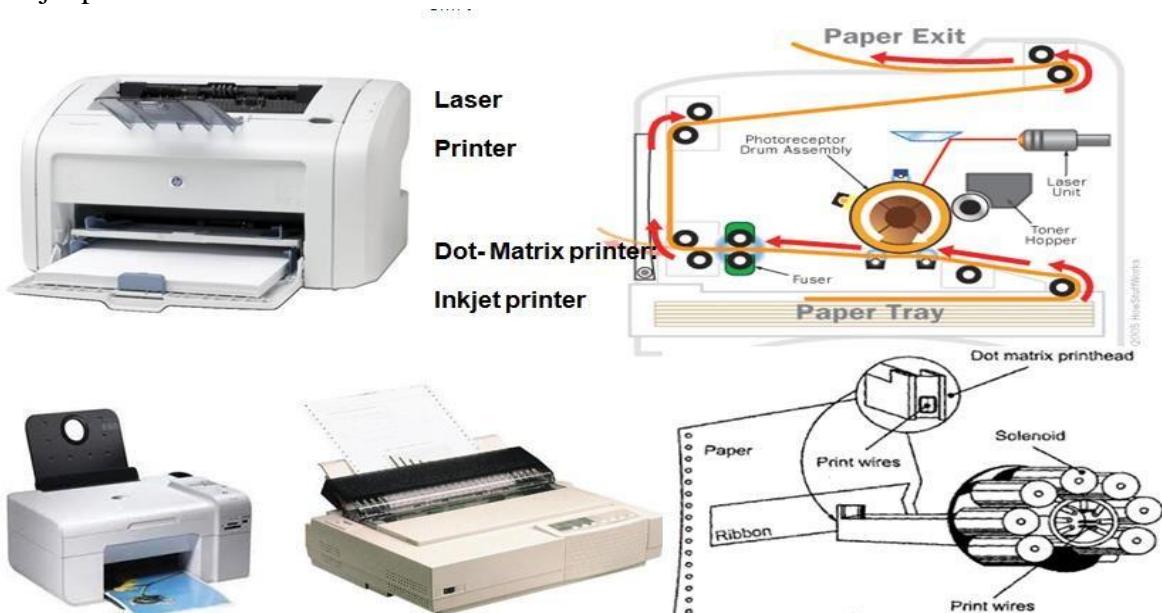
Printer

Types of printers

Impact printers: An impact printer creates an image by using pins or hammers to press an inked ribbon against the paper. ex. Dot matrix printer.

Non impact printers: This type uses other means to create an image. For example, in an ink jet printer, tiny nozzles are used to spray droplets of ink onto the page.

ex: Inkjet printer

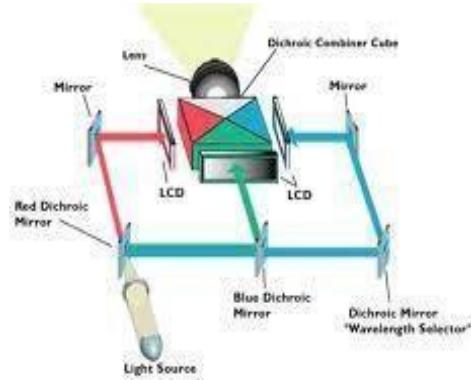


Other output devices:

Speakers, LCD projectors, Networking, Network card
Speakers



LCD Projectors:



Task-2 Assembling and disassembling the PC back to working condition.

AIM: To assemble and disassemble the system

Description:

Safety Precautions:

1. Beware of electrostatic discharge (ESD)
2. Build computer on a hard surface, away from concepts.
3. Wear shoes and the short sleeved cotton wear.
4. Use Phillips head screw driver.
5. Keep the components away from moisture.
6. Avoid using pressure while installing.

Steps for Assembling

- Fix the SMPS on the cabinet of PC using the screws provided.
- Fix the motherboard on the cabinet of PC using the screws provided.
- Connect the power cables from SMPS to motherboard.
- Insert the processor into the slot provided such that the corner with no pin coincide with corner without pinhole on motherboard.
- Apply the appropriate adhesive on the processor for fixing the processor fan.
- Fix the processor fan on the processor and use clips on it to keep it firm.
- Connect the power cable to the processor fan
- Insert the RAM card into the slots provided on the motherboard.
- Set the jumpers setting on the hard disc drive.
- Fix the hard disc drive in the space provided in the PC cabinet using screws provided.
- Fix the FDD in the space provided in the PC cabinet using screws provided.
- Fix the CD-ROM in the space provided in the PC cabinet using screws provided.
- Connect the FDD, HDD, CD-ROM drive to motherboard using flat ribbon.

- Connect power supply to the HDD, FDD, CD-ROM drive using the cables from the SMPS.
- Connect wires of speakers and lights of cabinet to the motherboard.
- Connect the network interface and other cards to motherboard by inserting in right slots and fix them in cabinet using the screws provided.
- Place the cabinet in right position.
- Fix the doors of the cabinet.
- Connect the data cable of monitor to the CPU.
- Connect the keyboard cable to the CPU.
- Connect the mouse cable to the CPU.
- Connect other devices to CPU.
- Connect the LAN cable to NIC in CPU.
- Connect the power supply to CPU.
- Connect the power supply to Monitor.
- Switch on the computer after giving the power supply.

Getting the Cabinet ready:-

1. Check how to open the cabinet and determine where to fix the components.
2. Determine if the case has the appropriate risers installed.

Preparing to fit the Components:

1. Network adapter drive.
2. Floppy disk drive.
3. Ribbon cables.
4. Hard disk.
5. CD-ROM Drive.
6. RAM
7. CPU
8. Heat sink / cooler / fan.
9. Mother board.
10. Screws.

Fitting the Mother board:

1. Line up the patch on the motherboard (ps/l, USB, etc) with the appropriate holes in the block panel I/O shield of the case.
2. Check the points where you and to install
3. Install them and make the mother board sit on them and fix screws if required.

Mother board parts:

1. ACR slot.
2. PCI Slot.
3. AGP Slot.
4. ATX Connectors.
5. CPU Fan.
6. Chipset North Bridge.
7. CPU socket.
8. Floppy.
9. System memory.
10. Chipset south bridge.
11. Panel connector.
12. Power supply.
13. IDE connectors.

ATX Connectors:

1. PS, Mouse.
2. Key board.
3. USB.
4. Parallel (Prints)
5. Serial COM1.
6. Serial COM 2.
7. Joystick.
8. Sound.

Fitting the processor:

1. Raise the small lever at the side of the socket.

2. Notice that there is a pin missing at one corner, determine the direction to fit in the processor.
3. You should not force the CPU. When inserting it. All pins should slide smoothly into the socket.
4. Lock the lever back down.
5. Install the heat sink over it (Different type for each processor). Heat sink / CPU fan.

Fitting the RAM:

1. The RAM must be suitable for motherboard.
2. There are currently 3 types of RAM available.
 - a) SD RAM.
 - b) DDR SD RAM.
 - c) RD RAM.
3. The mother board's chipset determines which type of RAM may be used.

Installing the PCI Cards:

1. Most of the cards are inbuilt these days.
2. NIL, Sound Cards etc. are fitted into PCI slots.

Fitting the hard disk and Floppy disk:

1. Place the floppy and hard disks in their slots.
2. Leave some space above HDD to prevent heat building.
3. Check the jumper configuration.
4. Fix the screws.

Installing the CD-ROM Drives:

1. CD-ROM drive is similar to installing a hard disk.
2. 1ST check that the jumper configuration is correct.
3. Fix the screw.

Connecting the ribbon Cables:-

1. Attach the long end of the cable to the IDEU connector on the motherboard first.
2. The red stripe on the IDE cable should be facing the CD Power.

Powering the driver and motherboard:

Connecting the cables for the case front pane

1. SD, SPK or SPEAK: The loud speakers o/p. it has 4 pins.
2. RS, RE, RS or RESET: Connect the two pin Reset cable here.
3. PWR, PW, PWSW, PS or power SW: Power switch, the pc's on (switch, the plug is two pin).
4. PWLED, PWRLED or Power LED: The light emitting diode on the front panel of the case illuminates when the computer is switched on. It's a 2-pin cable.
5. HD, HDD, and LED: These two pins connect to the cable for the hard disk activity LED.

Final Check:-

1. Mother board jumper configurations are the settings for the processor operator.
2. Drive jumper settings, master/ slave correct?
3. Are the processor, RAM modules and plug in cards finally seated in there sockets?
4. Did you plug all the cables in? Do they all fit really?
5. Have you tightened all the screws in plug- in cards or fitted the clips?
6. Are the drive secure?
7. Have u connected the power cables to all driver?

Powering up for the first time:

1. Ensure that no wires are touching the CPU heat sink fan.
2. Plug your monitor, mouse and keyboard.
3. Plug in power card and switch the power supply.
4. If everything is connected as it should be
 - All system, fans should start spinning.
 - U should hear a single beep and after about 5-10 sec.
 - Amber light on monitor should go green.
 - You will see computer start to boot with a memory check.
- Now check front LED'S to see if u plugged them in correctly.
- Check all other buttons.
- Power afford change any wrong settings.

Steps for Dissembling

- Switch off the power supply
- Disconnect the power supply cable from monitor.
- Disconnect the power supply cable from CPU.
- Disconnect the LAN cable to NIC in CPU.
- Disconnect the other devices in CPU such as printers.
- Disconnect the mouse cable from CPU.
- Disconnect the keyboard cable from CPU.
- Disconnect data cable of monitor from CPU.
- Remove the doors of cabinet.
- Place the cabinet such that motherboard faces the ceiling.
- Disconnect the NIC and other cards from mother board by removing from slots and unscrewing from cabinet.
- Disconnect the wires of speakers from mother board.
- Remove power supply cables from HDD, FDD, CD-ROM drive etc.
- Disconnect the HDD, FDD, CD-ROM drive from mother board by removing flat ribbon cable.
- Remove CR-ROM from cabinet.
- Remove the FDD from cabinet by unscrewing it.
- Remove the HDD from cabinet by unscrewing it.
- Removing RAM cards from slots on mother board.
- Disconnect the power cables from processor fan.
- Remove the processor fan by unlocking clips on it.
- Disconnect the power cables from SMPS on power cabinet.
- Remove mother board from cabinet by unscrewing it.
- Remove the SMPS from cabinet of PC by unscrewing it.

Conclusion:

Thus the “assemble and disassemble of the system” successfully done.

TASK 3:

Aim: Windows XP Installation Steps

Requirement:

1. Operating System CD
2. Computer

Procedure:

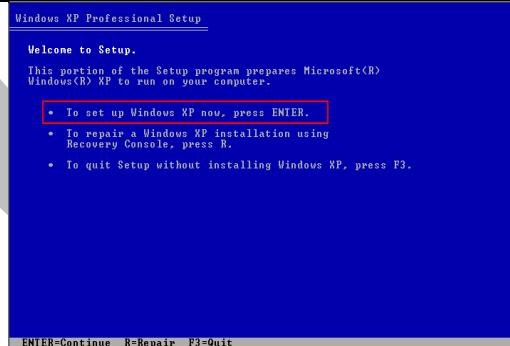
1. Insert the Windows XP CD-Rom and reboot the computer. If you see a message about hitting any key to boot the CD, do so now. Otherwise you will see a message about setup inspecting your system.

Press any key to boot from CD....

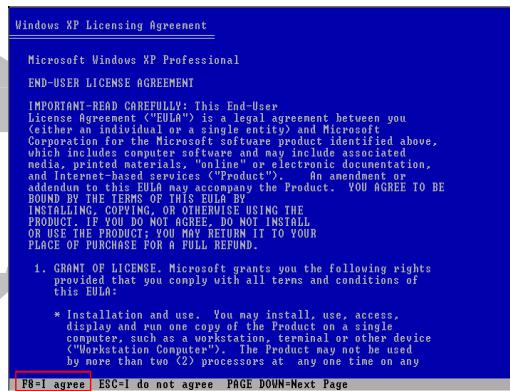
2. MS-DOS portion of setup begins. In this setup first you will see a series of blue and gray MS-DOS based screens.

Setup is inspecting your computer's hardware configuration...

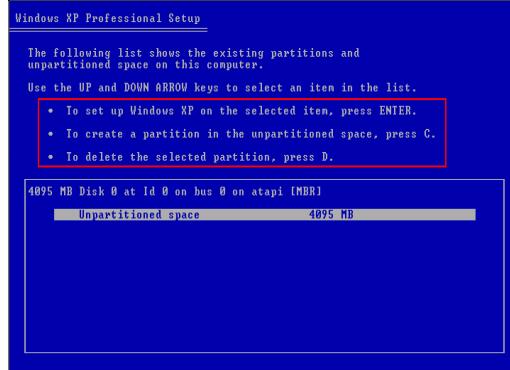
3. Welcome to setup. Finally setup begins. In this step you can setup XP, launch the recovery console, or quit. Press ENTER to continue the setup and it will examine your hard drives and removable disks.



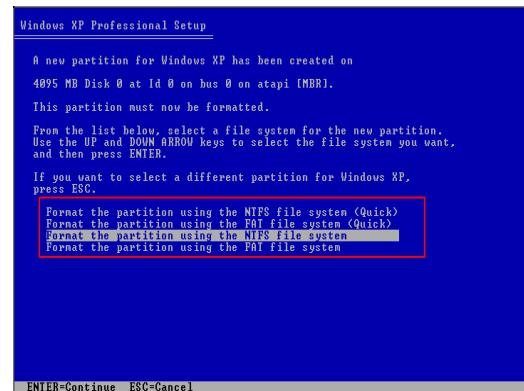
4. Read the license agreement. Next you will have to agree to Microsoft license agreement. Then press F8 to continue the setup.



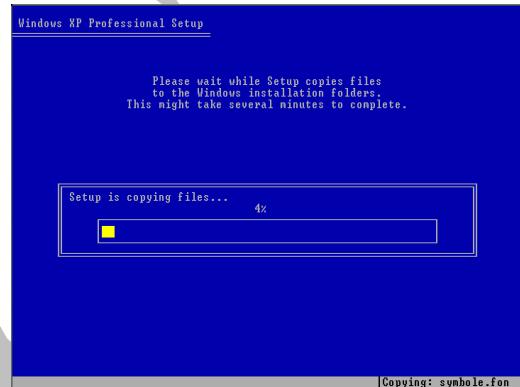
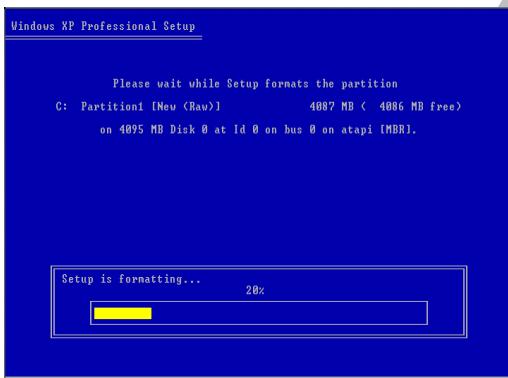
5. Choose an installation partition. This crucial step lets you choose where to install XP. On a clean installation you will typically install to the C: Drive.



6. Select the file system. If you created a new partition or wish to change the file system of an existing partition you can do so in the next step. Generally speaking it is recommended to go with the NTFS filesystem.



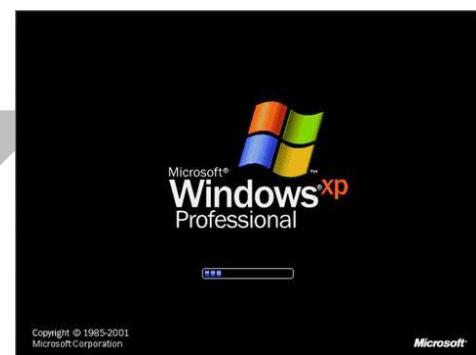
7. Optionally format the partition. If you choose to change or format the file system, this will occur next. First you will be asked to verify the format. Press ENTER to continue and a yellow progress bar will indicate status of the format. When this complete, setup will again examine your disks and create a list of files to copy.



8. Setup folder copy phase and reboot. Setup will now copy system files to the system/ boot partition just you created. This will allow the PC to boot from the C: drive and continue setup in GUI mode. After copying the system will reboot. While rebooting it will show "Press any key to boot from CD" message again. This time do not press any key.



Press any key to boot from CD....

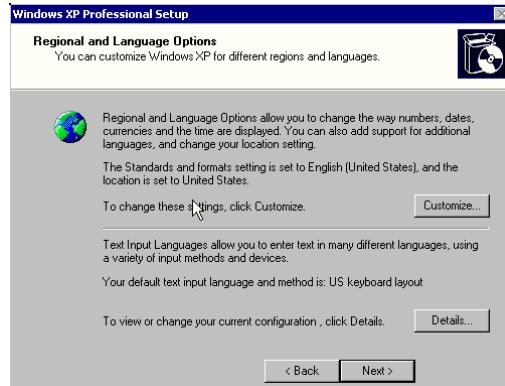


9. GUI setup begins. Once the system reboots you will be presented with the GUI setup phase. This could be taking several minutes



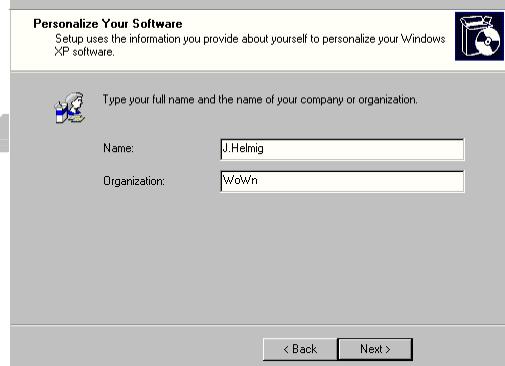
10. Regional and language options. In the first interactive portion of GUI setup, you can choose to customize the regional and

language settings. Click NEXT to Continue.



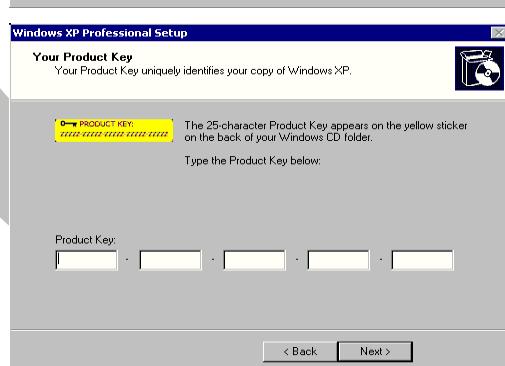
11. Personalize your software.

Now enter your name and optionally your company name. Click NEXT to continue.



12. Enter your Product key.

Now you must enter the 25 character product key. Then click NEXT to continue.



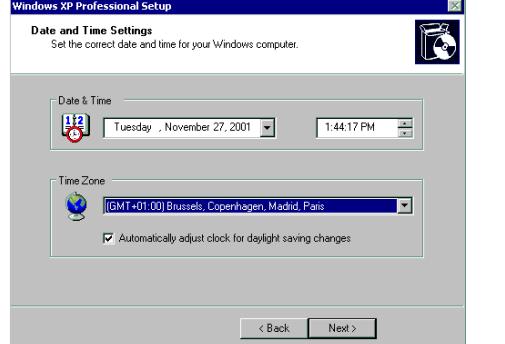
13. Enter

a Computer Name and Administrator password. In the next phase of setup you can create a name for your computer. And optionally enter Administrator password. Then click NEXT to continue.



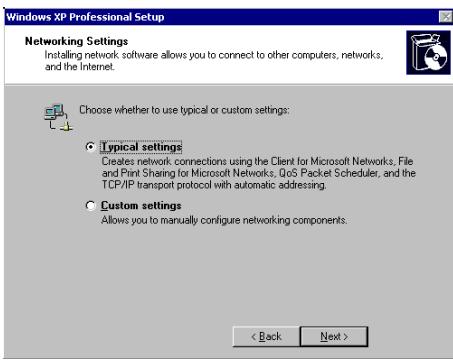
14. Supply your DATE and TIME settings.

Next you can supply the date and time, which are auto set based on information in your BIOS. Click NEXT to continue.



15. Network Setup.

If you have a networking card or modem, setup now installs the networking components.



16. Setup completion. From this point on setup will continue to completion without any further need for interaction. Setup will now copy files, complete installation, install your start menu items, register system component, save settings, remove any temporary files need to be setup. After system will again reboot. And while rebooting the system it will ask "Press any key to boot from CD" again. At this time also do not press any key.



Press any key to boot from CD....

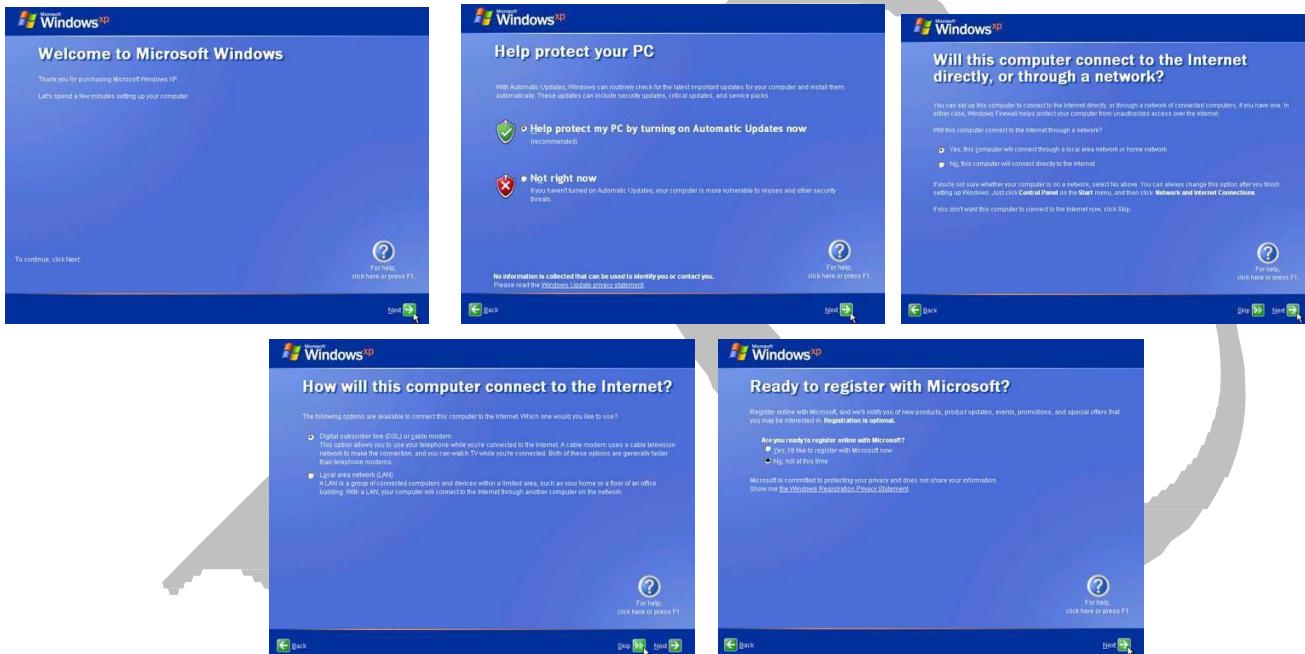
17. First Reboot. You will be greeted by the XP splash screen on first boot.



18. ChangeDisplaysettings. Users with CRT monitors or LCD monitors will see a display settings dialogue appear. It will ask you like to change your display settings automatically. Then Click OK and it will show your screen with modified display settings and ask to keep this settings for your computer. Press OK to continue.

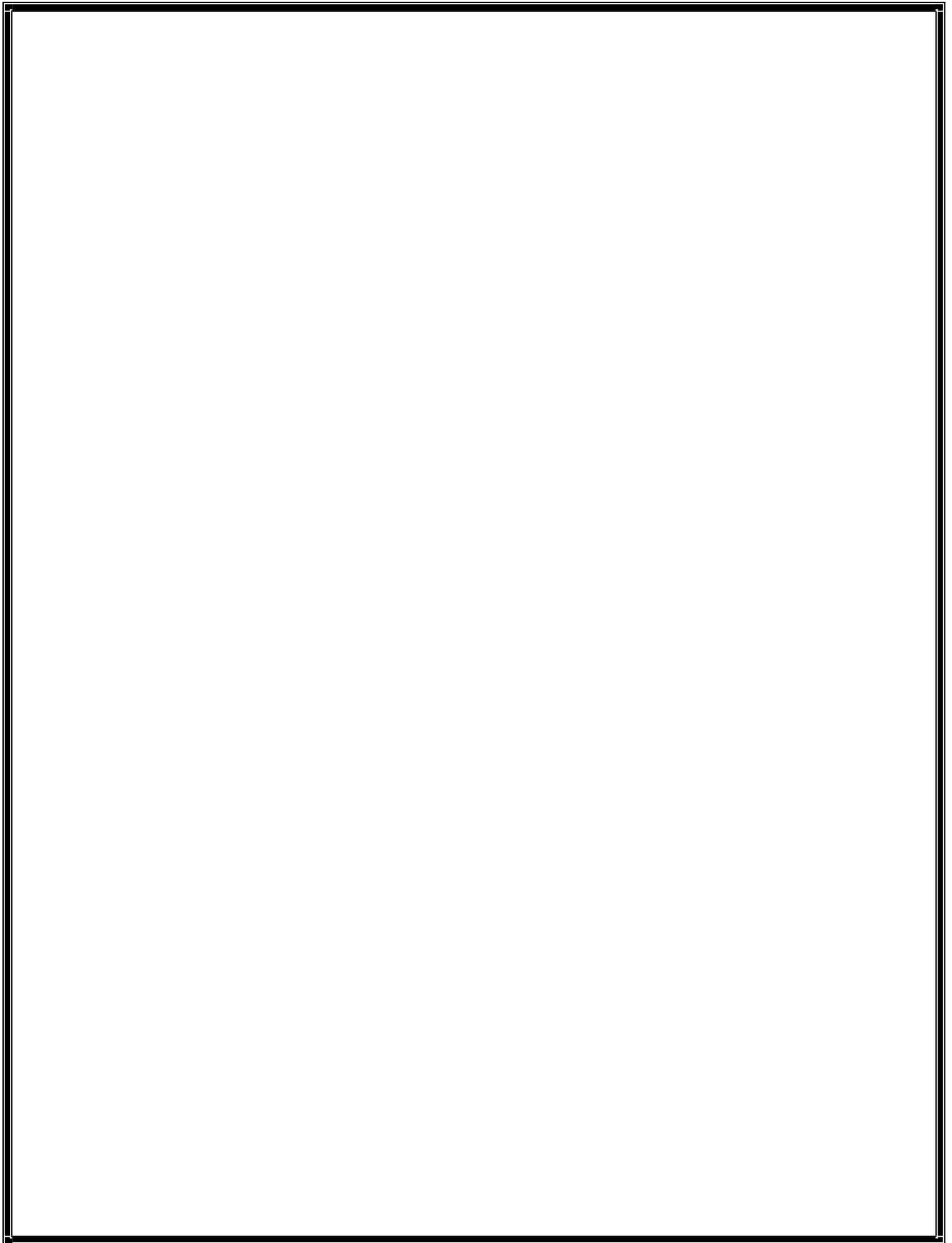


19. Network setup.



20. Set up users. Now you can enter the at least one user name, that could be anything. And click NEXT to continue. After creating users it will show a FINISH button. Click that FINISH completing your XP installation.





Task 3: Install Operating system

Aim: To install Red Hat Enterprise Linux 6 operating system on the system.

Installation steps:

1. Select Install or upgrade existing system options.



Fig: Select Install or Upgrade

2. Select Language.

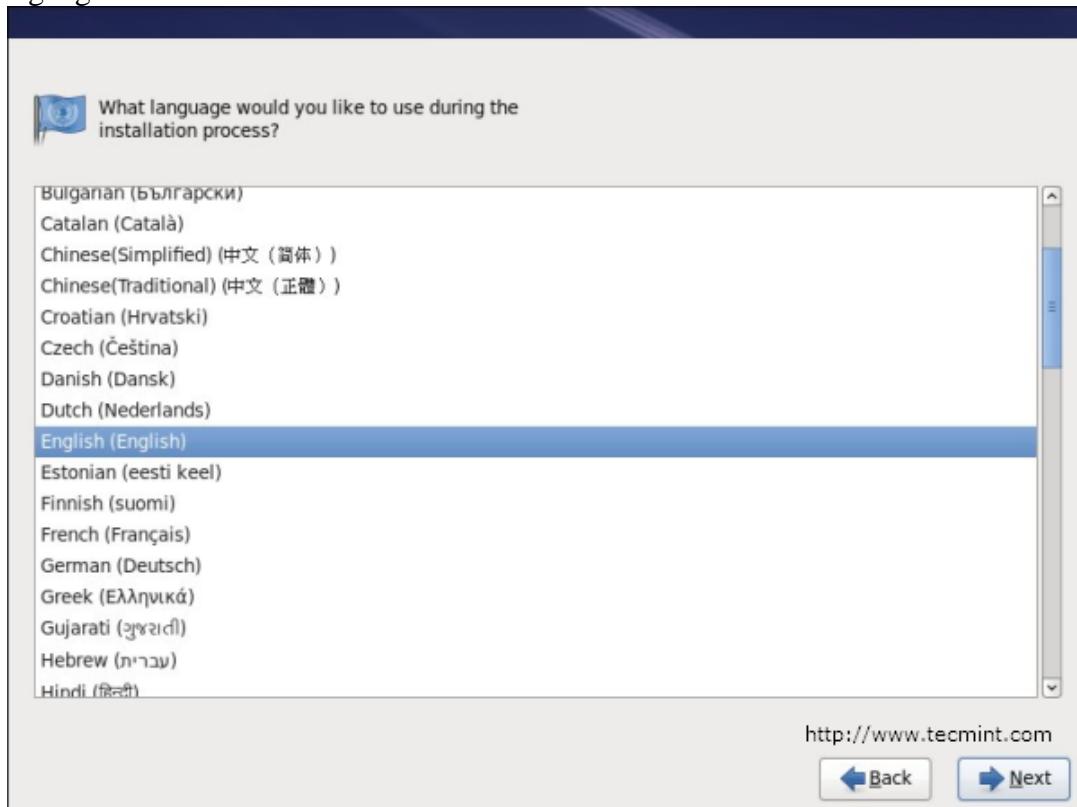


Fig: Select RHEL 6 Language

3. Select keyboard type.

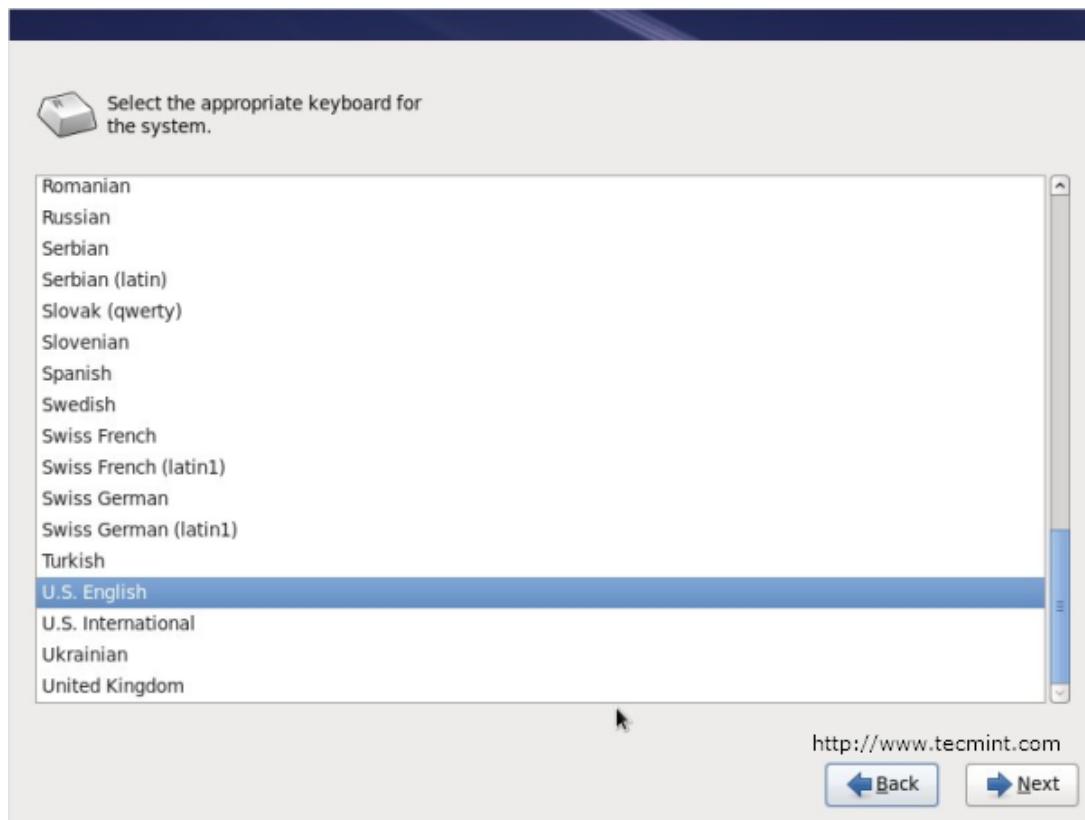


Fig: Select RHEL 6 Keyboard

4. Choose skip media test, click ok if you want to check media.



Fig: Skip RHEL 6 media test

5. Select storage device.

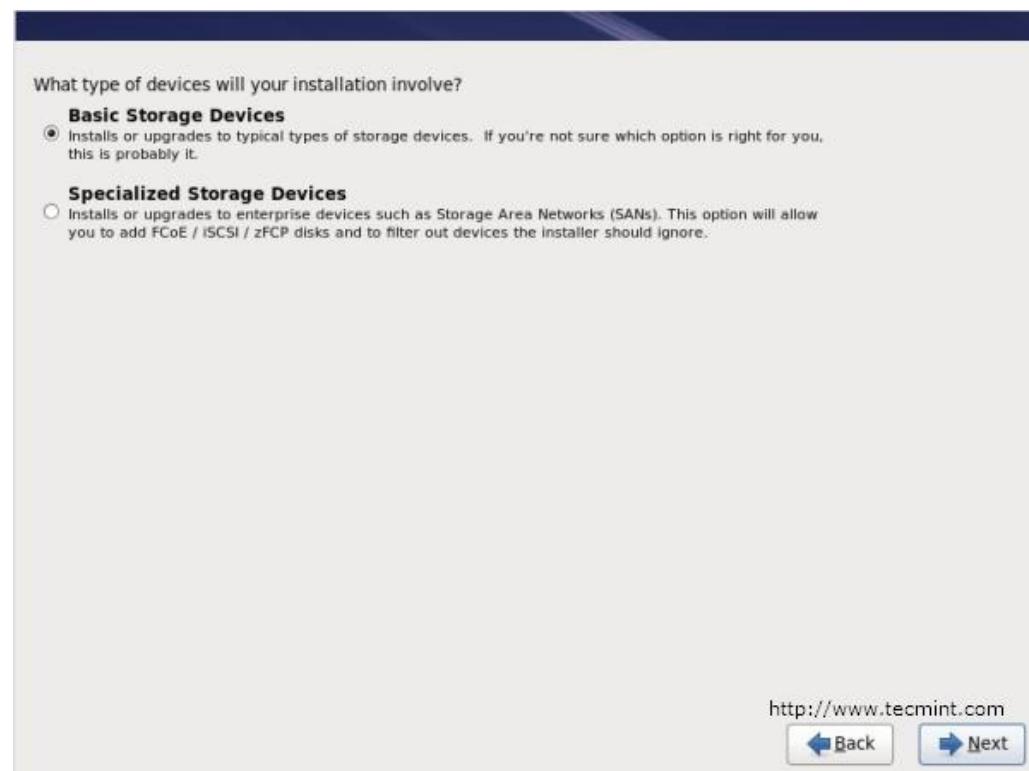


Fig: Select RHEL 6 Storage Device

6. Type computer name or hostname.

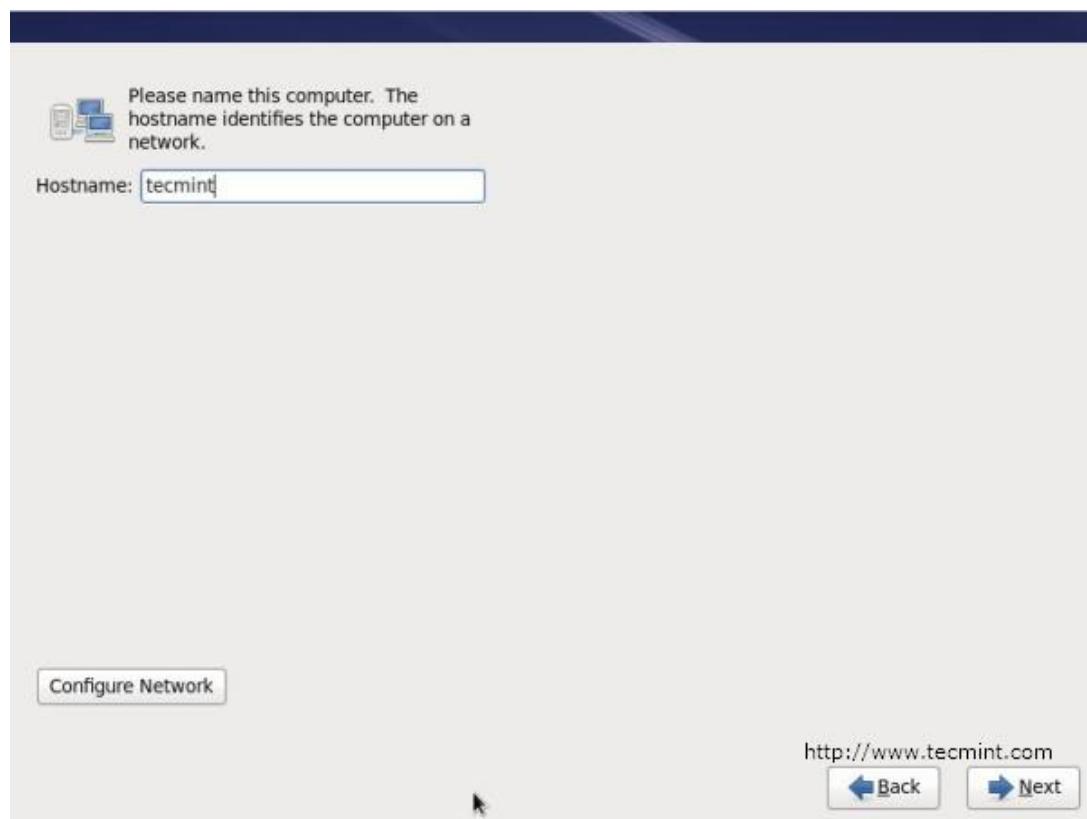


Fig: Set RHEL 6 Hostname

7. Select time zone location.

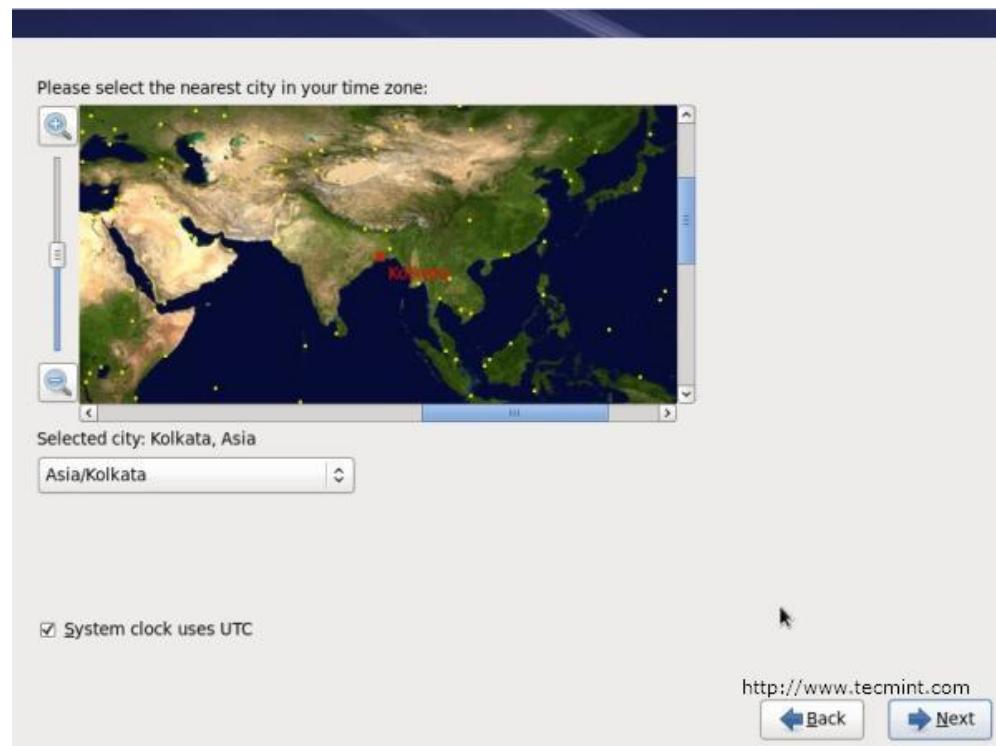


Fig: Set RHEL 6 TimeZone

8. Enter password for root user.

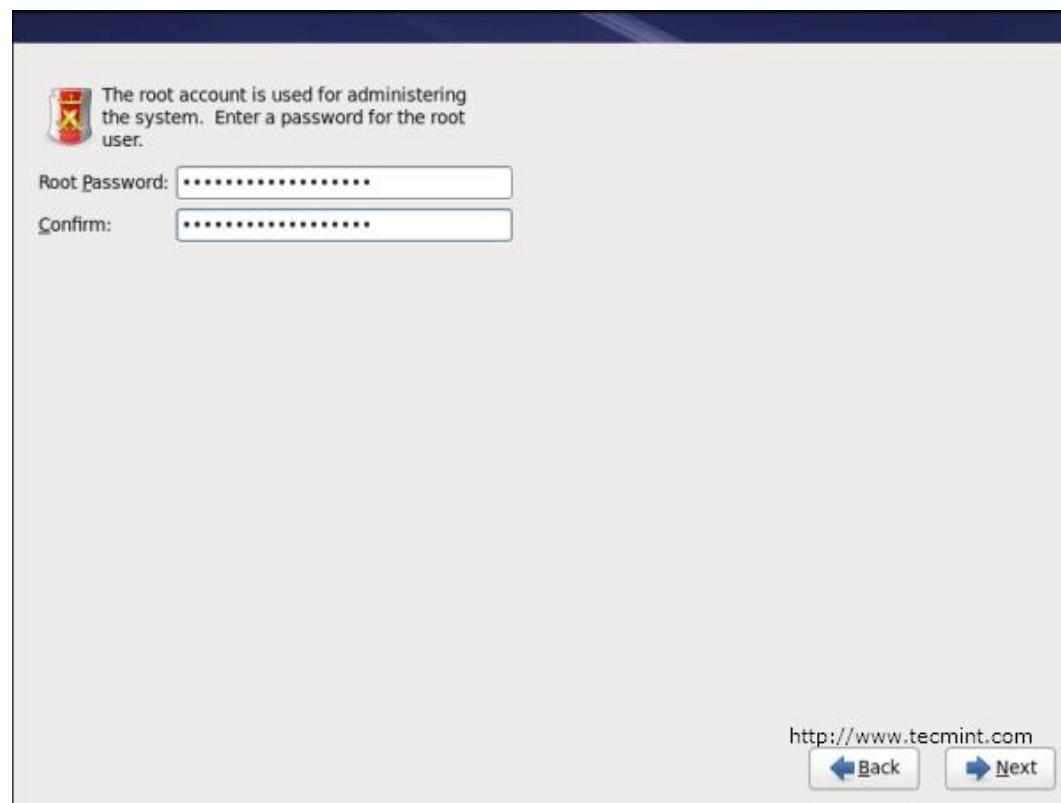


Fig: Set RHEL 6 root Password

9. Select type of installation and review partitioning layout carefully also may choose Encrypt system.

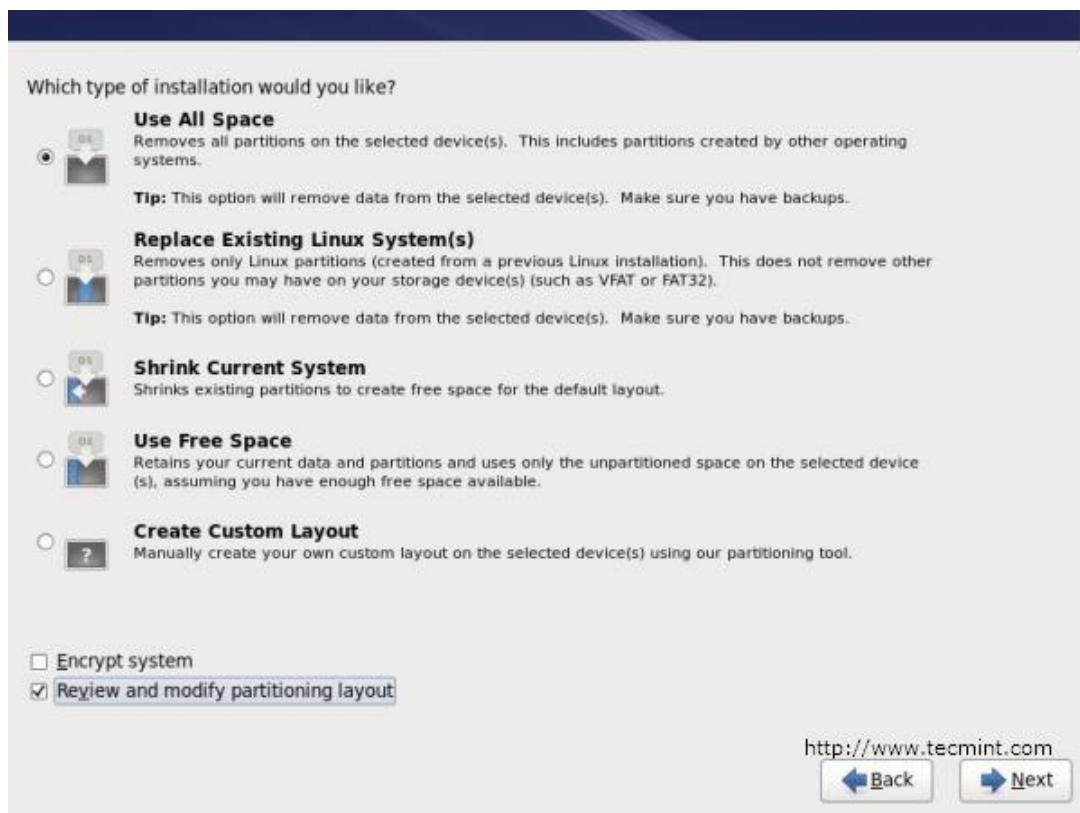


Fig: Select RHEL 6 Partition Layout

10. Review partitioning layout, modify if needed. I have chosen default setup with **Ext4** and **LVM**.

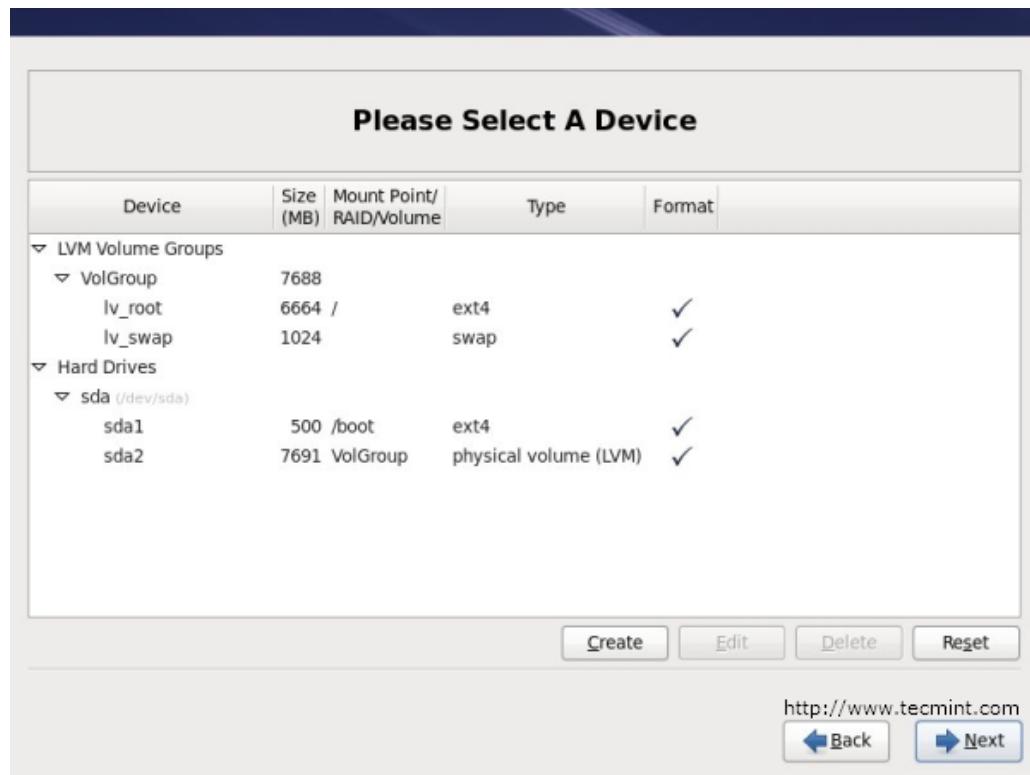


Fig: Choose RHEL 6 Filesystem type

11. Manually configuration of LVM and RAID storage.

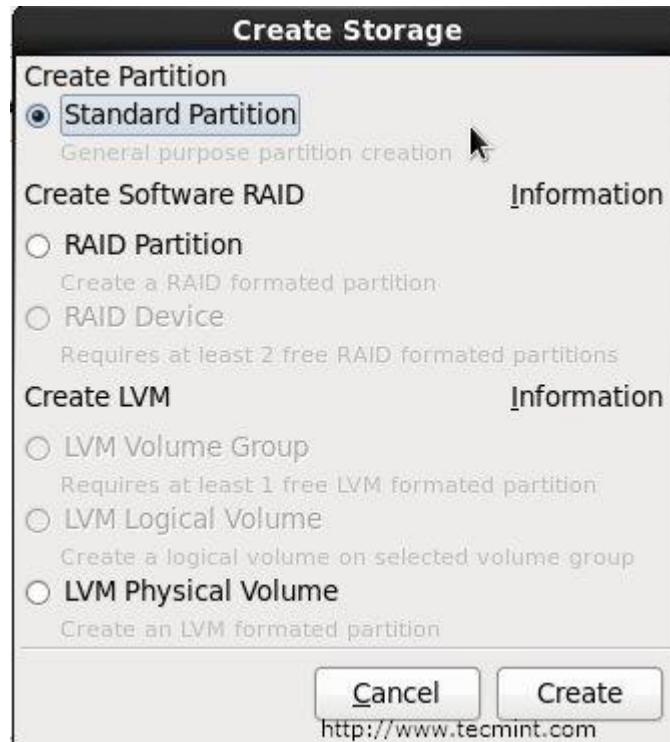


Fig: Configure RHEL 6 LVM and Raid

12. Creating partition and formatting filesystems.

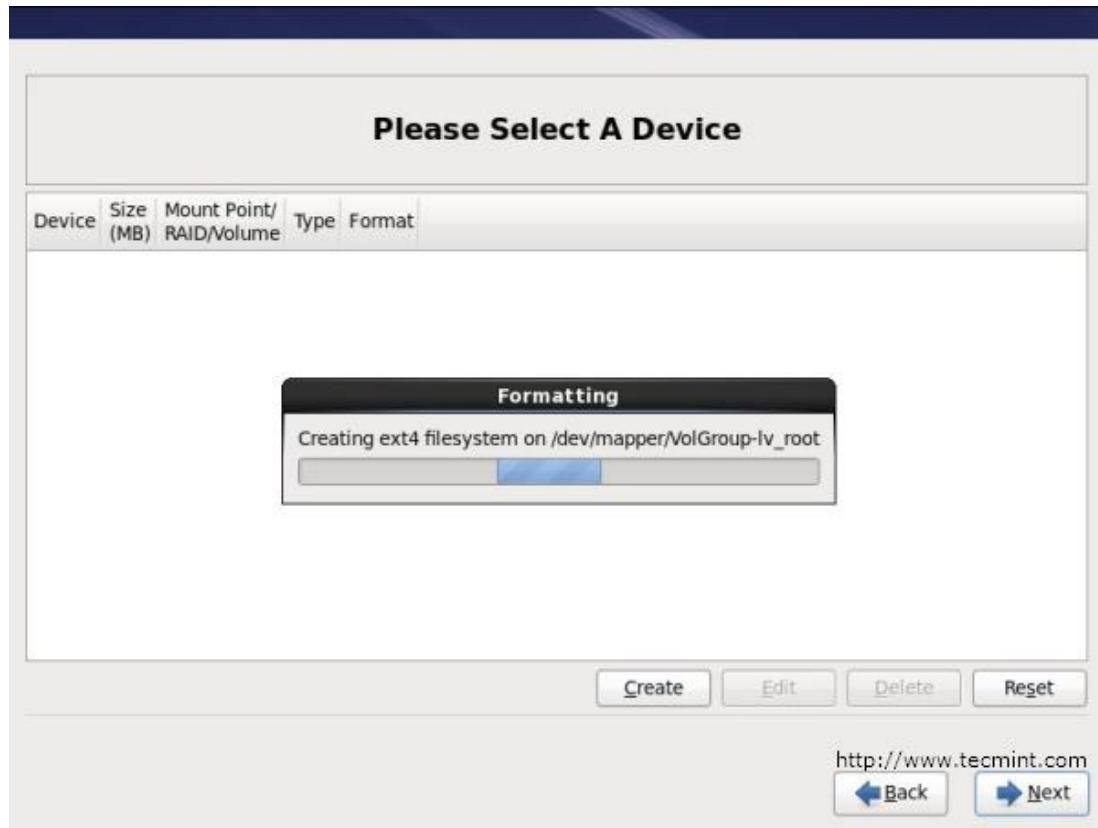


Fig: Creating RHEL 6 Partitions

13. Configuring boot loader options, also can give boot loader password for security reason.

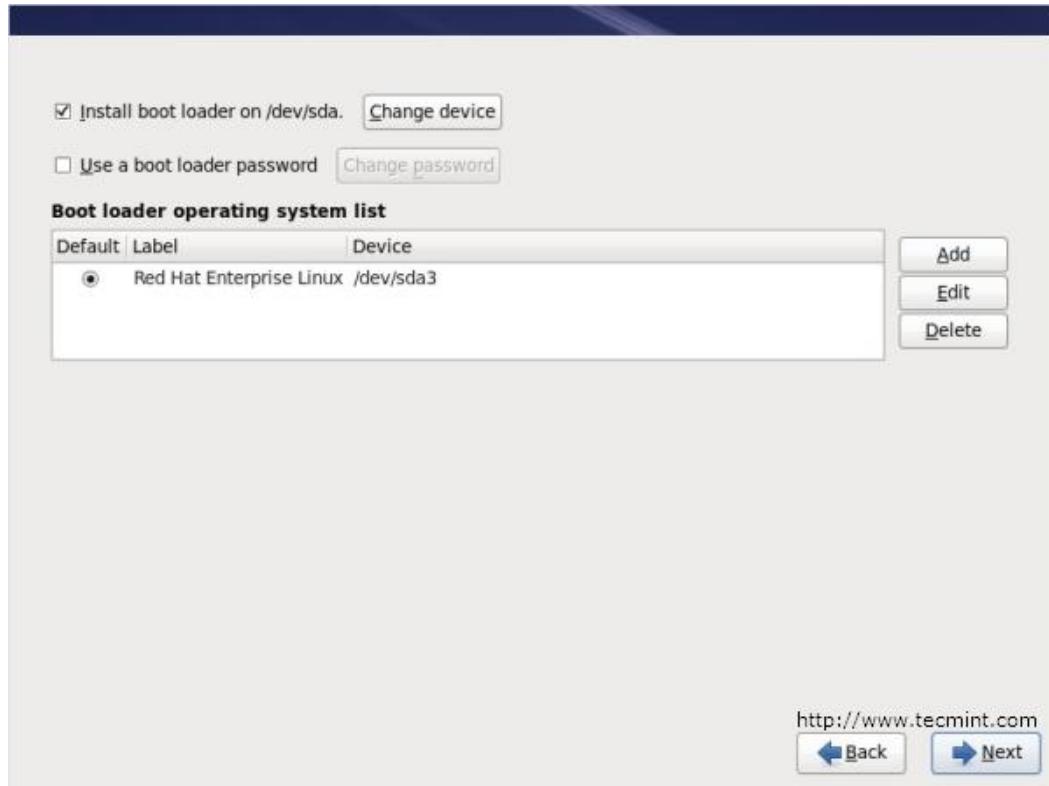


Fig: Set RHEL 6 boot loader password

14. Select applications to install and select customize now.

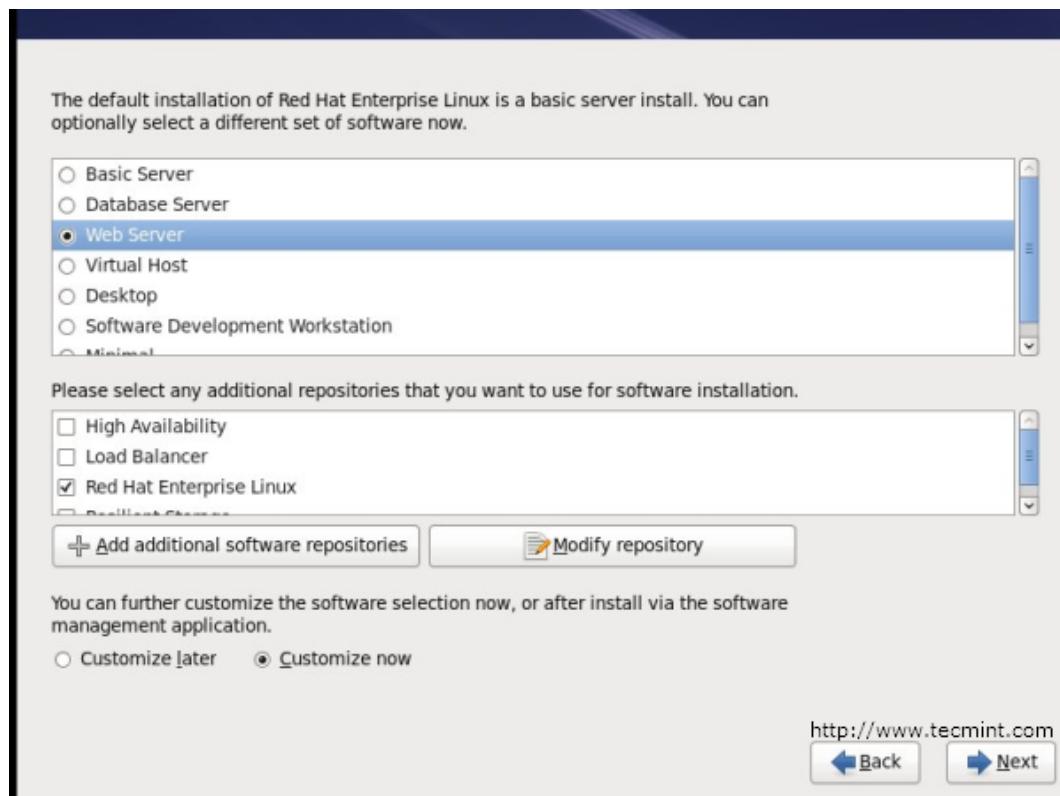


Fig: Select RHEL 6 Installation Packages

15. Customize package selections.

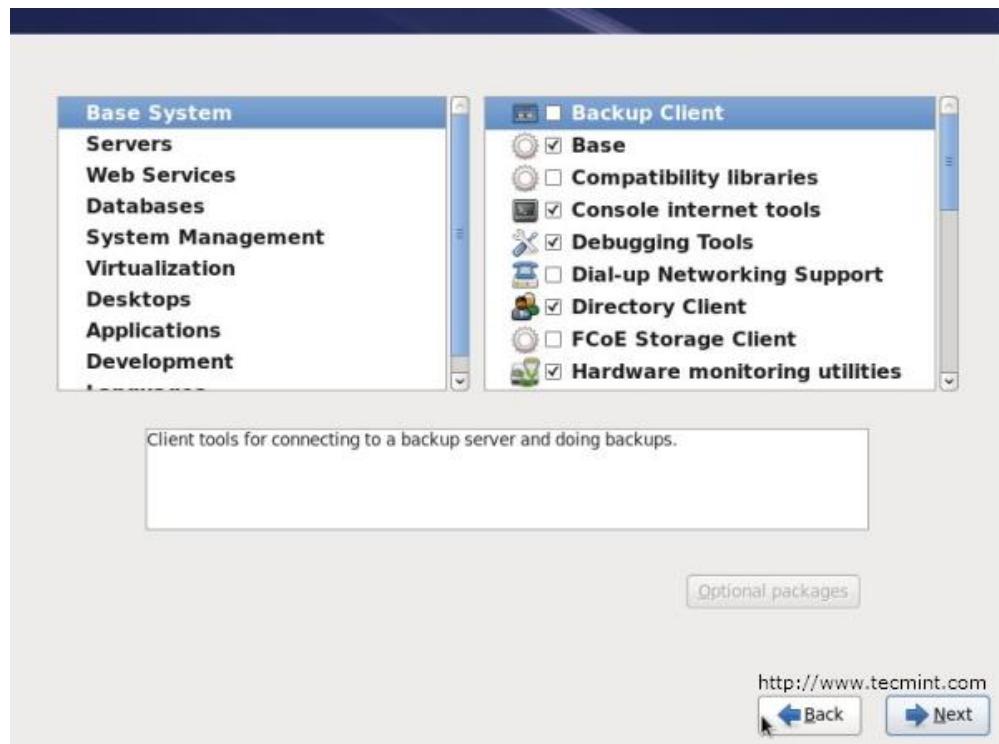


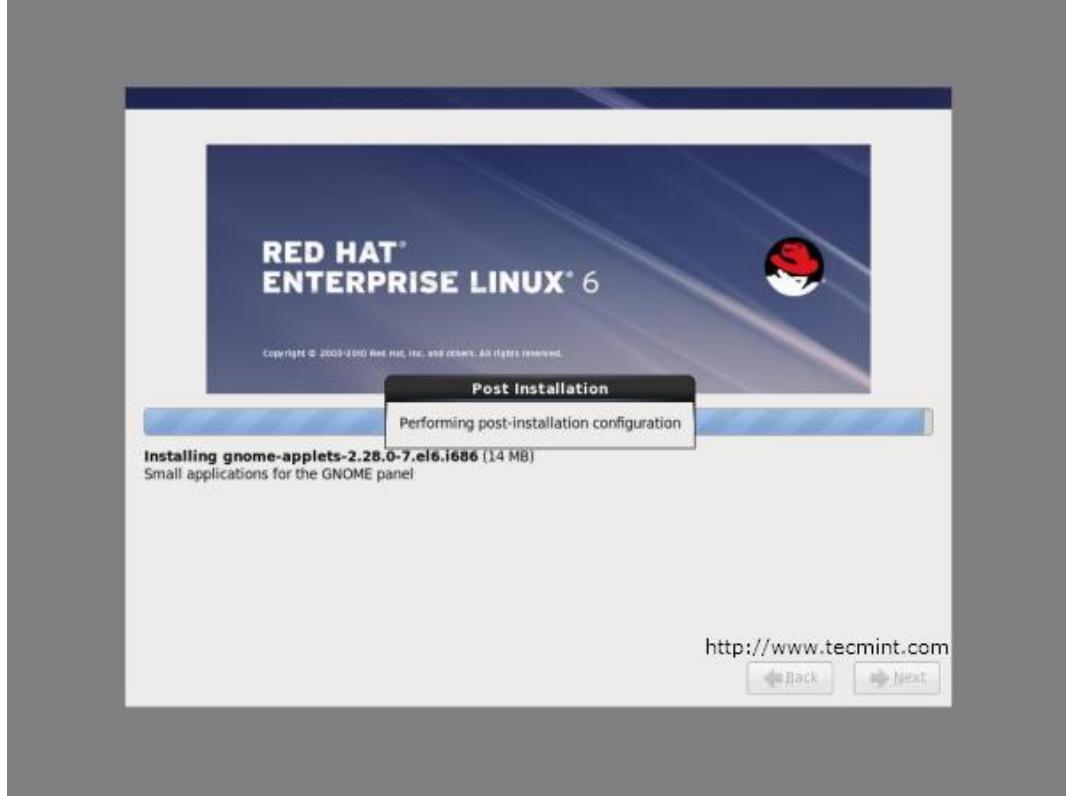
Fig: RHEL 6 Packages Selection

16. Installation progress.



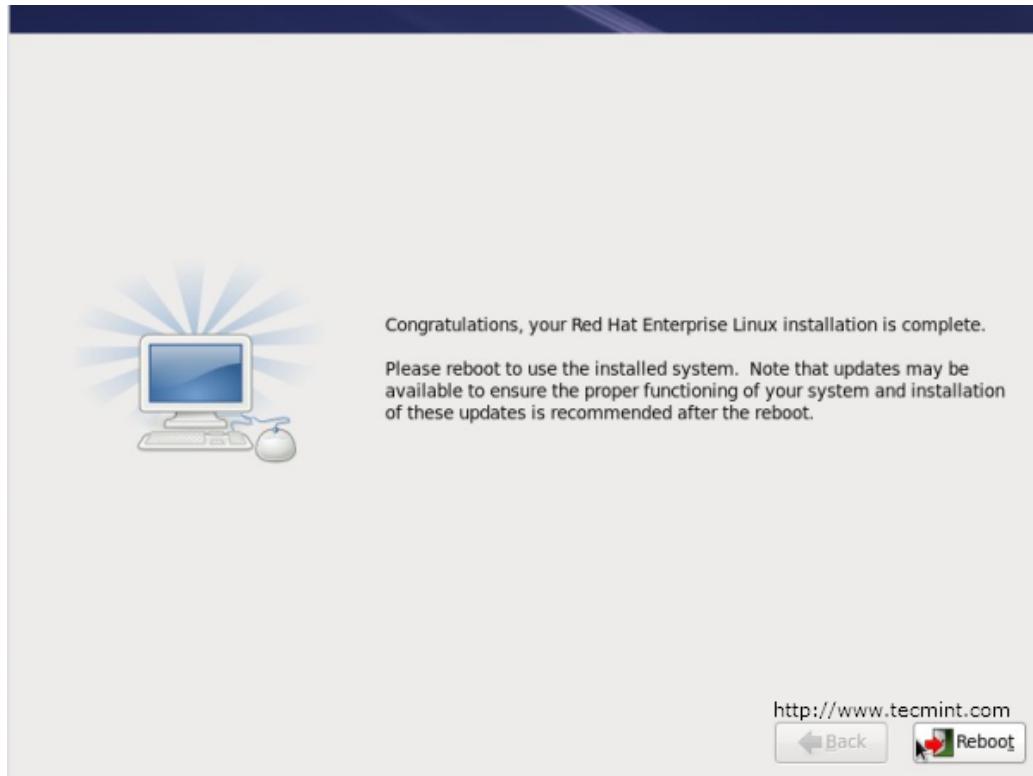
Fig: RHEL 6 Installation Process

17. Installation is completed successfully.



RHEL 6 Installation Completed

18. Please reboot your computer and login with root credentials as you set in the **Step #8**.



Reboot RHEL 6 Installation

19. Login Screen.

```
Red Hat Enterprise Linux Server release 6.0 (Santiago)
Kernel 2.6.32-71.el6.i686 on an i686
tecmint login: _
```

RHEL 6 Login Screen

Conclusion: Thus the installation of Red Hat Enterprise Linux operating system is successfully installed on the system.

TASK 4 **Operating System Features**

Aim: To know about various features of operating system.

Description:

❖ **What is an Operating System?**

A program that acts as an intermediary between a user of a computer and the computer hardware

❖ **Operating system goals:**

- ✓ Execute user programs and make solving user problems easier.
- ✓ Make the computer system convenient to use
- ✓ Use the computer hardware in an efficient manner

❖ **Operating System Features**

- An Operating System provides services to both the users and to the programs.
- It provides programs, an environment to execute.
- It provides users, services to execute the programs in a convenient manner.
- Following are few common services provided by operating systems.

- Program execution
- I/O operations
- File System manipulation
- Communication
- Error Detection
- Resource Allocation
- Protection

➤ **Program execution**

- Operating system handles many kinds of activities from user programs to system programs like printer spooler, name servers etc
- A process includes the complete execution context (code to execute, data to manipulate, registers, OS resources in use).
- Following are the major activities of an operating system with respect to program management.
 - ✓ Loads a program into memory.
 - ✓ Executes the program.
 - ✓ Handles program's execution.
 - ✓ Provides a mechanism for process synchronization.
 - ✓ Provides a mechanism for process communication.
 - ✓ Provides a mechanism for deadlock handling.

➤ **I/O Operation**

- I/O subsystem comprised of I/O devices and their corresponding driver software.
- Operating System manages the communication between user and device drivers.
- Following are the major activities of an operating system with respect to I/O Operation.

- ✓ I/O operation means read or write operation with any file or any specific I/O device.
- ✓ Program may require any I/O device while running.
- ✓ Operating system provides the access to the required I/O device when required.

➤ **File system manipulation**

- A file represents a collection of related information. Computer can store files on the disk (secondary storage), for long term storage purpose.
- Few examples of storage media are magnetic tape, magnetic disk and optical disk drives like CD, DVD.
- Following are the major activities of an operating system with respect to file management.
 - ✓ Program needs to read a file or write a file.
 - ✓ The operating system gives the permission to the program for operation on file.
 - ✓ Permission varies from read only, read write, denied and so on.
 - ✓ Operating System provides an interface to the user to create/delete files.
 - ✓ Operating System provides an interface to the user to create/delete directories.
 - ✓ Operating System provides an interface to create the backup of file system.

➤ **Communication**

- In case of distributed systems which are a collection of processors that do not share memory, peripheral devices, or a clock, operating system manages communications between processes.
- Multiple processes with one another through communication lines in the network.
- OS handles routing and connection strategies, and the problems of contention and security.
- Following are the major activities of an operating system with respect to communication.
 - ✓ Two processes often require data to be transferred between them.
 - ✓ The both processes can be on the one computer or on different computer but are connected through computer network.
 - ✓ Communication may be implemented by two methods either by Shared Memory or by Message Passing

➤ **Error handling**

- Error can occur anytime and anywhere. Error may occur in CPU, in I/O devices or in the memory hardware.
- Following are the major activities of an operating system with respect to error handling.
 - ✓ OS constantly remains aware of possible errors.
 - ✓ OS takes the appropriate action to ensure correct and consistent computing.

➤ **Resource Management**

- In case of multi- user or multi- tasking environment, resources such as main memory, CPU cycles and files storage are to be allocated to each user or job.
- Following are the major activities of an operating system with respect to resource management.
 - ✓ OS manages all kind of resources using schedulers.
 - ✓ CPU scheduling algorithms are used for better utilization of CPU.

➤ **Protection**

- Considering computer systems having multiple users the concurrent execution of multiple processes, then the various processes must be protected from each another's activities.

- Protection refers to mechanism or a way to control the access of programs, processes, or users to the resources defined by computer systems
- Following are the major activities of an operating system with respect to protection.
 - ✓ OS ensures that all access to system resources is controlled.
 - ✓ OS ensures that external I/O devices are protected from invalid access attempts.
 - ✓ OS provides authentication feature for each user by means of a password

Conclusion: Thus we have learnt various features of operating system.

TASK 5 **Networking concepts**

Aim: To learn about basic networking concepts

Introduction

- At this point you should know how to do computer controlled measurements.
- However, the computer you use is probably connected to a network, and that connection allows for some interesting possibilities.
- In particular, you can take measurements and do control remotely.
- However, there are a few topics you should be conversant with before you try that.

Why learn about Basic Network Concepts?

- Using computer measurement and control across a network allows for possibilities of operation in remote or otherwise inaccessible locations, and it allows for measurement and control of multiple locations from a single location.
- To take advantage of those possibilities, you need to have a basic familiarity with networked computers.
- You need to learn about basic concepts of network addressing and how to determine addresses.

Some Basic Network Concepts

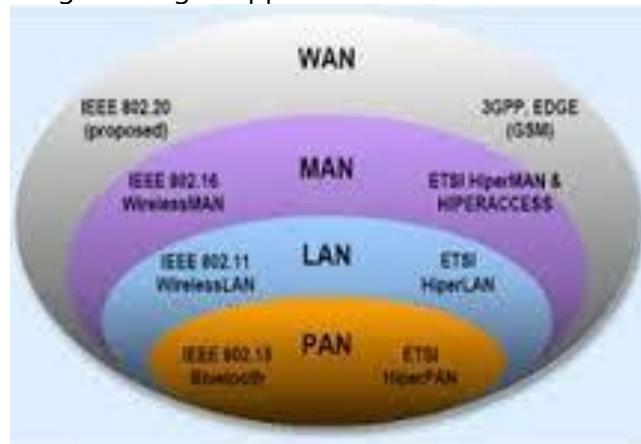
- Let's start with what happens when you "go to" www.SomeCompany.com to get information about their products.
- Actually, you don't go anywhere, but you do send some information across the network.
- The information you send does the following.
 - First, the URL (www.SomeCompany.com) gets sent over the network to a special computer - a name server - that translates this URL into an address of the form below. This form (all numbers) is the numeric IP address.
 - www.xxx.yyy.zzz
 - Find out your IP address by clicking [here](#).
 - Next, computers on the network (routers, etc.) try to send the message along so that it will get to the right computer - i.e. the one that has the IP address you are sending to. (Routers route messages along the network, that's why they are called routers.)
 - When the message gets to the correct computer - the server, wherever in the world it might be - the server sends the file - often written in HTML - back to your computer - the client.

Domain Name Servers

- When you send a request for a web page to a URL (www.SomeCompany.com, for example) that information gets translated into an IP address (www.xxx.yyy.zzz) by a Domain Name Server (DNS). The DNS system has a vast database that contains all of the URL-IP pairs. It changes constantly, and it is probably the most highly accessed database on the planet

Types of Networks

- There are two principle kinds of networks: Wide Area Networks (WANs) and Local Area Networks (LANs).
- WANs -Cover cities, countries, and continents. -Based on packet switching technology
- Examples of WAN technology: Asynchronous Transfer Mode (ATM), Integrated Services Digital Network (ISDN)
- LANs -Cover buildings or a set of closely related buildings.
- Examples of LAN technology: Ethernet, Token Ring, and Fibre Distributed Data Interconnect (FDDI).
- Ethernet LANs: based on a bus topology and broadcast communication
- Token ring LANs: based on ring topology FDDI LANs: use optical fibers and an improved token ring mechanism based on two rings flowing in opposite directions.



Conclusion: Thus we have learnt the basic networking concepts.

TASK 6-INTERNET

AIM: To learn Local Area Network and access the Internet. In the process they configure the TCP/IP setting. Finally students should demonstrate, to the instructor, how to access the websites and email

THEORY:

The internet is a worldwide , publicly network of interconnected computer networks

LOCAL AREA NETWORK:

LANs are privately owned networks within a single building or campus of up to few kilometers in size.

WIDE AREA NETWORK:

A WAN is a network that connects computers across a large geographic area such as a city or country

TCP/IP (Transmission Control Protocol/Internet Protocol):

Collection of methods used to connect servers on the internet and to exchange data.

HTML (Hyper Text Markup Language):

The coding used to control the look of documents on the web

HTTP (Hyper Text Transfer Protocol):

Part of a URL that identifies the location as one that uses HTML

IP(Internet Protocol):

A format for contents and addresses of packets of information sent over the internet

IP ADDRESS:

An identifier for a computer or device on a TCP/IP network

SEARCH ENGINE:

A program that searches documents located on the Internet for keywords or phrases entered by a person browsing the net.

Internet Connection requirements:

- TCP/IP protocol
- Client Software
- ISP Account

Means of communication to the net

- telephone Modem
- Etherinent
- ISDN(Integrated Services Digital Network)
- DSL(Digital Subscriber Line)
- Satellite.

PROCEDURE:

1. Go to **start→control Panel**
2. open **Network Connections**
3. Click **create a new connection** and then click **next**
4. The new connection wizard window opens , click **next** to continue
5. Choose one of the options in the next dialog box

6. Choose one of the three options in the next dialog box
 - If you do not have an internet account click **choose from a list of ISPs** and then click **next**
 - If you have an account click **Set up my connection manually**
 - If you have a CD from the ISP click **use the CD I got from an ISP** and then click **next**
7. Follow the next steps as per the option you selected

Web Browsers, Surfing the Web: Students customize their web browsers with the LAN proxy settings, bookmarks, search toolbars and pop up blockers. Also, plug-ins like Macromedia Flash and JRE for applets should be configured

PURPOSE: To learn to surf the web

THEORY:

- Web browser provides the means to the searching and also helps to download the web content.
- Web browsers support most of the famous Internet Protocols like HTTP, FTP.
- Common file formats a browser accepts are HTML
- Well known browsers natively support a variety of other formats in addition to HTML such as JPEG,PNG,GIF image formats
- Different web browsers available in the market are:
 - ✓ Silversmith
 - ✓ Mosaic
 - ✓ Netscape
 - ✓ Mozilla
 - ✓ Opera
 - ✓ Lynx
 - ✓ Safari

Bookmark:

Each web browser is built-in with the support of Internet Bookmarks which serve as a named anchor – primarily to URLs. The primary Purpose of this book mark is to easily catalog and access web pages that the web browser user has visited or plans to visit, without having to navigate the web to get there.

Pop-up Blockers:

Pop-ups are a form of online advertising on the WWW intended to attract the attention of the users. These pop ups are hosted on the web sites which are frequently visited by the netizens. These pop ups are activated when these web sites open a new web browser window and thereby displaying the advertisements.

Plug-ins:

A plug-in is a software component program that interacts with a main application to provide a better integration of the media. The basic difference between application programs and plug-ins is that multimedia files are launched in a separate window where as in plug-ins multimedia play in the browser window.

Few famous plug-INS are:

- Apple Quick Time
- Macromedia flash
- Microsoft Media Player
- Adobe Shockwave
- Sun Microsystems Java Applet

PROCEDURE:

LAN Proxy Settings:

- Select **tools** menu in Internet Explorer
- Select **Internet Options**
- Select **Connections**
- You end up in two options
 - ✓ **Dial-up and virtual network settings**
 - ✓ **LAN setting**

The LAN connection Settings are as follows:

Select the properties button. The properties of the ipaddress, default Gateway and the DNS server details are reflected in the dialog box.

- The selection at this step is dependent on the kind of connection you are trying to Configure. They are:
 - ✓ **Dial-up modem connection**
 - ✓ **LAN connection**
 - ✓ **DSL or Cable modem**

Conclusion: Thus we have learnt successfully the web browsing and internet usage.

Task 7

ANTIVIRUS INSTALLATION

Aim: To learn how to install antivirus.

Before you begin:

Please make sure you have removed your previous security software (including prior versions of Kaspersky) in the Control Panel before installing Kaspersky PURE 3.0.

If you need help removing the previously installed security programs, please check our [list of removal tools for conflicting software](#).

If you are installing using the Kaspersky PURE 3.0 CD, please skip to Step 2.

If you have purchased online, follow **Step 1** to download your software.

Step 1 - Save the Installation File:

If you have Dial-Up Internet, we suggest you wait for the Backup CD to arrive to install.

Click the below button to begin the [download](#).

Download PURE 3.0

You will be asked to Run, Save or Cancel the download. **Click Save**.

The download process will begin. Download speeds will vary depending on your Internet connection, but could take from a few minutes to an hour.

When the download completes, click **Run**

Close all open windows except this web page.

Step 2 - Install Process:

You will briefly see the install process copy the installation files to your computer.

The install process will check if there is a newer version online and prompt you to download it if needed.

The Setup Wizard will open. Read the End User License Agreement and **click Install**.

Read the Kaspersky Security Network Data Collection Statement. This allows us to detect and collect new viruses based on their behavior as well as non-personal data about how you use our software. **The Kaspersky Security Network does not collect or process any personal information.** **Click Install.**

At the end of this step, the Windows Firewall will be disabled. Kaspersky PURE 3.0 includes a full-featured Firewall.

You may see a notification from the Windows Security Center that there are problems while Kaspersky is still being installed. This is normal and will automatically resolve itself after the process completes.



The first time Kaspersky PURE 3.0 starts, it will add most Windows programs to the database, allowing known programs access through the PURE Firewall. Additional programs will be added the first time you use them.

The wizard will then check the Windows files and set levels for each application for the Application Control feature.

Step 3: Configuration Wizard:

If you did not previously have Kaspersky, or your previous license expired, you will be prompted to activate a commercial license. **Enter your 20 character activation code**, which is four sets of five characters, or XXXXX-XXXXX-XXXXX-XXXX. The wizard will automatically capitalize letters and add the dashes. **Click Next.**

Your activation code can be found on your order email, the back of the CD sleeve, or the Activation Card that is included in the DVD case.

If you are not asked to activate, the wizard has detected your existing valid license. Should you need to activate after the install completes, follow these steps to [activate Kaspersky PURE 3.0](#).

Please wait while the wizard activates your Kaspersky PURE 3.0.

Click Finish to begin using Kaspersky PURE 3.0. The first update will begin automatically.

Conclusion: Thus we have successfully installed the antivirus on the system.

Task 8

Microsoft Word

Aim: To learn basics of Microsoft Word.

Start the Program

From the Start icon select Programs and Microsoft Word.

The main screen for *Word* appears. At the top of the screen the Title Bar appears, now showing "document 2" because you haven't named this document yet. Below the Title Bar are the names of the Menus for *Word*. Below the menus are the Toolbar Buttons. We will discuss them later. Below that is the Text Window, where you will write. In the upper left-hand corner of the text window you see the Insert Pointer (cursor) blinking. You will also see another vertical bar that looks like the letter I. That's the Mouse Pointer.

Enter Text

Type the sample paragraph below. Read and follow the directions as you type it on the computer. Don't worry about mistakes. I want you to make mistakes so I can show you how to correct them.

Delete/Insert Letters

1. Your Insert Pointer is now blinking after the period at the end of the short line. Use the left arrow key or the right arrow key (to the right of the spacebar) to move the Pointer back until it's on the left side of the "s" of "this."
2. Press the Delete key (upper right corner of the keyboard) to remove the "s," and press the Back arrow key to remove the "i." Now type "e," and you have changed "this" to "the."
3. Move the Mouse Pointer anywhere else in your text (using the mouse) and click. See? That also moves the Insert Pointer. (Notice that the Mouse Pointer changes from an I to an arrow when you move it off the text window.)
4. Now use the mouse and the four arrow keys to delete errors and type in the corrections just as you did with "this" and "the."

If you have omitted a letter somewhere, place the Insert Pointer where the letter should be, and type the letter. Example: "pr ss" becomes "press." (Ensure the Insert button is active)

Using File - Save As

1. Put the mouse pointer on the word File at the top of the screen. Instead of just clicking the mouse button, press it down and hold it. The File menu will appear.
2. Still holding the button down, move the mouse downward (toward you) until you have highlighted the menu selection Save As. Then release the mouse button.
3. A Dialog Box like the one above will appear. Study its parts carefully before going on to the next step.
4. Save your work in a selected location by using the Save in: box. In the File name: box type the name as "Word Training". Click the Save button.

When you're working on a long document, it's a good idea to Save every twenty minutes or so. Use File - Save or the save icon . This will make sure that all your changes are saved in the same place that you specified when you used the Save As Choice.

Select a Word or a Group of Words to Delete, Replace, or Change

This time, instead of deleting a single letter and then inserting a new one, you'll Delete or Replace a string of letters, a whole word, or a group of words at once. First, select the words you want to change.

1. Use the mouse and click to move the Insert Pointer to the beginning or the end of "Word" in the first line of your sample document.
2. Hold down the mouse button and drag the mouse left or right to highlight the word "Word." (If you drag too far, highlighting the spaces around the word, just drag in the opposite direction to unselect before you releases the mouse button.)
3. Don't delete "word." Instead, just type "this program" and you'll see that the new words automatically replace the old. You could do many things after selecting this word, but what if you change your mind and don't want the word selected.

No problem. Just click again or press an arrow key to unselect the word.

1. Move the Mouse Pointer to the left edge of the screen, past the left margin of your document. You'll see that it becomes an arrow pointing upward and to the right. (If you move it too far, it points upward to the left.)
2. Position the arrow to the left of the last line "Now type this short line,"
3. Click to select the whole line. This highlights the whole line. Now you can make some changes to it.

Use the Toolbar

1. The toolbar is the line of boxes and symbols that appear across the top of the computer screen. You may recognize the picture of a file folder, scissors, a paintbrush, and so forth. If the toolbar does not appear at the top of the screen, pull down View menu and select Toolbars. Select Standard and Formatting.
1. In number 2 above, you highlighted the line "Now type this short line."
2. Center the highlighted line in your sample document by clicking on the Center icon as shown below. That's how to center the title of a story, essay, or report.
4. Align the line again by clicking on the Align Left icon and then unselect the line by clicking again.
5. Now highlight the word "Word" in line 3 of the sample document. Move the mouse pointer up to the / in the toolbar and click it. This changes the type to Italics. Now click B and U. You see that the type becomes boldfaced and underlined. Practice changing other words in the document.\

Add a Title

1. Place the mouse pointer at the beginning of your sample document and click once. You have positioned the Insert Pointer at the beginning of the document.
2. Now press RETURN. This pushes the document down one line and gives you space to write your title.

3. Put the mouse pointer up one line and click once.
4. Type "Sample Document."
5. Move the mouse pointer to the beginning of your title and click once. Then, hold down the mouse button to highlight the title.
5. Center the highlighted title in your sample document by clicking on the Center icon in the toolbar.

Indent Every Paragraph with the Tab key

1. We use the tab key at the top left side of the computer keyboard to indent paragraphs and to make simple tables.
Normally, you push the tab key once before you begin to type each paragraph.
2. If the ruler does not appear at the top of your document, pull down the View menu and select Ruler. The ruler shows you how wide the page is and where the margins are.
2. Tabs are already set at every half-inch on the ruler scale.
3. Place the Insert pointer at the beginning of the first line of your document and press the tab key. You have indented your first paragraph.
4. Place the Insert pointer at the beginning of the short line and press the tab key. You have indented your second paragraph.

Change the Size of the Type

To change the font size of all of your sample document

1. Pull down the Edit menu and choose Select All. All of your document will be highlighted.
2. Pull down the font size arrow on the tool bar and highlight the font size you want. The usual size is 12.
3. Your typing will change size. If you don't like it, you can choose another size immediately. Then click the mouse button so that the highlighting disappears. This is important so that you don't make other changes by mistake.

To change the size of the type of only one or two words,

1. Use the mouse to highlight those words by dragging the pointer across the words.
2. Pull down the size arrow on the tool bar and highlight the size you want. The usual size is 12.
3. Your typing will change size. Then, click the mouse button so that the highlighting disappears. Save to keep what you have chosen

Change the Font Style

1. Pull down the Edit menu and choose Select All. All of your document will be highlighted, or you can highlight only a word or two by highlighting them with the mouse pointer.
2. Pull down the font arrow on the tool bar and choose a different font. If you don't like it, you can change immediately to another font. Keep changing until you find one you like.
3. Remember to click the mouse button so that the highlighting disappears. Then Save to keep what you have chosen.

Cut and Paste to Move Sentences and Paragraphs Around

When you rewrite your papers, it is not necessary to retype everything when you want to move sentences and paragraphs around. Here is how to move one line or a whole paragraph.

1. Move the Mouse Pointer to the left edge of the screen, past the left margin of your document. You'll see that it becomes an arrow pointing upward and to the right. (If you move it too far, it points upward to the left.)
2. Position the arrow to the left of the last line of your sample document, and click to select the whole line. This highlights the whole line.
3. Pull down the Edit menu and choose Cut. This removes the line from the document temporarily.
4. Move the Mouse Pointer to the beginning of your sample document and click once. The Insert Pointer is now at the beginning of your sample document.
5. Pull down the Edit menu again with the mouse pointer and select Paste. The line you cut will appear at the beginning of your sample document. Don't forget to save your changes.

Spelling And Grammar

Check your Spelling and Grammar by clicking on Tools from the menu then "Spelling and Grammar...F7" Microsoft Word checks all spelling and grammar and compares the words to a dictionary. You have the option to Ignore the word not found in the dictionary , Ignore All words in a document not found, alternatively to Add the word to the Dictionary. Change will correct the word in a document. Change All will correct all of the same words misspelled.

Change the Space between the Lines

When you write papers, your teachers will probably ask you to double-space them. Here is how to change the spacing between the lines.

1. Highlight the entire sample document. Hold down the mouse button and drag the mouse from the top of the sample document to the bottom.
2. Pull down the Format menu at the top of the screen.
3. Choose Paragraph.
4. When the screen changes, find Line Spacing. Put the mouse pointer on the down arrow and hold the mouse button down. Choose Double .
5. Click OK.
6. Save your changes.

Save the File Once More before You Print

You should always make sure you have saved your work . Pull down the File menu and select Save .

Print Your Work

Pull down the File menu and select Print. The screen will change to a dialog box that shows how many copies you will print. It says 1 now. Click the Print button and your printer will print your document.

Quit Microsoft Word

Close your document by clicking in the small x box in the upper left-hand corner of your document. (If you forget to save your file before quitting, *Word* will remind you to do so.) Pull down the File menu and select Quit. You'll return to the Desktop.

Open an Existing File

When you start again another day, File Open search the file you want first, highlight it and select the Open button

Conclusion

You have just finished a very basic tutorial in using *Microsoft Word*. There are many other things you can do with this amazing program. The Question Mark icon at the extreme top right of your screen is the Help menu. When you have a question about the icons on the screen, pull down the Help menu and when you have a question about how to do something with *Microsoft Word*, choose Microsoft Word Help.

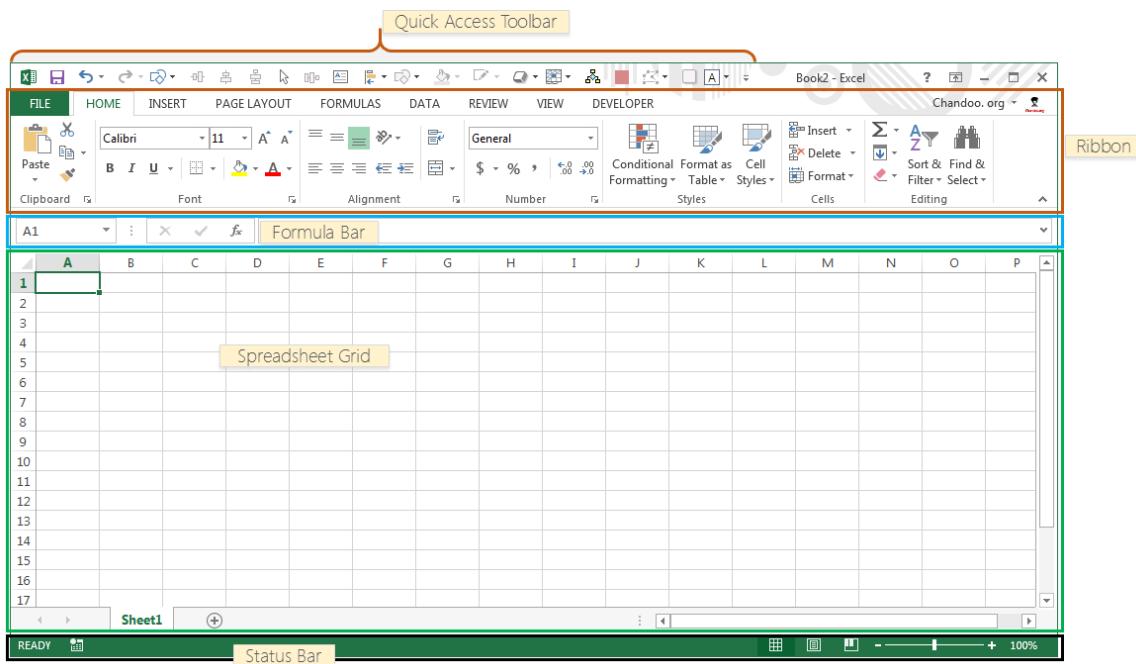
Task-9 Ms-EXCEL

Aim: Write A Program To Perform Basic Ms-Excel Operations.

GETTING STARTED:

Excel is a massive application with 1000s of features and 100s of ribbon (menu) commands. It is very easy to get lost once you open Excel. So one of the basic survival skills is to understand how to navigate Excel and access the features you are looking for.

When you open Excel, this is how it looks.



There are 5 important areas in the screen.

- 1. Quick Access Toolbar:** This is a place where all the important tools can be placed. When you start Excel for the very first time, it has only 3 icons (Save, Undo, Redo). But you can add any feature of Excel to to Quick Access Toolbar so that you can easily access it from anywhere (hence the name).
- 2. Ribbon:** Ribbon is like an expanded menu. It depicts all the features of Excel in easy to understand form. Since Excel has 1000s of features, they are grouped in to several ribbons. The most important ribbons are – Home, Insert, Formulas, Page Layout & Data.

3. Formula Bar: This is where any calculations or formulas you write will appear. You will understand the relevance of it once you start building formulas.

4. Spreadsheet Grid: This is where all your numbers, data, charts & drawings will go. Each Excel file can contain several sheets. But the spreadsheet grid shows few rows & columns of active spreadsheet. To see more rows or columns you can use the scroll bars to the left or at bottom. If you want to access other sheets, just click on the sheet name (or use the shortcut CTRL+Page Up or CTRL+Page Down).

5. Status bar: This tells us what is going on with Excel at any time. You can tell if Excel is busy calculating a formula, creating a pivot report or recording a macro by just looking at the status bar. The status bar also shows quick summaries of selected cells (count, sum, average, minimum or maximum values). You can change this by right clicking on it and choosing which summaries to show.

ENTERING & FORMATTING DATA, NUMBERS & TABLES:

Handling Data would be one of the main reasons why you are using Excel. Excel is quite intuitive and simple to use when it comes to typing data or handling it. Because of its grid nature, it can store & manage thousands of data points with ease. Built in features like copy, paste, find, highlight, go to, styles etc

8 Tips to Make you a Formatting Pro

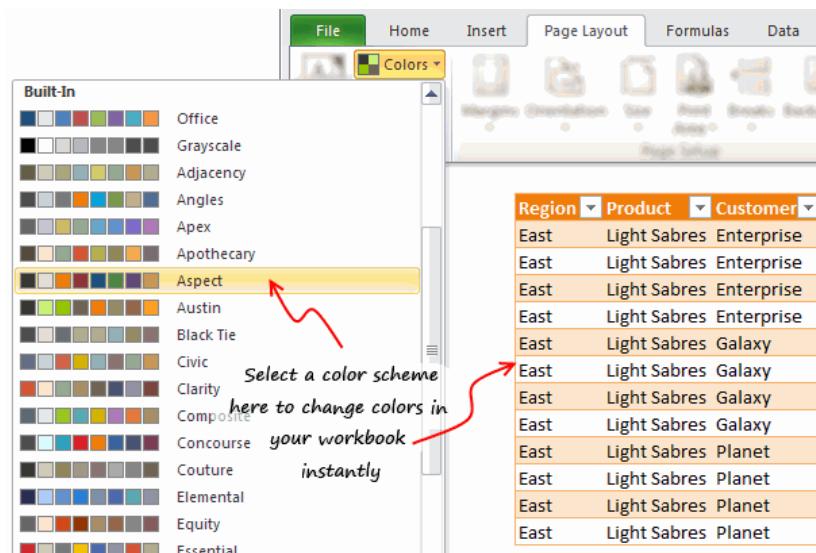
1. Use tables to format data quickly

Introduced in Excel 2007, **Excel Tables** are an incredibly powerful way to handle a bunch of related data. Just select any cell with in the data and press CTRL+T and then Enter. And bingo, your data looks slick in no time.

Region	Product	Customer Type	Sales Person - Name	Jan Sales (\$ '000)
East	Light Sabres	Enterprise	James Kirk	\$ 192
East	Light Sabres	Enterprise	Luke Skywalker	\$ 784
East	Light Sabres	Enterprise	Hansolo	\$ 764
East	Light Sabres	Enterprise	Chewbacca	\$ 676
East	Light Sabres	Galaxy	James Kirk	\$ 697
East	Light Sabres	Galaxy	Luke Skywalker	\$ 356
East	Light Sabres	Galaxy	Hansolo	\$ 40
East	Light Sabres	Galaxy	Chewbacca	\$ 104
East	Light Sabres	Planet	James Kirk	\$ 336
East	Light Sabres	Planet	Luke Skywalker	\$ 310

2. Change colors in a snap

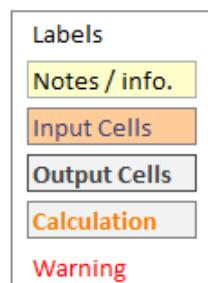
So you have made a spreadsheet model or dashboard. And you want to change colors to something fresh. Just go to Page Layout ribbon and choose a color scheme from Colors box on top left. Microsoft has defined some great color schemes. These are well contrasted and look great on your screen. You can also define your own color schemes (to match corporate style). What more, you can even define schemes for fonts or combine both and create a new theme.



3. Use cell styles

Consistency is an important aspect of formatting. By using cell styles, you can ensure that all similar information in your workbook is formatted in the same way. For example, you can color all input cells in orange color, all notes in light gray etc.

Get consistent
colors by using
"cell styles"



4. Use format painter

Format painter is a beautiful tool part of all Office programs. You can use this to copy formatting from one area to another. See below demo to understand how this works. You can locate format painter in the Home ribbon, top left.



Region	Product	Jan Sales (\$ '000)
East	Light Sabres	\$ 192.00
East	Light Sabres	\$ 784.00
East	Light Sabres	\$ 764.00

Region	Product	Jan Sales (\$ '000)
East	Light Sabres	310
East	Light Sabres	727
East	Light Sabres	466

5. Clear formats in a click

Sometimes, you just want to start with a clean slate. May be it is that colleague down the aisle who made an ugly mess of the quarterly budget spreadsheet. (*Hey, its a good idea to tell him about Chandoo.org*) So where would you start?

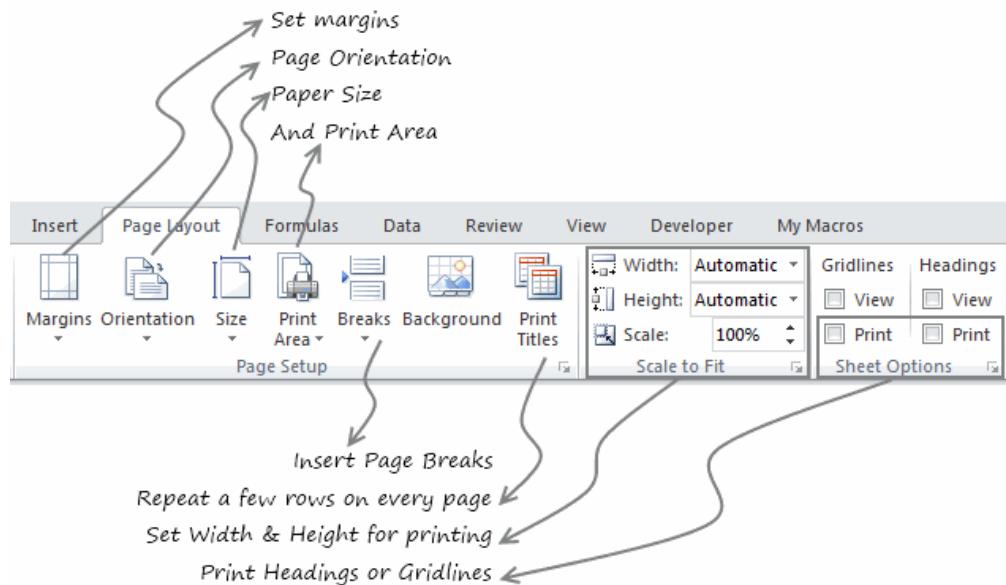
6. Formatting keyboard shortcuts

Formatting is an everyday activity. We do it while writing an email, making a workbook, preparing a report, putting together a deck of slides or drawing something. Even as I am writing this post, I am formatting it. So knowing a couple of formatting shortcuts can improve your productivity. I use these almost every time I work in Excel.

- CTRL + 1: Opens format dialog for anything you have selected (cells, charts, drawing shapes etc.)
- CTRL + B, I, U: To Bold, *Italicize* or Underline any given text.
- ALT+Enter: While editing a cell, you can use this to add a new line. If you want a new line as part of formula outcome, use CHAR(10), and make sure you have enabled word-wrap.
- ALT+EST: Used to paste formats. Works like format painter (#4)

- CTRL+T: Applies table formatting to current region of cells
- CTRL+5: To .
- F4: Repeat last action. For example, you could apply bold formatting to a cell, select another and hit F4 to do the same.
- **7. Formatting options for print**

What looks great on your screen might look messed up, if you do not set correct print options. That is why, make sure that you know how to use these print settings. All of these can be accessed from Page Layout ribbon. For more, you can also use print preview and then “page settings” button.



8. Do not go overboard

Formatting your workbook is much like garnishing your food. No amount of plating & garnishing is going to make your food taste good. I personally spend 80% of time making the spreadsheet and 20% of time formatting it. By learning how to use various formatting features in Excel & relying on productive ideas like tables, cell styles, format painter & keyboard shortcuts, you can save a lot of time. Time you can use to make better, more awesome spreadsheets.

CALCULATING TOTALS & SUMMARIES USING FORMULAS

Formulas make Excel smart. Without formulas, Excel is just like a massive grid where you can keep data. Using them you can calculate totals, summaries, answer questions and gain insights.

1. SUMIFS Formula

The **syntax** of SUMIFS is like this:

=SUMIFS(what you want to sumup, condition column 1, condition, condition column 2, condition....)

Example:

=SUMIFS(sales, regions, "A", products, "B", customer types, "C", month, "M")

2. VLOOKUP Formula

The **syntax** for VLOOKUP is simple.

=VLOOKUP(what you want to lookup, table, column from which you want the output, is your table sorted?)

Example:

=VLOOKUP("C00023", customers, 2, false)

3. INDEX+MATCH Formulas

Syntax:

=INDEX(list of values, MATCH(what you want to lookup, lookup column, is your lookup column sorted?))

Example:

=INDEX(customer IDs, MATCH("Samuel Jackson", Customer names, 0))

4. IF Formula

The **syntax** of IF formula is simple:

=IF (condition to test, output for TRUE, output for FALSE)

For example, lets say your company decides to give 10% pay hike to all people reading Chandoo.org & 5% hike to rest. Now, how would you express this in Excel?

Simple, we write =IF(employee reads Chandoo.org, "10% hike", "5% hike")

CONCLUSION:

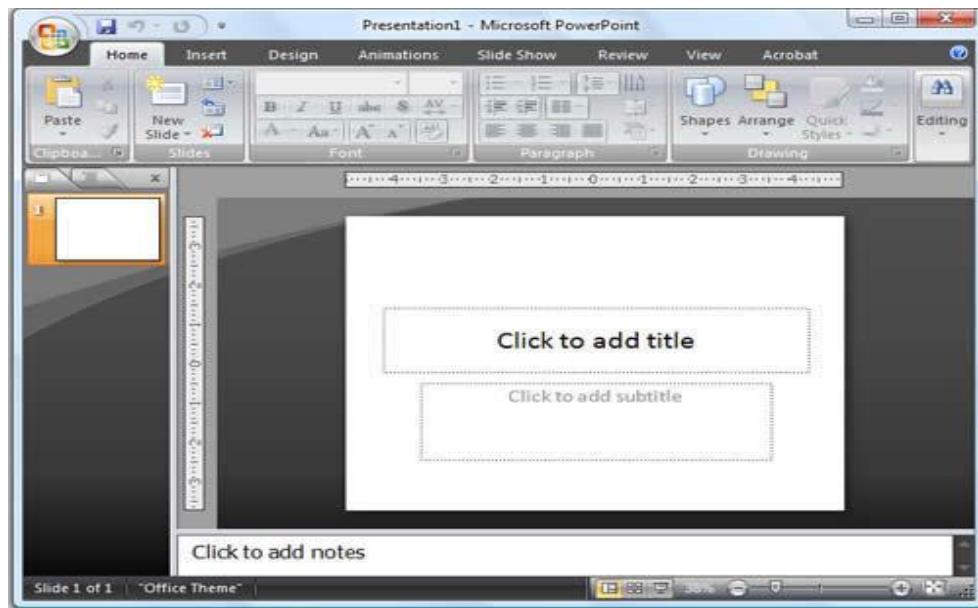
Thus the basic operations of MS-EXCEL are successfully performed.

Task-10 **MS-POWER POINT**

AIM: To Prepare Basic Ms-Power Point Using Different Formats

The PowerPoint Window

PowerPoint is a presentation software package. With PowerPoint, you can easily create slide shows. Trainers and other presenters use slide shows to illustrate their presentations. It introduces you to the PowerPoint window. You use the window to interact with the software. To begin, open PowerPoint 2007. The window appears and your screen looks similar to the one shown.



The Quick Access Toolbar



The Title Bar



The Title bar is located at the top in the center of the PowerPoint window. The Title bar displays the name of the presentation on which you are currently working. By default, PowerPoint names presentations sequentially, starting with Presentation1. When you save your file, you can change the name of your presentation.

The Ribbon



Rulers



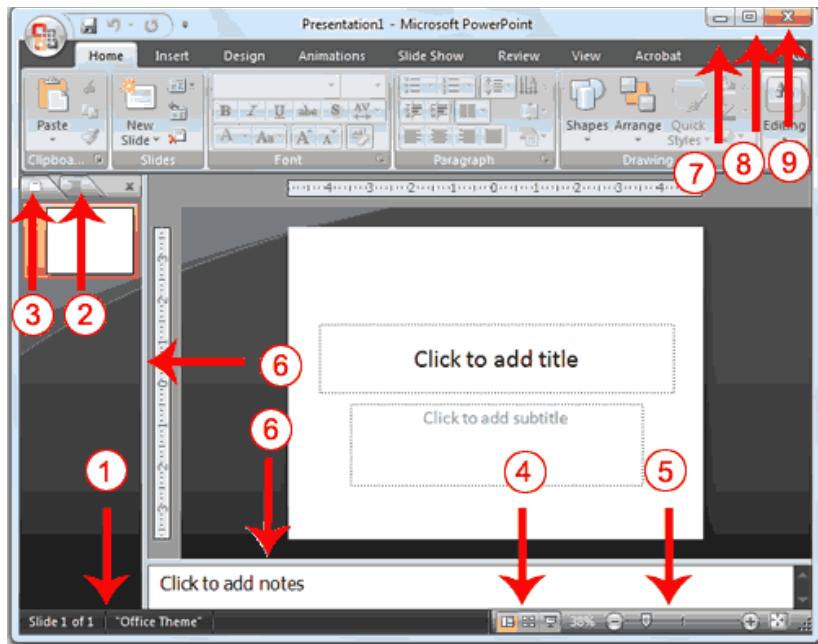
Rulers are vertical and horizontal guides. You use them to determine where you want to place an object. If the rulers do not display in your PowerPoint window:

1. Click the View tab.
2. Click Ruler in the Show/Hide group. The rulers appear.

Slides, Placeholders, and Notes



Bar, Tabs, View Buttons, and More



Creating Your First PowerPoint Presentation

You create your PowerPoint presentation on slides. You use layouts to organize the content on each slide. PowerPoint has several slide layouts from which to choose.

Themes are sets of colors, fonts, and special effects. Backgrounds add a colored background to your slides. You can add themes and backgrounds to your slides. After you complete your slides, you can run your presentation.

Create a Title Slide

When you start PowerPoint, PowerPoint displays the title slide in the Slide pane. You can type the title of your presentation and a subtitle on this slide. To enter text:

- Click and type the title of your presentation in the "Click to add title" area.
- Click and type a subtitle in the "Click to add subtitle" area.

If you do not wish to use the title slide, click the Delete Slide button in the Slides group on the Home tab.

CONCLUSION: Thus the above operations performed on ms-power point are

Successfully completed.