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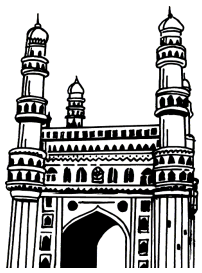

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BASIC COMPUTER SKILLS

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1.1 UNDERSTANDING OF COMPUTER

1.1.1 Knowing Computer

Q1. Define computer.

(or)

What is computer ?

Ans :

Introduction

The word **compute** is derived from the Latin word 'computare', was meaning "arithmetic, accounting".

The Computer meaning is the digital device that stores information in memory using input devices and manipulate information to produce output according to given instructions.

The actual machinery, the physical parts of a computer system refer to as Computer hardware; the instruction (a **program**) that tells the computer what to do or how to do, that is called **Computer software** (often called just software).

Definition

According to Professor Charles Babbage's analytical engine considered as "**fundamental framework of computer**" is a mechanical general-purpose programmable computing engine. It was a successor to the Difference Engine.

Computer that we use today is absolutely different from the first generation computer. Evolution in technology from 19th century to present day modified computer totally.

COMPUTER stands for Common Operating Machine Particularly Used For Trade Education And Research.

C - Common
O - Operating
M - Machine
P - Particularly
U - Used For
T - Trade
E - Education
R - Research.

1.1.2 Basic applications of computer System.

Q2. Explain some basic applications of a computer.

Ans :

Computer is a device through which you can perform a variety of jobs. You can use your computer system for different applications by changing the software packages. Here are the list of uses or applications of computer:

1. Business

A computer has high speed of calculation, diligence, accuracy, reliability, or versatility which has made it an integrated part in all business organizations.

Computer is used in business organizations for:

- Payroll calculations
- Budgeting
- Sales analysis
- Financial forecasting
- Managing employee database
- Maintenance of stocks, etc.

2. Banking

Today, banking is almost totally dependent on computers.

Banks provide the following facilities-

- Online accounting facility, which includes checking current balance, making deposits and overdrafts, checking interest charges, shares, and trustee records.
- ATM machines which are completely automated are making it even easier for customers to deal with banks.

3. Insurance

Insurance companies are keeping all records up-to-date with the help of computers. Insurance companies, finance houses, and stock broking firms are widely using computers for their concerns.

Insurance companies are maintaining a database of all clients with information showing:

- Procedure to continue with policies
- Starting date of the policies
- Next due installment of a policy
- Maturity date
- Interests due
- Survival benefits
- Bonus

4. Education

The computer helps in providing a lot of facilities in the education system.

- The computer provides a tool in the education system known as CBE (Computer Based Education).
- CBE involves control, delivery, and evaluation of learning.
- Computer education is rapidly increasing the graph of number of computer students.
- There are a number of methods in which educational institutions can use a computer to educate the students.
- It is used to prepare a database about performance of a student and analysis is carried out on this basis.

5. Marketing

In marketing, uses of the computer are following:

- **Advertising:** With computers, advertising professionals create art and graphics, write and revise copy, and print and disseminate ads with the goal of selling more products.
- **Home Shopping:** Home shopping has been made possible through the use of computerized catalogues that provide access to product information and permit direct entry of orders to be filled by the customers.

6. Healthcare

Computers have become an important part in hospitals, labs, and dispensaries. They are being used in hospitals to keep the record of patients and medicines. It is also used in scanning and diagnosing different diseases. ECG, EEG, ultrasounds and CT scans, etc. are also done by computerized machines.

Following are some major fields of health care in which computers are used.

- **Diagnostic System:** Computers are used to collect data and identify the cause of illness.
- **Lab-diagnostic System:** All tests can be done and the reports are prepared by computer.
- **Patient Monitoring System:** These are used to check the patient's signs for abnormality such as in Cardiac Arrest, ECG, etc.
- **Pharma Information System:** Computer is used to check drug labels, expiry dates, harmful side effects, etc.
- **Surgery:** Nowadays, computers are also used in performing surgery.

7. Engineering Design

Computers are widely used for Engineering purpose.

One of the major areas is CAD (Computer Aided Design) that provides creation and modification of images. Some of the fields are:

- **Structural Engineering:** Requires stress and strain analysis for design of ships, buildings, budgets, airplanes, etc.
- **Industrial Engineering:** Computers deal with design, implementation, and improve-ment of integrated systems of people, materials, and equipment.
- **Architectural Engineering:** Compu-ters help in planning towns, designing buildings, determining a range of buildings on a site using both 2D and 3D drawings.

8. Military

Computers are largely used in defence. Modern tanks, missiles, weapons, etc. Military also employs computerized control systems. Some military areas where a computer has been used are:

- Missile Control
- Military Communication
- Military Operation and Planning
- Smart Weapons

9. Communication

Communication is a way to convey a message, an idea, a picture, or speech that is received and understood clearly and correctly by the person for whom it is meant. Some main areas in this category are "

- E-mail
- Chatting
- Usenet
- FTP
- Telnet
- Video-conferencing

10. Government

Computers play an important role in government services. Some major fields in this category are "

- Budgets
- Sales tax department
- Income tax department
- Computation of male/female ratio
- Computerization of voters lists
- Computerization of PAN card
- Weather forecasting

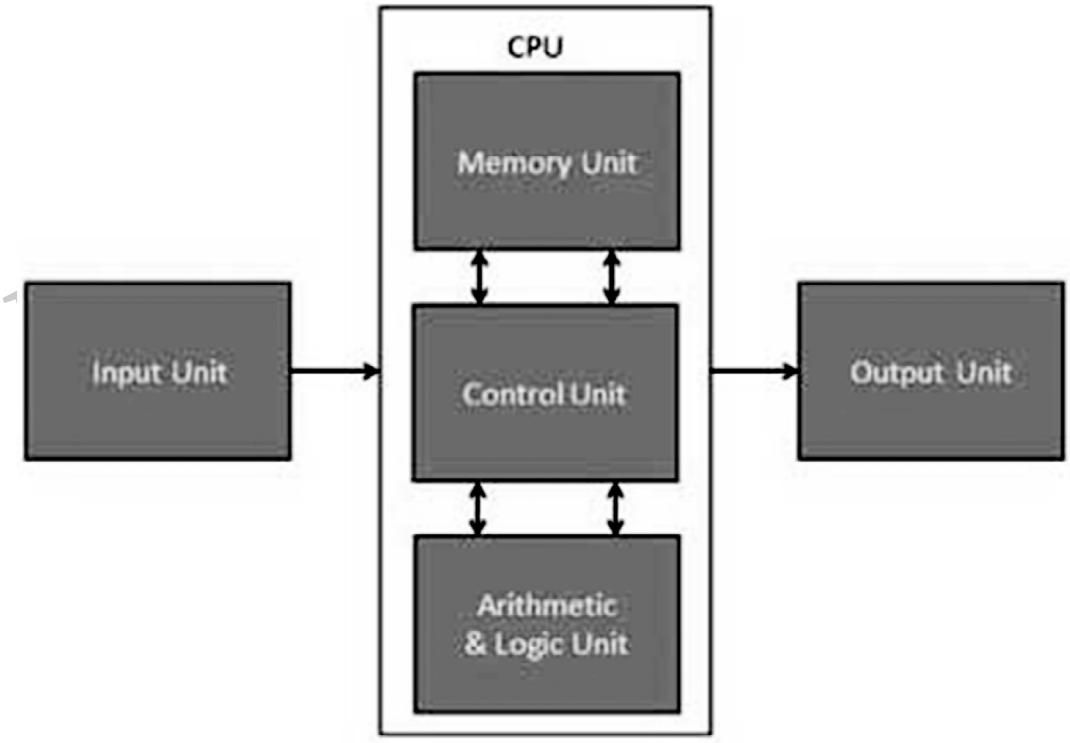
1.1.3 Components of computer system

Q3. Explain Basic components of a computer.

Ans :

All types of computers follow the same basic logical structure and perform the following five basic operations for converting raw input data into information useful to their users.

S.No.	Operation	Description
1	Take Input	The process of entering data and instructions into the computer system.
2	Store Data	Saving data and instructions so that they are available for processing as and when required.
3	Processing Data	Performing arithmetic, and logical operations on data in order to convert them into useful information.
4	Output Information	The process of producing useful information or results for the user, such as a printed report or visual display.
5	Control the workflow	Directs the manner and sequence in which all of the above operations are performed.



Input Unit

This unit contains devices with the help of which we enter data into the computer. This unit creates a link between the user and the computer. The input devices translate the information into a form understandable by the computer.

CPU (Central Processing Unit)

CPU is considered as the brain of the computer. CPU performs all types of data processing operations. It stores data, intermediate results, and instructions (program). It controls the operation of all parts of the computer.

CPU itself has the following three components:

- ALU (Arithmetic Logic Unit)
- Memory Unit
- Control Unit

Output Unit

The output unit consists of devices with the help of which we get the information from the computer. This unit is a link between the computer and the users. Output devices translate the computer's output into a form understandable by the users.

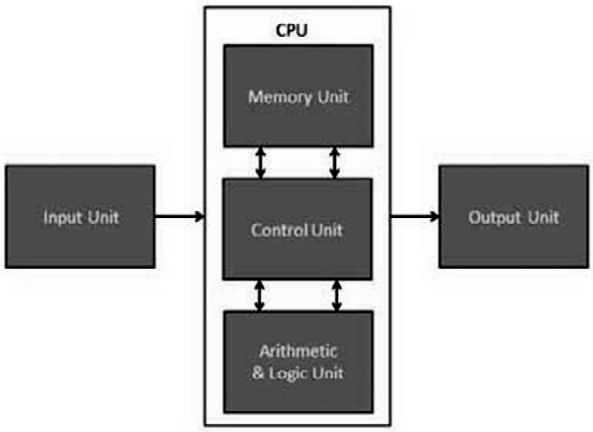
1.1.4 Central processing unit (CPU)

Q4. Draw and explain the architecture of CPU.

Ans :

Central Processing Unit (CPU) consists of the following features:

- CPU is considered as the brain of the computer.
- CPU performs all types of data processing operations.
- It stores data, intermediate results, and instructions (program).
- It controls the operation of all parts of the computer.



CPU itself has following three components.

1. Memory or Storage Unit
2. Control Unit
3. ALU(Arithmetic Logic Unit)

1. Memory or Storage Unit

This unit can store instructions, data, and intermediate results. This unit supplies information to other units of the computer when needed. It is also known as internal storage unit or the main memory or the primary storage or Random Access Memory (RAM).

Its size affects speed, power, and capability. Primary memory and secondary memory are two types of memories in the computer. Functions of the memory unit are:

- It stores all the data and the instructions required for processing.
- It stores intermediate results of processing.
- It stores the final results of processing before these results are released to an output device.
- All inputs and outputs are transmitted through the main memory.

2. Control Unit

This unit controls the operations of all parts of the computer but does not carry out any actual data processing operations.

Functions of this unit are:

- It is responsible for controlling the transfer of data and instructions among other units of a computer.
- It manages and coordinates all the units of the computer.
- It obtains the instructions from the memory, interprets them, and directs the operation of the computer.
- It communicates with Input/Output devices for transfer of data or results from storage.
- It does not process or store data.

3. ALU (Arithmetic Logic Unit)

This unit consists of two subsections namely,

- Arithmetic Section
- Logic Section

Arithmetic Section

Function of arithmetic section is to perform arithmetic operations like addition, subtraction, multiplication, and division. All complex operations are done by making repetitive use of the above operations.

Logic Section

Function of logic section is to perform logic operations such as comparing, selecting, matching, and merging of data.

1.1.5 Video display unit (VDU)

Q5. Explain about VDU?

Ans :

A video display unit (VDU) is a computer peripheral device, like a TV set, that the computer sends information to. The VDU displays this information in the form of text or graphics (pictures) on a cathode ray tube.

A VDU operates like a normal TV set except the information is sent directly through a cable from the computer. There are many different kinds of VDUs and the choice of a VDU is determined by selecting:

- whether it's monochrome or colour
- the resolution
- the type of drive signal from the computer

Note

The high voltage inside a colour monitor can cause X-rays. Sit away from the screen if you're using the VDU for long periods of time.

Types of VDUs

The main consideration when selecting a VDU (or monitor) for a computer is whether the display is monochrome or colour. Monochrome monitors are cheaper than colour monitors and are suited mainly to showing text and high-resolution CAD and desktop publishing applications where a single colour is adequate. Colour monitors are the most common these days, and can display colour drawings, multi-layer CAD drawings and graphics-based software.

Another consideration is the resolution, which tells you how many pixels the monitor can display across and down the screen. The higher the resolution, the better the definition and the more expensive the monitor! As well, a monitor must match the video driver card inside the computer.

There are four common colour formats:

- Colour Graphics Adapter (CGA)
- Enhanced Graphics Adapter (EGA)
- Video Graphics Array (VGA)
- Super VGA (SVGA).

1.1.6 Input devices

Q6. List and explain the input devices of a computer system ?

Ans :

Following are some of the important input devices which are used in a computer:

i) Keyboard
ii) Mouse
iii) Joy Stick
iv) Light pen
v) Track Ball
vi) Scanner
vii) Digitizes
viii) Microphone
ix) Magnetic Ink Card Reader(MICR)
x) Optical Character Reader(OCR)
xi) Bar Code Reader
xii) Optical Mark Reader(OMR)

i) Keyboard

Keyboard is the most common and very popular input device which helps to input data to the computer. The layout of the keyboard is like that of traditional typewriter, although there are some additional keys provided for performing additional functions.

Keyboards are of two sizes 84 keys or 101/ 102 keys, but now keyboards with 104 keys or 108 keys are also available for Windows and Internet.

Fig.: Keyboard

The keys on the keyboard are as follows:

S.No	Keys & Description
1.	**Typing Keys**These keys include the letter keys (A-Z) and digit keys (09) which generally give the same layout as that of typewriters.
2.	**Numeric Keypad**It is used to enter the numeric data or cursor movement. Generally, it consists of a set of 17 keys that are laid out in the same configuration used by most adding machines and calculators.
3.	**Function Keys**The twelve function keys are present on the keyboard which are arranged in a row at the top of the keyboard. Each function key has a unique meaning and is used for some specific purpose.
4.	**Control keys**These keys provide cursor and screen control. It includes four directional arrow keys. Control keys also include Home, End, Insert, Delete, Page Up, Page Down, Control(Ctrl), Alternate(Alt), Escape(Esc).
5.	**Special Purpose Keys**Keyboard also contains some special purpose keys such as Enter, Shift, Caps Lock, Num Lock, Space bar, Tab, and Print Screen.

ii) Mouse

Mouse is the most popular pointing device. It is a very famous cursor-control device having a small palm size box with a round ball at its base, which senses the movement of the mouse and sends corresponding signals to the CPU when the mouse buttons are pressed.

Generally, it has two buttons called the left and the right button and a wheel is present between the buttons. A mouse can be used to control the position of the cursor on the screen, but it cannot be used to enter text into the computer.

Fig.: Mouse

Advantages

- Easy to use
- Not very expensive
- Moves the cursor faster than the arrow keys of the keyboard.

iii) Joystick

Joystick is also a pointing device, which is used to move the cursor position on a monitor screen. It is a stick having a spherical ball at its both lower and upper ends. The lower spherical ball moves in a socket. The joystick can be moved in all four directions.

Fig.: Jyostick

The function of the joystick is similar to that of a mouse. It is mainly used in Computer Aided Designing (CAD) and playing computer games.

iv) Light Pen

Light pen is a pointing device similar to a pen. It is used to select a displayed menu item or draw pictures on the monitor screen. It consists of a photocell and an optical system placed in a small tube.

Fig.: Light Pen

When the tip of a light pen is moved over the monitor screen and the pen button is pressed, its photocell sensing element detects the screen location and sends the corresponding signal to the CPU.

v) Track Ball

Track ball is an input device that is mostly used in notebook or laptop computer, instead of a mouse. This is a ball which is half inserted and by moving fingers on the ball, the pointer can be moved.

Fig.: Track Ball

Since the whole device is not moved, a track ball requires less space than a mouse. A track ball comes in various shapes like a ball, a button, or a square.

vi) Scanner

Scanner is an input device, which works more like a photocopy machine. It is used when some information is available on paper and it is to be transferred to the hard disk of the computer for further manipulation.

Fig.: Scanner

Scanner captures images from the source which are then converted into a digital form that can be stored on the disk. These images can be edited before they are printed.

vii) Digitizer

Digitizer is an input device which converts analog information into digital form. Digitizer can convert a signal from the television or camera into a series of numbers that could be stored in a computer. They can be used by the computer to create a picture of whatever the camera had been pointed at.

Fig.: Digitizer

Digitizer is also known as Tablet or Graphics Tablet as it converts graphics and pictorial data into binary inputs. A graphic tablet as digitizer is used for fine works of drawing and image manipulation applications.

viii) Microphone

Microphone is an input device to input sound that is then stored in a digital form.

Fig.: Microphone

The microphone is used for various applications such as adding sound to a multimedia presentation or for mixing music.

ix) Magnetic Ink Card Reader (MICR)

MICR input device is generally used in banks as there are large number of cheques to be processed every day. The bank's code number and cheque number are printed on the cheques with a special type of ink that contains particles of magnetic material that are machine readable.

Fig.: Magnetic Ink Card Reader (MICR)

This reading process is called Magnetic Ink Character Recognition (MICR). The main advantages of MICR is that it is fast and less error prone.

x) Optical Character Reader (OCR)

OCR is an input device used to read a printed text.

Fig.: Optical Character Reader (OCR)

OCR scans the text optically, character by character, converts them into a machine readable code, and stores the text on the system memory.

xi) Bar Code Readers

Bar Code Reader is a device used for reading bar coded data (data in the form of light and dark lines). Bar coded data is generally used in labelling goods, numbering the books, etc. It may be a handheld scanner or may be embedded in a stationary scanner.

Fig.: Bar Code Readers

Bar Code Reader scans a bar code image, converts it into an alphanumeric value, which is then fed to the computer that the bar code reader is connected to.

xii) Optical Mark Reader (OMR)

OMR is a special type of optical scanner used to recognize the type of mark made by pen or pencil. It is used where one out of a few alternatives is to be selected and marked.

Fig.: Optical Mark Reader (OMR)

It is specially used for checking the answer sheets of examinations having multiple choice questions.

1.1.6.1 Keyboard and Mouse

Q7. What is key board ? Explain the various keys are used in key board.

Ans :

- Keyboard is the most common input device used for entering text data directly into a computer.
- A computer keyboard is similar to that of a typewriter, but it has additional keys as well.
- The most commonly available computer keyboard has 104 keys. Data is entered into a computer by pressing a set of keys available with the keyboard.

Fig. : Key board

- Keyboard is the oldest input device, which is still being used with the modern computers. When user presses a key, the corresponding character appears on screen.

Keyboard Keys

The keys of the keyboard are divided as :

a) Numeric keys

b) Character keys/Alphanumeric keys

c) Punctuation keys

d) Function keys

e) Special purpose keys

f) Cursor movement keys

a) Numeric keys

Numeric keypad is usually located on right side of the keyboard with its 10 digits (0 - 9) and mathematical operators (+, -, *, /). These keys are used to input numeric information.

b) Character keys / Alphanumeric keys

These keys are mainly used to enter characters. These keys include keys for characters like a - z, A - Z, 0-9, Enter key and

Shift key. These keys are arranged in the same way on almost every keyboard and look like a typewriter keys.

c) Punctuation keys

To type the special punctuation characters, punctuation keys, such as the colon (:), the semicolon (;), the question mark (?), single quotes (‘) and double quotes (“) are used.

d) Function keys

These keys are arranged at the topmost row of the keyboard and each one of them has a special function associated with it. The function associated with a function key differs from software to software. Normally, a standard keyboard has 12 function keys. (FI, F2, F3 FI2)

e) Special purpose keys

These keys are used to perform special functions like- deletions or moving a page up or down. (Del, Page Up, Page Down). Some others keys in this category are: Home, End, Insert, Ctrl and Alt etc.

f) Cursor movement keys

These keys allow us to move around the screen. Most keyboards have the keys such as - Arrow keys to move the cursor up/down (single row) or Left/ Right (one character space).

Q8. What is Multimedia Keyboard ?

Ans :

- A multimedia keyboard is designed to make it one-touch simple for the user to access often-used programs.
- Multimedia keyboard contains various additional keys to perform functions like - volume control, launching Internet explorer, changing song and video tracks, launching e-mail software etc.
- A typical multimedia keyboard contains buttons that control various computer processes, such as turning on the computer’s power, putting the CPU to sleep, and waking it up again.
- The web browser keys on a multimedia keyboard should be familiar to most Internet users. ***Back, Forward, Stop,*** **and** ***Refresh*** buttons are usually present on such keyboards.
- A specific type of multimedia keyboard called a *Gaming keyboard,* meant for use with high-tech video games, can be even more expensive.
- Multimedia keyboards come in various connection formats, including PS/2, USB, and wireless.

Q9. What is wireless keyboard ?

Ans :

- Wireless keyboards are also available today, but at a higher price than wired keyboard.
- These keyboards do not have any wire attached to them.
- Wireless keyboard interacts with the computer through *Bluetooth* or *Infrared* technology.
- Wireless keyboards transfer typing data to the computer via infrared beams. A beam of information is sent from the keyboard, as you type, to a receiver, which is plugged into the computer.
- Wireless keyboard operates on battery power rather than using electricity from the user’s computer.
- The main advantage of using a wireless keyboard rather than a regular keyboard is that it offers much more mobility. A wireless keyboard can be used on a lap, in a bed, or just used while on-the-go for laptop users.

- It can maintain required distance between the screen and the seating and also do not need to keep it placed on the working table always saving a lot of space when not using the system.
- One of the disadvantages of using a wireless keyboard is that it has to be installed and configured before it can be used. Regular keyboards, on the other hand, run on Plug and Play software and work immediately after they are plugged in.

Q10. Explain the various pointing devices ?

Ans :

Interaction with computers was initially restricted mainly to text mode. However, it was soon realized that interacting with computers in text-mode is cumbersome and time-consuming. Hence, a new type of user interface, called *graphical user interface (GUI),* was devised for interacting with computers. A GUI provides a screen with graphic icons (small images on the screen) or menus and allows a user to make rapid selections from them to give instructions to a computer. For efficient utilization, GUI requires an input device that can be used to rapidly point to and select a graphic icon or menu item from the multiple options displayed on the screen.

The keyboard, though usable, was found to be inconvenient and unsuitable for this requirement. Hence, research efforts to find a suitable input device to meet this requirement gave birth to several input devices like mouse, track ball, joystick, light pen, and touch screen. Later it was realized that many of these devices, like mouse and light pen, could also be used very effectively to create graphic elements on the screen such as lines, curves, and freehand shapes. With this new ability, these devices came to be known as point-and-draw' devices.'

1. Mouse

- Mouse is another popular input device used with modern computer.
- It is basically a pointing device, which is used to provide input in graphic-user interface operating systems.

- It is a small palm size box, which appears a bit like a mouse.
- It has a round ball at its base which senses the movement of mouse and sends the corresponding signals to CPU on pressing the buttons.
- The mouse is represented on the screen in the form an arrow. This arrow is called a *Cursor.* Moving the mouse on your desk will move the arrow on the screen.
- A mouse allows us to create graphic elements on the screen, such as lines, curves and free hand shapes etc.
- It makes using menus and message boxes easier.
- The mouse contains one to three buttons to perform different functions.
- The mouse is attached to the computer system by using a wire.
- Wireless mouse are also available that don't have any wire attached to them.

Functions of Mouse

The main goal of any mouse is to translate the motion of your hand into signals that the computer can use.

There are five simple techniques to use the mouse:

a) Click

b) Double Click

c) Drag

d) Right Click

e) Scroll

a) Click

To click on something with a mouse means to move the pointer or cursor to the item on the screen and to press and release the mouse button once (usually left button).

b) Double Click

Press and release the mouse button twice in rapid succession.

c) Drag

After positioning the mouse pointer over the item, then press the button and hold it down as you move the mouse.

d) Right Click

Right click means to press the right button of mouse once without moving it. It helps to display a shortcut menu.

e) Scroll

Scrolling is the property of mouse by which it can scroll the window vertically. A third button, called the *scrolling button,* does it.,

2. Optical Mouse

- An optical mouse is an advanced computer-pointing device that uses a light-emitting diode (LED), an optical sensor, and digital signal processing (DSP) in place of the traditional mouse ball.
- It uses light to detect movement rather than by interpreting the motion of a rolling sphere.
- Inside each optical mouse, there is a small camera that takes more than a thousand snapshot pictures every second.
- Optical mouse is more reliable and easy to use than simple ball mouse.
- Early optical mouse required a special mouse pad, but modern devices can be rolled over traditional pads, as well as over almost any surface other than glass or mirror.
- Optical mice typically don't require a mouse pad and can be used on many surfaces, including those that are not entirely flat.
- There are typically no special PC requirements for optical mice and installation is usually as simply plugging the device in to the computer.
- A variety of optical mice can be found for Windows, Macintosh and Linux platforms and are available with either PS/2 or USB plugs.

3. Wireless Mouse/Cordless Mouse

- A wireless mouse is a computer mouse that needs no wires to send signals from the mouse to a computer.
- The wireless mouse uses radio frequency (RF) technology to communicate information to your computer.
- It contains a transmitter that sends radio signals that encodes the information about the mouse movements and the buttons you click to the receiver. The receiver accepts the signal, decodes it and passes it onto the mouse driver software and the computer's operating system.

- The major advantage of wireless mouse is that they can work for large range wireless communication. They don't need a clear line of sight between the transmitter and the receiver.}
- Wireless mice are well-suited for presentation settings. With a wireless mouse, a presenter can operate a Microsoft PowerPoint presentation from any point in a room.
- Wireless mice can also come equipped with laser pointers, for directing an audience's attention.
- Some wireless mice are also equipped with multiple buttons, such as play and stop controls, to run video and programs on a computer.
- Wireless mice are also convenient for laptop use because of their mobility and flexibility.

4. Trackball

- A trackball is a computer cursor control device that is mostly used in notebook or laptop computers.
- It is a specific style of computer mouse that allows the user to keep their hand and arm in one place, while manipulating a ball that moves the on-screen pointer.
- It is a pointing device similar to the mouse except one difference that in trackball, the ball is fixed in a container that is placed on the desk. Fingers are used to rotate the ball and thus the cursor.
- Track balls also have buttons like mouse. It is used to position the cursor at a specific locations and the input is supplied by pressing buttons attached with trackball.
- A trackball requires less space than a mouse because there is no need to move the whole device i.e. the trackball is stationary so it does not require much space to use it.
- The trackball mouse does not need a mouse pad or smooth surface underneath it to operate efficiently.
- A track ball comes in various shapes like a ball, a button and a square.

5. Joystick

- Joystick is another pointing device that has been designed to play games on the computer.
- It is used to move cursor position on a monitor screen.
- It consists of a small vertical lever (called a stick) mounted on the base that is used to steer the screen cursor around. Lever moves in all directions and controls the movement of a pointer.
- A joystick contains various buttons for various functions. The functioning of these buttons differs in different games.

- With a joystick, the pointer continues moving in the direction the joystick is pointing. To stop the pointer, you must return the joystick to its upright position.
- Joysticks are also used in the industry to control the operations of computer driven machines like huge cranes.

6. Light Pen

- Light Pen is another pointing device, which is similar to a pen.
- It is mainly used to draw pictures or lines on the monitor screen.
- The light pen contains a photocell and an optical system that is placed in the pen shaped small tube. Whenever this cell is brought closer to the screen, it senses the light coming from the screen and it generates the electrical pulses. These pulses are transmitted to a signal processor that identifies the particular pixel of the monitor, where the pen is touching.
- The light pen is used for correction in architecture design, data collection, digital signature and computer-aided-design (CAD) applications.
- In cricket matches, the commentators mark a portion of screen while explaining a particular area or the field set or a particular shot of a batsman in a cricket match. This is done with light pen.

1.1.7 Output Devices

Q11. List and explain the output devices of a computer system ?

Ans :

Following are some of the important output devices used in a computer.

1. Monitors
2. Printer

1. Monitors

Monitors, commonly called as **Visual Display Unit** (VDU), are the main output device of a computer. It forms images from tiny dots, called pixels that are arranged in a rectangular form. The sharpness of the image depends upon the number of pixels.

There are two kinds of viewing screen used for monitors.

- Cathode-Ray Tube (CRT)
- Flat-Panel Display

Cathode-Ray Tube (CRT) Monitor

The CRT display is made up of small picture elements called pixels. The smaller the pixels, the better the image clarity or resolution. It takes more than one illuminated pixel to form a whole character, such as the letter 'e' in the word help.

Fig.: Cathode-Ray Tube (CRT) Monitor

A finite number of characters can be displayed on a screen at once. The screen can be divided into a series of character boxes - fixed location on the screen where a standard character can be placed. Most screens are capable of displaying 80 characters of data horizontally and 25 lines vertically.

There are some disadvantages of CRT:

- Large in Size
- High power consumption

Flat-Panel Display Monitor

The flat-panel display refers to a class of video devices that have reduced volume, weight and power requirement in comparison to the CRT. You can hang them on walls or wear them on your wrists. Current uses of flat-panel displays include calculators, video games, monitors, laptop computer, and graphics display.

Fig.: Flat-Panel Display Monitor

The flat-panel display is divided into two categories:

- **Emissive Displays**: Emissive displays are devices that convert electrical energy into light. For example, plasma panel and LED (Light-Emitting Diodes).
- **Non-Emissive Displays**: Non-emissive displays use optical effects to convert sunlight or light from some other source into graphics patterns. For example, LCD (Liquid-Crystal Device).

2. Printers

Printer is an output device, which is used to print information on paper.

There are two types of printers:

1. Impact Printers
2. Non-Impact Printers

1. Impact Printers

Impact printers print the characters by striking them on the ribbon, which is then pressed on the paper.

Characteristics of Impact Printers are the following:

- Very low consumable costs
- Very noisy
- Useful for bulk printing due to low cost
- There is physical contact with the paper to produce an image

These printers are of two types:

- Character printers
- Line printers

(i) Character Printers

Character printers are the printers which print one character at a time.

These are further divided into two types:

(a) Dot Matrix Printer(DMP)

(b) Daisy Wheel

(a) Dot Matrix Printer

In the market, one of the most popular printers is Dot Matrix Printer. These printers are popular because of their ease of printing and economical price. Each character printed is in the form of pattern of dots and head consists of a Matrix of Pins of size (5*7, 7*9, 9*7 or 9*9) which come out to form a character which is why it is called Dot Matrix Printer.

Fig.: Dot Matrix Printer

Advantages

- Inexpensive
- Widely Used
- Other language characters can be printed

Disadvantages

- Slow Speed
- Poor Quality

(b) Daisy Wheel

Head is lying on a wheel and pins corresponding to characters are like petals of Daisy (flower) which is why it is called Daisy Wheel Printer. These printers are generally used for word-processing in offices that require a few letters to be sent here and there with very nice quality.

Fig.: Daisy Wheel

Advantages

- More reliable than DMP
- Better quality
- Fonts of character can be easily changed

Disadvantages

- Slower than DMP
- Noisy
- More expensive than DMP

(ii) Line Printers

Line printers are the printers which print one line at a time.

Fig.: Line Printers

These are of two types:

(a) Drum Printer

(b) Chain Printer

(a) Drum Printer

This printer is like a drum in shape hence it is called drum printer. The surface of the drum is divided into a number of tracks. Total tracks are equal to the size of the paper, i.e. for a paper width of 132 characters, drum will have 132 tracks. A character set is embossed on the track. Different character sets available in the market are 48 character set, 64 and 96 characters set. One rotation of drum prints one line. Drum printers are fast in speed and can print 300 to 2000 lines per minute.

Advantages

- Very high speed

Disadvantages

- Very expensive
- Characters fonts cannot be changed

(b) Chain Printer

In this printer, a chain of character sets is used, hence it is called Chain Printer. A standard character set may have 48, 64, or 96 characters.

Advantages

- Character fonts can easily be changed.
- Different languages can be used with the same printer.

Disadvantages

- Noisy

2. Non-impact Printers

Non-impact printers print the characters without using the ribbon. These printers print a complete page at a time, thus they are also called as Page Printers.

These printers are of two types:

(a) Laser Printers

(b) Inkjet Printers

Characteristics of Non-impact Printers

- Faster than impact printers
- They are not noisy
- High quality
- Supports many fonts and different character size

(a) Laser Printers

These are non-impact page printers. They use laser lights to produce the dots needed to form the characters to be printed on a page.

Fig.: Laser Printers

Advantages

- Very high speed
- Very high quality output
- Good graphics quality
- Supports many fonts and different character size

Disadvantages

- Expensive
- Cannot be used to produce multiple copies of a document in a single printing.

(b) Inkjet Printers

Inkjet printers are non-impact character printers based on a relatively new technology. They print characters by spraying small drops of ink onto paper. Inkjet printers produce high quality output with presentable features.

Fig.: Inkjet Printers

They make less noise because no hammering is done and these have many styles of printing modes available. Color printing is also possible. Some models of Inkjet printers can produce multiple copies of printing also.

Advantages

- High quality printing
- More reliable

Disadvantages

- Expensive as the cost per page is high
- Slow as compared to laser printer

1.1.8 Computer Memory

Q12. Define Memory and explain the types of memory.

Ans :

A memory is just like a human brain. It is used to store data and instructions. Computer memory is the storage space in the computer, where data is to be processed and instructions required for processing are stored. The memory is divided into large number of small parts called cells. Each location or cell has a unique address, which varies

from zero to memory size minus one. For example, if the computer has 64k words, then this memory unit has 64 * 1024 = 65536 memory locations. The address of these locations varies from 0 to 65535.

Memory is primarily of three types:

1. Cache Memory
2. Primary Memory/Main Memory
3. Secondary Memory

1. Cache Memory

Cache memory is a very high speed semiconductor memory which can speed up the CPU. It acts as a buffer between the CPU and the main memory. It is used to hold those parts of data and program which are most frequently used by the CPU. The parts of data and programs are transferred from the disk to cache memory by the operating system, from where the CPU can access them.

Fig.: Cache Memory

Advantages

The advantages of cache memory are as follows:

- Cache memory is faster than main memory.
- It consumes less access time as compared to main memory.
- It stores the program that can be executed within a short period of time.
- It stores data for temporary use.

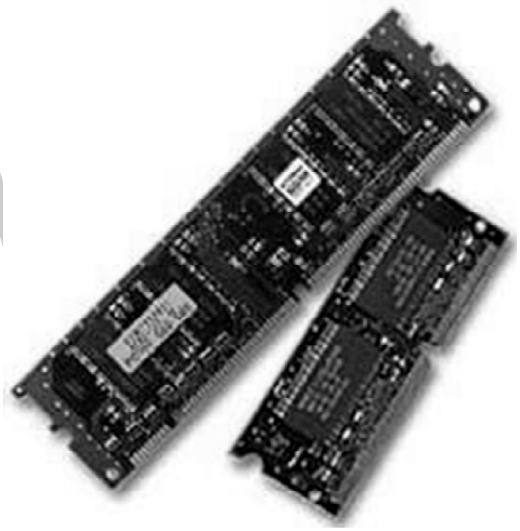
Disadvantages

The disadvantages of cache memory are as follows:

- Cache memory has limited capacity.
- It is very expensive.

2. Primary Memory (Main Memory)

Primary memory holds only those data and instructions on which the computer is currently working. It has a limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device. These memories are not as fast as registers. The data and instruction required to be processed resides in the main memory. It is divided into two subcategories RAM and ROM.



Characteristics of Main Memory

- These are semiconductor memories.
- It is known as the main memory.
- Usually volatile memory.
- Data is lost in case power is switched off.
- It is the working memory of the computer.
- Faster than secondary memories.
- A computer cannot run without the primary memory.

3. Secondary Memory

This type of memory is also known as external memory or non-volatile. It is slower than the main memory. These are used for storing data/

information permanently. CPU directly does not access these memories, instead they are accessed via input-output routines. The contents of secondary memories are first transferred to the main memory, and then the CPU can access it. For example, disk, CD-ROM, DVD, etc.

Characteristics of Secondary Memory

- These are magnetic and optical memories.
- It is known as the backup memory.
- It is a non-volatile memory.
- Data is permanently stored even if power is switched off.
- It is used for storage of data in a computer.
- Computer may run without the secondary memory.
- Slower than primary memories.

Q13. What is RAM ? explain the types of RAM.

Ans :

RAM (Random Access Memory) is the internal memory of the CPU for storing data, program, and program result. It is a read/write memory which stores data until the machine is working. As soon as the machine is switched off, data is erased.

Access time in RAM is independent of the address, that is, each storage location inside the memory is as easy to reach as other locations and takes the same amount of time. Data in the RAM can be accessed randomly but it is very expensive.

RAM is volatile, i.e. data stored in it is lost when we switch off the computer or if there is a power failure. Hence, a backup Uninterruptible Power System (UPS) is often used with computers. RAM is small, both in terms of its physical size and in the amount of data it can hold.

RAM is of two types:

i) Static RAM (SRAM)

ii) Dynamic RAM (DRAM)

i) Static RAM (SRAM)

The word **static** indicates that the memory retains its contents as long as power is being supplied. However, data is lost when the power gets down due to volatile nature. SRAM chips use a matrix of 6-transistors and no capacitors. Transistors do not require power to prevent leakage, so SRAM need not be refreshed on a regular basis.

There is extra space in the matrix, hence SRAM uses more chips than DRAM for the same amount of storage space, making the manufacturing costs higher. SRAM is thus used as cache memory and has very fast access.

Characteristic of Static RAM

- Long life
- No need to refresh
- Faster
- Used as cache memory
- Large size
- Expensive
- High power consumption

ii) Dynamic RAM (DRAM)

DRAM, unlike SRAM, must be continually **refreshed** in order to maintain the data. This is done by placing the memory on a refresh circuit that rewrites the data several hundred times per second. DRAM is used for most system memory as it is cheap and small. All DRAMs are made up of memory cells, which are composed of one capacitor and one transistor.

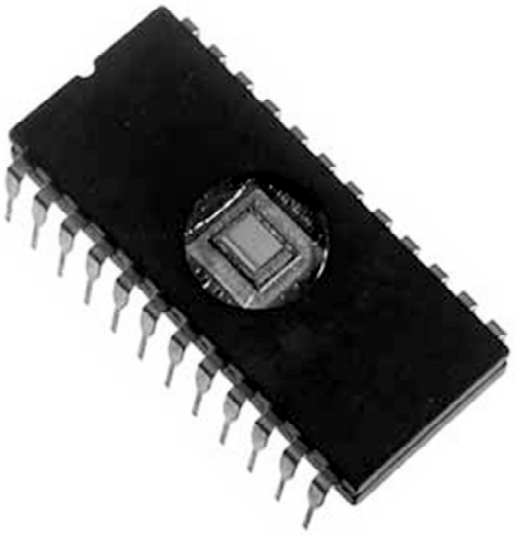
Characteristics of Dynamic RAM

- Short data lifetime
- Needs to be refreshed continuously
- Slower as compared to SRAM
- Used as RAM
- Smaller in size
- Less expensive
- Less power consumption

Q14. What is ROM ? Explain the types of ROM.

Ans :

ROM stands for **Read Only Memory**. The memory from which we can only read but cannot write on it. This type of memory is non-volatile. The information is stored permanently in such memories during manufacture. A ROM stores such instructions that are required to start a computer. This operation is referred to as **bootstrap**. ROM chips are not only used in the computer but also in other electronic items like washing machine and microwave oven.



Let us now discuss the various types of ROMs and their characteristics.

i) MROM (Masked ROM)

The very first ROMs were hard-wired devices that contained a pre-programmed set of data or instructions. These kind of ROMs are known as masked ROMs, which are inexpensive.

ii) PROM (Programmable Read Only Memory)

PROM is read-only memory that can be modified only once by a user. The user buys a blank PROM and enters the desired contents using a PROM program. Inside the PROM chip, there are small fuses which are burnt open during programming. It can be programmed only once and is not erasable.

iii) EPROM (Erasable and Programmable Read Only Memory)

EPROM can be erased by exposing it to ultra-violet light for a duration of up to 40 minutes. Usually, an EPROM eraser achieves this function. During programming, an electrical charge is trapped in an insulated gate region. The charge is retained for more than 10 years because the charge has no leakage path. For erasing this charge, ultra-violet light is passed through a quartz crystal window (lid). This exposure to ultra-violet light dissipates the charge. During normal use, the quartz lid is sealed with a sticker.

iv) EEPROM (Electrically Erasable and Program-mable Read Only Memory)

EEPROM is programmed and erased electrically. It can be erased and reprogrammed about ten thousand times. Both erasing and programming take about 4 to 10 ms (millisecond). In EEPROM, any location can be selectively erased and programmed. EEPROMs can be erased one byte at a time, rather than erasing the entire chip. Hence, the process of reprogramming is flexible but slow.

Advantages of ROM

The advantages of ROM are as follows:

- Non-volatile in nature
- Cannot be accidentally changed
- Cheaper than RAMs
- Easy to test
- More reliable than RAMs
- Static and do not require refreshing
- Contents are always known and can be verified

1.1.9 Concept of Hardware and software.

Q15. Define software and explain the types of software.

Ans :

Software is a set of programs, which is designed to perform a well-defined function. A program is a sequence of instructions written to solve a particular problem.

There are two types of software:

i) System Software

ii) Application Software

i) Software

The system software is a collection of programs designed to operate, control, and extend the processing capabilities of the computer itself. System software is generally prepared by the computer manufacturers. These software products comprise of programs written in low-level languages, which interact with the hardware at a very basic level. System software serves as the interface between the hardware and the end users.

Some examples of system software are Operating System, Compilers, Interpreter, Assemblers, etc.

Here is a list of some of the most prominent features of a system software:

- Close to the system
- Fast in speed
- Difficult to design
- Difficult to understand
- Less interactive
- Smaller in size
- Difficult to manipulate
- Generally written in low-level language

ii) Application Software

Application software products are designed to satisfy a particular need of a particular environment. All software applications prepared in the computer lab can come under the category of Application software.

Application software may consist of a single program, such as Microsoft's notepad for writing and editing a simple text. It may also consist of a collection of programs, often called a software package, which work together to accomplish a task, such as a spreadsheet package.

Examples of Application software are the following:

- Payroll Software
- Student Record Software
- Inventory Management Software
- Income Tax Software
- Railways Reservation Software
- Microsoft Office Suite Software
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

Features of application software are as follows:

- Close to the user
- Easy to design
- More interactive
- Slow in speed
- Generally written in high-level language
- Easy to understand
- Easy to manipulate and use
- Bigger in size and requires large storage space

Q16. Define hardware and what is the relationship between hardware and software.

Ans :

Hardware represents the physical and tangible components of a computer, i.e. the components that can be seen and touched.

Examples of Hardware are the following:

- **Input devices:** keyboard, mouse, etc.
- **Output devices:** printer, monitor, etc.
- **Secondary storage devices:** Hard disk, CD, DVD, etc.
- **Internal components:** CPU, motherboard, RAM, etc.

Relationship between Hardware and Software

- Hardware and software are mutually dependent on each other. Both of them must work together to make a computer produce a useful output.
- Software cannot be utilized without supporting hardware.
- Hardware without a set of programs to operate upon cannot be utilized and is useless.
- To get a particular job done on the computer, relevant software should be loaded into the hardware.
- Hardware is a one-time expense.
- Software development is very expensive and is a continuing expense.
- Different software applications can be loaded on a hardware to run different jobs.
- A software acts as an interface between the user and the hardware.
- If the hardware is the 'heart' of a computer system, then the software is its 'soul'. Both are complementary to each other.

1.1.10 Concept of computing

Q17. Define computing.

Ans :

Computing is defined as the science that studies the treatment of information by automated methods and techniques. It was in 1957 when Karl Steinbuch cited first computing word under the concept described above.

From the earliest times, humans has invented and developed techniques to convey information such as language, writing, sound or light signals and whistles, drums, telephone, television... can move from generation to generation all thought and knowledge acquired throughout history, thanks to this transfer and processing of information humans have evolved toward technology currently available.

The main purpose of computing is automated using electronic equipment all kinds of information, such as to avoid the repetition of arduous tasks which may mislead while reducing the execution time thereof, can you imagine account manually without the help of any calculator or computer program all economic transactions of a large shopping center?.

To automate the information computing is based on the realization of three basic tasks:

- Admission Information
- Processing information
- Output Information

The computer system must be provided with some means by which we bring information, turn the computer system must be able to interpret and store this information, so that once we request you show us by any output medium.

1.1.11 Data and Information

Q18. What is data? How it is differ from information ?

Ans :

Data can be defined as a representation of facts, concepts, or instructions in a formalized manner, which should be suitable for communication, interpretation, or processing by human or electronic machine.

Data is represented with the help of characters such as alphabets (A-Z, a-z), digits (0-9) or special characters (+,-,/,*,<,>,= etc.)

Information is organized or classified data, which has some meaningful values for the receiver. Information is the processed data on which decisions and actions are based.

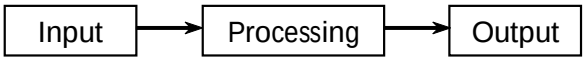
For the decision to be meaningful, the processed data must qualify for the following characteristics:

- **Timely:** Information should be available when required.
- **Accuracy:** Information should be accurate.
- **Completeness:** Information should be complete.

Data Processing Cycle

Data processing is the re-structuring or re-ordering of data by people or machine to increase their usefulness and add values for a particular purpose. Data processing consists of the following basic steps - input, processing, and output. These three steps constitute the data processing cycle.

Data Processing Cycle



- **Input:** In this step, the input data is prepared in some convenient form for processing. The form will depend on the processing machine. For example, when electronic computers are used, the input data can be recorded on any one of the several types of input medium, such as magnetic disks, tapes, and so on.
- **Processing**: In this step, the input data is changed to produce data in a more useful form. For example, pay-checks can be calculated from the time cards, or a summary

of sales for the month can be calculated from the sales orders.

- **Output**: At this stage, the result of the proceeding processing step is collected. The particular form of the output data depends on the use of the data. For example, output data may be pay-checks for employees.

1.1.12 Applications of IECT

Q19. Discuss the major applications of IECT.

Ans :

IECT stands for Information Electronics and Communication Technology. The applications of IECT are as follows:

- E-governance
- Multimedia and Entertainment

1. E-governance

Electronic governance is application of Information Electronics and Communication Technology in running an effective governance system for people. Communication refers to sharing of information between parties like common people, government, business, etc. Almost every government sector has changed to IECT like rail reservation system, gas subsidy disbursal, etc.

The primary delivery modals of e-Government can be divided into:

(a) Government-to-Business/ Consumer (G2C)

G2C model applies the strategy of customer Relationship Management (CRM) with business concept. By managing their relationship with citizen, government can provide the needed products and services fulfill the needs from customer/citizen.

(b) Government-to-Business

(G2B) is the online non-commercial interaction between Government and people to provide business information and also advice about e-business.

(c) Government-to-Government

(G2G) is the online non-commercial interaction between Government Departments / Authorities and other Government / Departments.

(d) Government-to-Employees (G2E)

This is the best and effective way of online interactions between government and employees.

2. Multimedia and Entertainment

Multimedia refers to combination of text, audio, video, graphics, animation, etc. It is one of applications of IECT. Multimedia is used to improve quality of presentation by incorporating information sharing, usage of graphics and animation, motion capture, etc.

1.1.13 Connecting keyboard, mouse, Monitor, Printers to CPU. And checking power supply.

Q20. Explain the procedure to connect different components to CPU.

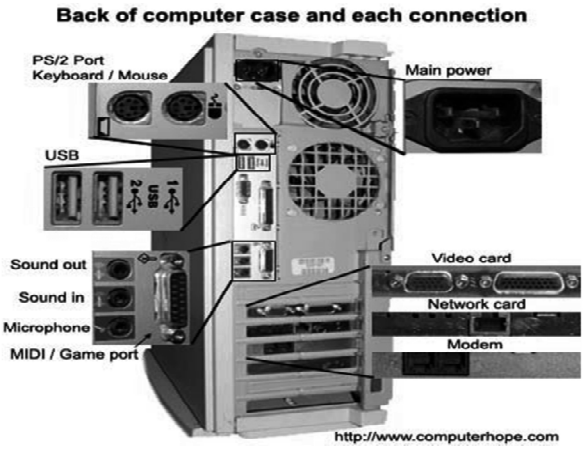
Ans :

First, take the **monitor**, **computer**, and all of the other parts out of their boxes. Make sure you set aside any manuals or documentation included in the boxes. You may need to refer to this documentation later. After unpacking the computer, you should have at, the minimum **power cords**, **monitor** or display device, **mouse**, and **keyboard**.

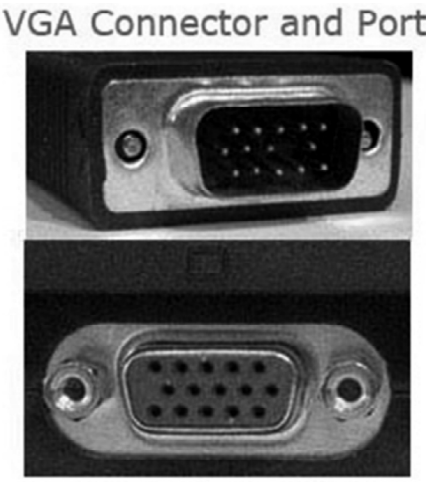
Position the computer

Set the computer monitor on the desk and put the computer on or next to the desk. Most often, the computer sits on the floor or on a shelf next to the desk or table. However, some computer desks offer a small cabinet for the computer. Place the mouse and keyboard that came with the computer on the desk or table, in front of the monitor.

Connect all cables



Monitor



The monitor data cable will plug into the computer in only one place. Most monitors will use either a **DVI, VGA,** or **HDMI** connector and plug into the corresponding port on the back of the computer. If your monitor only has a VGA plug and your computer only has a DVI connection, or visa versa, you need a **video converter** to connect your monitor.

After the data cable has been connected to the computer, connect the **power plug** from the monitor to the surge protector.

Keyboard and Mouse

The keyboard and mouse usually connect to the computer with the same type of connector, being either a **PS/2** or **USB** connector. These connectors are usually found closer to the top of where all the connectors are located on the back of the computer.

Connect the USB keyboard to the USB ports on the back or front of your computer. If you are using a **USB hub**, it can also be connected to the hub. However, we recommend a direct connection to the back of the computer if possible.

If you have a laptop computer, an external keyboard can also be connected to one of the USB ports. If no USB ports are available, a USB hub would be needed.

After the keyboard has been connected, it should automatically be detected and installed. If the keyboard has any special features, you need to **install the keyboard software and drivers**.

Computer power cord

For the computer, find the **power cord** and plug one end into the back of the computer itself (only one end will fit), usually at the top or the bottom. Plug the other end of the power cord into a **power outlet** or **surge protector**. We highly recommend that both the computer and monitor be powered through a surge protector. If your house experiences frequent **brown outs** or **black outs**, consider using a **UPS** to help protect your computer.

A surge protector can help protect the computer from getting damaged by power fluctuations and surges, which can save you money in the long run by minimizing needed repairs.

Speakers

If you have computer **speakers**, they can also be plugged into the back of the computer. The speakers connect to the **line out or sound out** port (usually green) on the back of the computer. If your speakers are powered speakers, the power cord should also be plugged into the surge protector.

Printer Connection

A computer printer does not work until you install the included drivers and software. If you have lost the CD for your printer, you can **download** the drivers for your printer and use the drivers to install your printer.

Connecting the printer to the computer

Connect the prin ter to the computer either using a **USB cable**, **parallel port cable**, or **SCSI cable** and then connect the **power plug** to a **power outlet**. Today, most all home computer printers are using a USB cable similar to the example picture.

Internet

Finally, if you are using a wired Internet connection, connect, the **category 5** Ethernet cable to the back of the computer. If you are planning on using **Wi-Fi** to connect to the Internet nothing else needs to be connected to the computer, but a Wi-Fi **router** needs to be in range of the computer.

1.2 Operating Computer Using GUI Based Operating System

1.2.1 Operating System

Q21. What is Operating System? What are the functions of OS ?

Ans :

Personal computer has advanced a lot in a short period of time, and much of the advancement is due to ongoing progresses in operating systems. Evolution of operating systems had made PCs easier to use and understand, flexible and reliable. This chapter is the study of primary operating systems currently used in personal computers and network servers, and their basic features.

Operating System

Operating system is a software that controls system's hardware and interacts with user and application software.

In short, an operating system is computer's chief control program.

Functions of Operating System

The operating system performs the following functions:

- It offers a user interface.
- Loads program into computer's memory.
- Coordinates how program works with hardware and other software.
- Manages how information is stored and retrieved from the disk.
- Saves contents of file on to disk.
- Reads contents of file from disk to memory.
- Sends document to the printer and activates the printer.
- Provides resources that copy or move data from one document to another, or from one program to another.
- Allocates RAM among the running programs.
- Recognizes keystrokes or mouse clicks and displayes characters or graphics on the screen.

Q22. Explain the concepts of an operating system.

Ans :

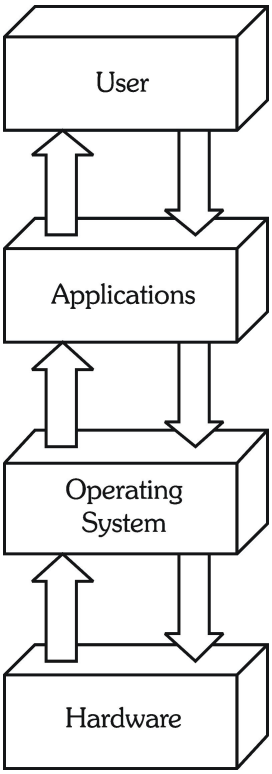
Sr.No.	Operating System Concepts & Description
1.	**Types of Operating System** There are four types of operating systems.
2.	**Basics of Popular Operating Systems** Windows Operating System is developed by Microsoft Corporation, Linux is a multitasking operating system that supports various users and numerous tasks. It is open source, i.e., code for Linux is available for free of cost
3.	**User Interface** While working with a computer, we use a set of items on screen called "user interface". In simple terms, it acts as an interface between user and software application or program
4.	**Running an Application** The operating system offers an interface between programs and user, as well as programs and other computer resources such as memory, printer and other programs.
5.	**Operating System Simple Setting** We will learn different settings in Operating System such as changing system date and time, changing display properties, etc.
6.	**File and Directory Management** File is nothing but a collection of information. The information can be of numbers, characters, graphs, images, etc. Directory is a place/area/location where a set of file(s) will be stored.
7.	**File Management System** The file management system is a software which is used to create, delete, modify and control access and save files.
8.	**Types of Files** There are five types of files such as Ordinary files, Directory files, Device files, FIFO files

Q23. What are the basic characteristics and objectives of OS?

Ans :

The Operating System is a program with the following features:

- An operating system is a program that acts as an interface between the software and the computer hardware.
- It is an integrated set of specialized programs used to manage overall resources and operations of the computer.
- It is a specialized software that controls and monitors the execution of all other programs that reside in the computer, including application programs and other system software.



Objectives of Operating System

The objectives of the operating system are:

- To make the computer system convenient to use in an efficient manner.
- To hide the details of the hardware resources from the users.
- To provide users a convenient interface to use the computer system.
- To act as an intermediary between the hardware and its users, making it easier for the users to access and use other resources.
- To manage the resources of a computer system.
- To keep track of who is using which resource, granting resource requests, and mediating conflicting requests from different programs and users.
- To provide efficient and fair sharing of resources among users and programs.

Characteristics of Operating System

Here is a list of some of the most prominent characteristic features of Operating Systems:

- **Memory Management :** Keeps track of the primary memory, i.e. what part of it is in use by whom, what part is not in use, etc. and allocates the memory when a process or program requests it.
- **Processor Management :** Allocates the processor (CPU) to a process and deallocates the processor when it is no longer required.
- **Device Management :** Keeps track of all the devices. This is also called I/O controller that decides which process gets the device, when, and for how much time.
- **File Management** : Allocates and de-allocates the resources and decides who gets the resources.
- **Security :** Prevents unauthorized access to programs and data by means of passwords and other similar techniques.
- **Job Accounting :** Keeps track of time and resources used by various jobs and/or users.
- **Control Over System Performance :** Records delays between the request for a service and from the system.
- **Interaction with the Operators :** Interaction may take place via the console of the computer in the form of instructions. The Operating System acknowledges the same, does the corresponding action, and informs the operation by a display screen.
- **Error-detecting Aids:** Production of dumps, traces, error messages, and other debugging and error-detecting methods.
- **Coordination Between Other Software and Users:** Coordination and assignment of compilers, interpreters, assemblers, and other software to the various users of the computer systems.

Q24. Discuss about types of operating system.

Ans :

Types of Operating Systems

An Operating System performs all the basic tasks like managing file,process, and memory. Thus operating system acts as manager of all the

resources, i.e. **resource manager**. Thus operating system becomes an interface between user and machine.

Types of Operating Systems: Some of the widely used operating systems are as follows-

1. Batch Operating System

This type of operating system does not interact with the computer directly. There is an operator which takes similar jobs having same requirement and group them into batches. It is the responsibility of operator to sort the jobs with similar needs.

Advantages of Batch Operating System:

- It is very difficult to guess or know the time required by any job to complete. Processors of the batch systems know how long the job would be when it is in queue
- Multiple users can share the batch systems
- The idle time for batch system is very less
- It is easy to manage large work repeatedly in batch systems

Disadvantages of Batch Operating System:

- The computer operators should be well known with batch systems
- Batch systems are hard to debug
- It is sometime costly
- The other jobs will have to wait for an unknown time if any job fails

Examples of Batch based Operating System:

Payroll System, Bank Statements etc.

2. Time-Sharing Operating Systems

Each task is given some time to execute, so that all the tasks work smoothly. Each user gets time of CPU as they use single system. These systems are also known as Multitasking Systems. The task can be from single user or from different users also. The time that each task gets to execute is called quantum. After this time interval is over OS switches over to next task.

Advantages of Time-Sharing OS:

- Each task gets an equal opportunity
- Less chances of duplication of software
- CPU idle time can be reduced

Disadvantages of Time-Sharing OS:

- Reliability problem
- One must have to take care of security and integrity of user programs and data
- Data communication problem

Examples of Time-Sharing OSs are

Multics, Unix etc.

3. Distributed Operating System

These types of operating system is a recent advancement in the world of computer technology and are being widely accepted all-over the world and, that too, with a great pace. Various autonomous interconnected computers communicate each other using a shared communication network. Independent systems possess their own memory unit and CPU. These are referred as **loosely coupled systems** or distributed systems. These system's processors differ in size and function. The major benefit of working with these types of operating system is that it is always possible that one user can access the files or software which are not actually present on his system but on some other system connected within this network i.e., remote access is enabled within the devices connected in that network.

Advantages of Distributed Operating System:

- Failure of one will not affect the other network communication, as all systems are independent from each other
- Electronic mail increases the data exchange speed
- Since resources are being shared, computation is highly fast and durable
- Load on host computer reduces
- These systems are easily scalable as many systems can be easily added to the network
- Delay in data processing reduces

Disadvantages of Distributed Operating System

- Failure of the main network will stop the entire communication
- To establish distributed systems the language which are used are not well defined yet
- These types of systems are not readily available as they are very expensive. Not only that the underlying software is highly complex and not understood well yet

Examples of Distributed Operating System are: LOCUS etc.

4. Network Operating System

These systems run on a server and provide the capability to manage data, users, groups, security, applications, and other networking functions. These type of operating systems allow shared access of files, printers, security, applications, and other networking functions over a small private network. One more important aspect of Network Operating Systems is that all the users are well aware of the underlying configuration, of all other users within the network, their individual connections etc. and that's why these computers are popularly known as **tightly coupled systems**.

Advantages of Network Operating System

- Highly stable centralized servers
- Security concerns are handled through servers
- New technologies and hardware up-gradation are easily integrated to the system
- Server access are possible remotely from different locations and types of systems

Disadvantages of Network Operating System:

- Servers are costly
- User has to depend on central location for most operations
- Maintenance and updates are required regularly

Examples of Network Operating System are: Microsoft Windows Server 2003, Microsoft Windows Server 2008, UNIX, Linux, Mac OS X, Novell NetWare, and BSD etc.

5. Real-Time Operating System

These types of OSs serves the real-time systems. The time interval required to process and respond to inputs is very small. This time interval is called **response time**.

Real-time systems are used when there are time requirements are very strict like missile systems, air traffic control systems, robots etc.

1.2.2 popular operating systems

Q25. List out various well known operating Systems.

Ans :

Popular Operating Systems

Initially computers had no operating systems. Every program needed full hardware specifications to run correctly as processor, memory and device management had to be done by the programs themselves. However, as sophisticated hardware and more complex application programs developed, operating systems became essential. As personal computers became popular among individuals and small businesses, demand for standard operating system grew. Let us look at some of the currently popular operating systems:

- **Windows:** Windows is a GUI operating system first developed by Microsoft in 1985. The latest version of Windows is Windows 10. Windows is used by almost 88% of PCs and laptops globally.
- **Linux:** Linux is an open source operating system mostly used by mainframes an supercomputers. Being open source means that its code is available for free and anyone can develop a new OS based on it.
- **BOSS:** Bharat Operating System Solutions is an Indian distribution of Linux based on Debian, an OS. It is localized to enable use of local Indian languages. BOSS consists of "
  - Linux kernel
  - Office application suite **BharteeyaOO**
  - Web browser
  - Email service **Thunderbird**
  - Chat application **Pidgim**
  - File sharing applications
  - Multimedia applications

Mobile OS

An operating system for smartphones, tablets and other mobile devices is called **mobile OS**. Some of the most popular OS for mobile devices includes"

- **Android:** This Linux-based OS by Google is the most popular mobile OS currently. Almost 85% of mobile devices use it.
- **Windows Phone 7**: It is the latest mobile OS developed by Microsoft.
- **Apple iOS**: This mobile OS is an OS developed by Apple exclusively for its own mobile devices like iPhone, iPad, etc.
- **Blackberry OS**: This is the OS used by all blackberry mobile devices like smartphones and playbooks.

1.2.3 The User Interface

Q26. What is user interface?

Ans :

A user interface, also called a "UI" or simply an "interface," is the means in which a person controls a software **application** or hardware device. A good user interface provides a "user-friendly" experience, allowing the user to interact with the software or hardware in a natural and intuitive way.

Nearly all software programs have a graphical user interface, or **GUI**. This means the program includes graphical controls, which the user can select using a mouse or keyboard. A typical GUI of a software program includes a **menu bar**, **toolbar**, **windows**, buttons, and other controls. The Macintosh and Windows operating systems have different user interfaces, but they share many of the same elements, such as a **desktop**, windows, icons, etc. These common elements make it possible for people to use either operating system without having to completely relearn the interface. Similarly, programs like **word processors** and **Web browsers** all have rather similar interfaces, providing a consistent user experience across multiple programs.

Most **hardware** devices also include a user interface, though it is typically not as complex as a **software** interface. A common example of a hardware device with a user interface is a remote control. A typical TV remote has a numeric keypad, volume and channel buttons, mute and power buttons, an input selector, and other buttons that perform various functions. This set of buttons and the way they are laid out on the controller makes up the user interface. Other devices, such as digital cameras, audio mixing consoles, and stereo systems also have a user interface.

While user interfaces can be designed for either hardware of software, most are a combination of both. For example, to control a software program, you typically need to use a **keyboard** and **mouse**, which each have their own user interface. Likewise, to control a digital camera, you may need to navigate through the on-screen menus, which is a software interface. Regardless of the application, the goal of a good user interface is to be user-friendly. After all, we all know how frustrating it can be to use a device that doesn't work the way we want it to.

1.2.4 Mouse(Left Button, Right Button, Moving icon on the screen)

Q27. Explain the functions of mouse ?

Ans :

The mouse is an external or built-in device for visual navigation. There are various forms of mouse devices:

- Classical form which you move around upon a mouse pad
- Track ball that you roll with your fingers
- Touch pad where you touch around with your fingers, etc.

Moving the mouse around the pad moves the arrow (or mouse pointer) on your screen. The mouse pointer changes its shape according to the visual element passing over. It can appear as a pen in an Edit Box, as a brush within a painting application, etc.

A mouse can have several buttons, but when using a standard software application, you will only be using the two standard mouse buttons: left and right. The buttons on the mouse allow you to start programs, move objects from one place to another and change various settings without typing in complex text commands.

You can perform the following easy functions with your mouse:

(a) Single Clicking

You can single click by moving your pointer on the screen so that it rests on top of an object such as a folder, icon, file, or other object, and then pressing the left mouse button. The object will then be highlighted.

(b) Double Clicking

Double clicking the left mouse button generally has two functions:

1. To open a file or folder to view the contents and
2. To start a program.

Because Windows needs to distinguish whether you actually meant to double click something or just single click an object twice, you may need to practice double clicking. The clicks must be rapid; Windows considers two consecutive, slow clicks as separate single clicks rather than one double click.

When double clicking on a folder, the folder opens and displays its contents.

If you double click a program icon, the program will start.

(c) Right Clicking

Right clicking refers to single clicking the right mouse button. In different applications, the right button will offer different options and functionality. Mostly this click activates the so-called Context Menu. Here is a basic use for the right click.

Right click on the desktop and select **New**.

From the choices that appear, select the **Folder** option by moving the pointer over the word folder in the menu and clicking the left button.

A new folder that you can rename will appear on your desktop. You might create a new folder if you would like to have a location to put all of your backup files.

(d) Dragging and Dropping

The most common method for sighted persons of moving objects around is by dragging and dropping. We explain it here by the example of moving a file from one location to an other.

To drag an object, select it by clicking your left mouse button on the picture, or icon, and holding it down. While still holding the mouse down, drag the icon to the new location. Release the button.

1.2.5 Use of Common Icons

Q28. Define Icon ? How to create, arrange, and remove Windows desktop icons ?

Ans :

An icon is a small graphical representation of a program or file. When you **double-click** an icon, the associated file or program will be opened. For example, if you were to double-click on the My Computer icon, it would open **Windows Explorer**. Icons are a component of **GUI** operating systems, including **Apple macOS X** and **Microsoft Windows**. Icons help users quickly identify the type of file represented by the icon.

Desktop icons are a great way for users to quickly access programs, files, folders, and even web pages. If you're looking to create, arrange, or remove desktop **icons** in **Windows**, make your selection from the list below and follow the instructions.

How to create a desktop icon

1. Press **Windows key+D** or navigate to the Windows desktop.
2. **Right-click** any **blank space on the desktop**. If you're on a laptop, tap the trackpad with two fingers at the same time.
3. In the **drop-down menu** that appears, move your **mouse cursor** over **New**, then select **Shortcut**.
4. In the window that appears, select **Browse...** then navigate to the program, file, or folder which you'd like to create a shortcut, and then click **Ok**.
5. In the Create Shortcut window, select **Next**, then **Finish**.

How to arrange desktop icons

1. Press **Windows key+D** or navigate to the Windows desktop.
2. **Right-click** any **blank space on the desktop**. If you're on a laptop, tap the trackpad with two fingers at the same time.

3. In the **drop-down menu** that appears, select **Sort by**. You should see another menu appear to the right.
4. Choose how you'd like the icons arranged, either by **Name, Size, Item type or Date modified**.

How to remove a desktop icon

To remove a desktop icon, **single-click** it and press the **Delete key**.

Q29. Define Desktop?

Ans :

The desktop is the primary user interface of a computer. When you boot up your computer, the desktop is displayed once the startup process is complete. It includes the desktop background (or wallpaper) and icons of files and folders you may have saved to the desktop. In Windows, the desktop includes a task bar, which is located at the bottom of the screen by default. In Mac OS X, the desktop includes a menu bar at the top of the screen and the Dock at the bottom.

The desktop is visible on both Windows and Macintosh computers as long as an application or window is not filling up the entire screen. You can drag items to and from the desktop, just like a folder. Since the desktop is always present, items on the desktop can be accessed quickly, rather than requiring you to navigate through several directories. Therefore, it may be helpful to store commonly used files, folders, and application shortcuts on your desktop.

1.2.6 Status Bar

Q30. What is the use of Status Bar? How can view hidden status bar in a browser.

Ans :

A **status bar** is located at the bottom of **Internet browser** windows and many application **windows** and displays the current **state** of the **web page** or application being displayed.For example, in early versions of Internet Explorer, it showed whether the page was secure, its certificate, what was currently being loaded on the page, and the **web address**.

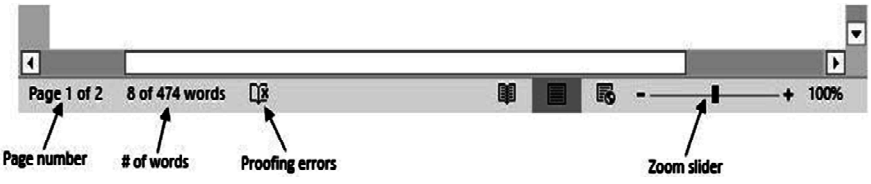
Example of a status bar

Below is an example of what the status bar looked like in Microsoft Internet Explorer.

Status bar in other applications

Today, some applications still feature a status bar, unlike Internet browsers. Application status bars may show page numbers, number of words in a document, or other information about the application or file currently open.

For example, in Microsoft Word, the status bar is located at the bottom of the Word application window. The Word status bar displays the current page number of the document, total pages, number of words, and if there are any proofing errors. If text is highlighted in the document, the number of words in that highlighted portion of text is displayed. A zoom slider is also displayed, allowing a user to zoom in or out of a document.



How can we view or hide the status bar in a browser

Windows Explorer

The status bar in Windows Explorer is displayed by default, but only shows basic information about a select file or folder. To see more details about a file, you can enable the Details pane using the steps below.

1. Open Windows Explorer.
2. Click **View**.
3. Click the **Details pane** option.

Internet Explorer browser

1. Open Internet Explorer.
2. Click **View** in the menu bar at the top. If you don't see the "File Edit View" menu options, press the Alt key.
3. Select the **Toolbars** option.
4. Check or uncheck the **Status bar** option to view or hide the status bar.

Opera browser

Newer versions of Opera no longer have a full status bar. Instead, a pop-up mini status bar is displayed at the bottom left of the Opera window when hovering over a web page hyperlink.

In older versions of Opera, the status bar can be shown or hidden by following the steps below.

1. Open Opera.
2. Click the **View** menu.

Check or uncheck the **Status bar** option to view or hide the status bar.

1.2.7 Menu Bar / Using menu & Menu selection

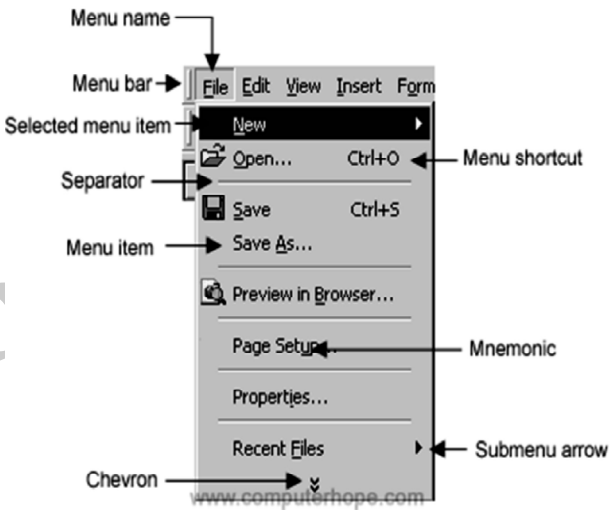
Q31. What is the use of Menu Bar ?

Ans :

A **menu bar** is a thin, horizontal bar containing the labels of drop-down menus in an operating system's GUI. It provides the user with a standard place in a window to find the majority of a program's essential functions. These functions include opening and closing files, editing text, and quitting the program. Although menu bars are usually present in most GUIs, they may differ depending on the operating system you're using.

Microsoft Windows menu bars

In Microsoft Windows, the **menu bar** is beneath the title bar. The menu bar in Windows may be accessed via keyboard shortcuts. Pressing the Alt key and the menu-specific hotkey (which appears as an underlined letter in the menu) activates that menu choice. Below is a diagram of a Windows file menu with a description of each part of the menu.



With Windows 8, Windows 10, and full-screen programs, the menu bar may be hidden to improve the appearance of the program. To show the menu bar move your mouse or finger to the top of the screen.

Not all programs use a file menu. For example, in new **Office** programs instead of a file menu it uses the **Ribbon**. Other programs may use a **hamburger menu, kebab menu** (e.g., **Chrome**), or meatballs menu (e.g., **Edge**) to access the programs features. For these programs, you'll need to use the alternative menu system.

Some programs may also hide the file menu to keep the interface clean. With these programs, press the **Alt key** or **F10 function key** any time you want to open the file menu. Other programs may only show the menu when the mouse pointer is moved to the top of the screen or when **scrolling** up.

1.2.8 Running an application

Q32. What is the use of task manager ?

Ans :

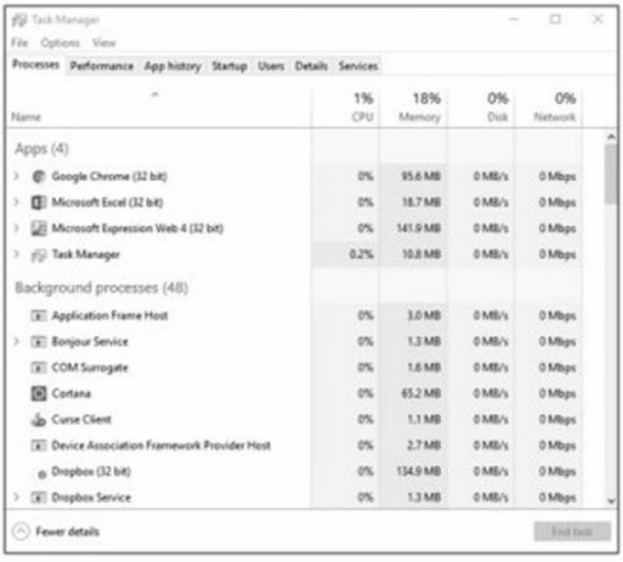
Windows Task Manager

The Microsoft **Windows Task Manager** is a general, quick, and easy method of seeing what is running on the computer.You can access the Task Manager by pressing **Ctrl+Alt+Del** on your keyboard, then select **Task Manager**. You can also **right-click** with your **mouse** on the Windows **Taskbar** and select **Task Manager**.

The **Task Manager** is an operating system component found in all versions of **Microsoft Windows** since Windows NT 4.0 and Windows 2000. It allows you to view each of the tasks (processes) and the overall performance of the computer. Using the Task Manager, you can view how much memory a program is using, stop a frozen program, and view available system resources.

As you can see in the picture below, in Windows 8 and Windows 10, the Windows Task Manager opens with the Processes tab selected. In Windows 7 and earlier, the Task Manager opens with the Applications tab selected. In both cases, the applications currently open and running on the computer are displayed. From here, you can end any application that is not responding by selecting it in the list and clicking the **End Task** button.

Windows 8 / Windows 10



Windows 7 and earlier

One of the most common things done in Task Manager is using **End Task** to stop a program from running. If a program is no longer responding, you can choose to End Task from the Task Manager to close the program without having to restart the computer.

1.2.9 Viewing of file, Folder and Directories.

Q33. How to Choose a File (or) Folder View in Windows Explorer

Ans :

Windows Explorer is a program you can use to find a file or folder by navigating through an outline of folders and subfolders. It's a great way to view files on your computer, and you can even adjust how the files and folders are displayed.

To choose a file or folder or directory view in Windows Explorer:

1. Right-click the Start menu button and choose Open Windows Explorer, or click the Windows Explorer button on the taskbar

   The Windows Explorer button looks like a set of folders. The Windows Explorer window appears.

2. Double-click a folder in the main window or in the list along the left side to open the folder.

   The folder's contents are displayed.

3. To see different perspectives and information about files in Windows Explorer, click the arrow on the Views button.

   The View button looks like a series of columns.

4. Choose the menu option that matches how you would like the files to appear.

   Your choices include Extra Large Icons, Large Icons, Medium Icons, or Small Icons for graphical displays; Details to show details such as Date Modified and Size; Tiles to show the file/folder name, type, and size; and Content to display the date modified and file size only.

1.2.10 Creating and renaming of files and folders

Q34. Explain the steps to create and rename a file or folder?

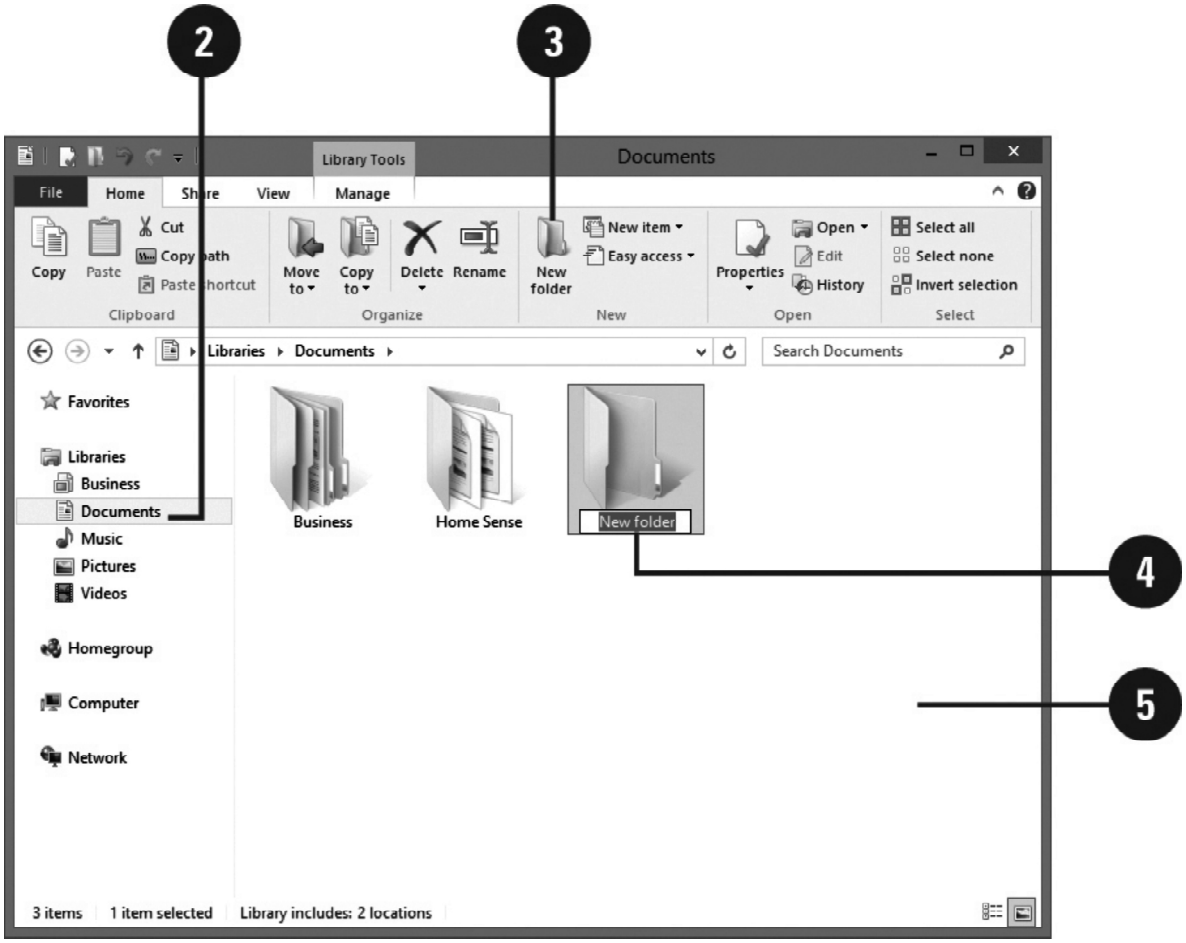
Ans :

Creating and Renaming Files and Folders

The keys to organizing files and folders effectively within a hierarchy are to store related items together and to name folders informatively. Creating a new folder can help you organize and keep track of files and other folders. In order to create a folder, you select the location where you want the new folder, create the folder, and then lastly, name the folder. You should name each folder meaningfully so that just by reading the folder's name you know its contents. After you name a folder or file, you can rename it at any time.

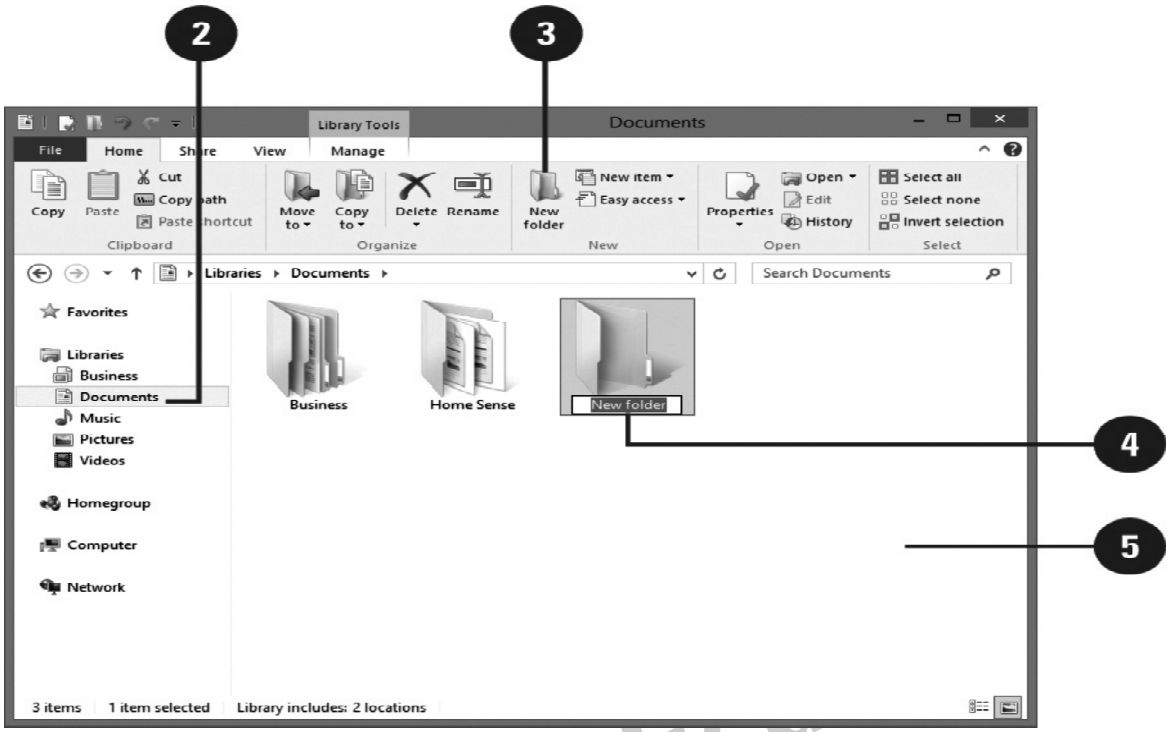
Create a Folder

- 1 In the desktop, click or tap the **File Explorer** button on the taskbar.
- 2 Open the drive or folder where you want to create a folder.
- 3 Click or tap the **New Folder** button on the Home tab.
- 4 With the New Folder name selected, type a new name.
- 5 Press Enter or tap in a blank area.

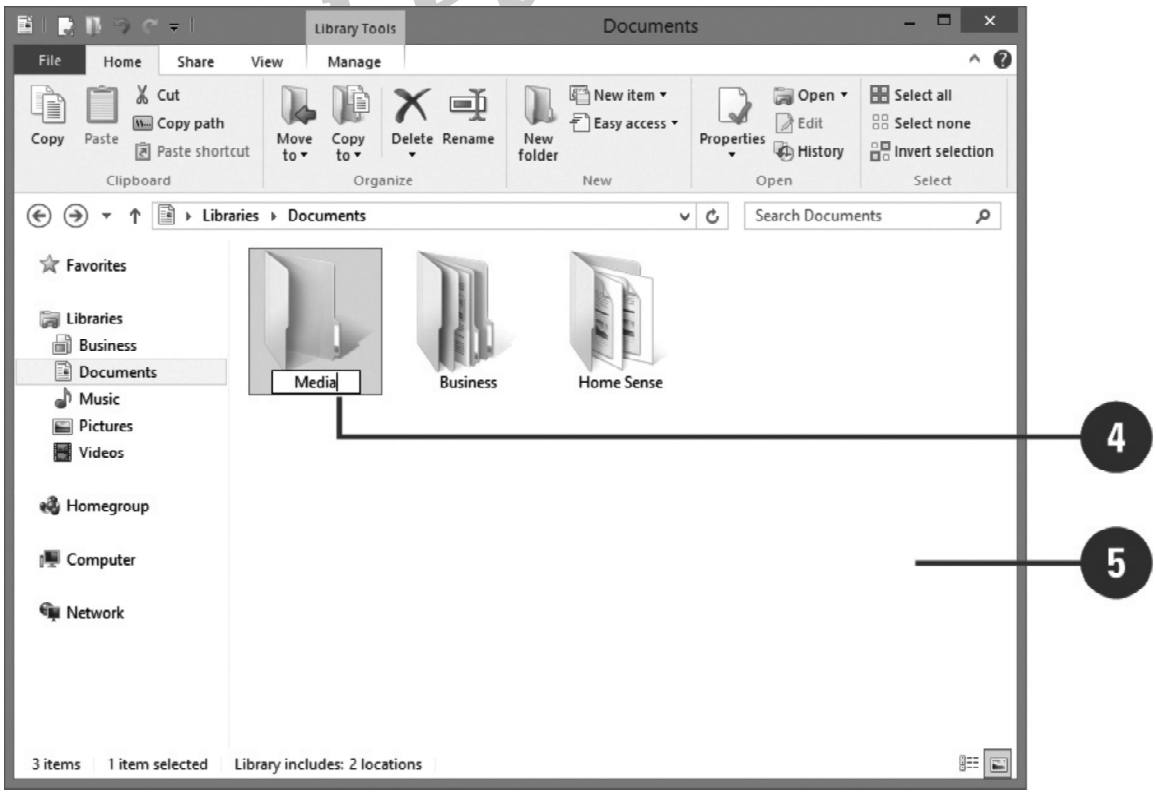


Rename a File or Folder

- 1 In the desktop, click or tap the **File Explorer** button on the taskbar.
- 2 Select the file or folder you want to rename.
- 3 Click or tap the **Rename** button on the Home tab.



- With the name selected, type a new name, or click or tap to position the insertion point, and then edit the name.
- Press Enter or tap in a blank area.



1.2.11 Opening and closing of different Windows

Q35. How can we open close move and windows resizing?

Ans:

Opening, closing, resizing and moving windows

To reduce clutter on your screen, inactive windows are often "closed" or "minimized", that is, replaced by a smaller "icon" that acts as a placeholder for the program running in the window.

(a) To open a closed window

Move the mouse pointer onto the icon for the window, and either press the Open key (L7) on the keyboard or double click the left mouse button (press it twice in rapid succession).

(b) To close an open window

Move the mouse pointer onto the window, and either press the Open key (L7), or click the left mouse button while the pointer is on the square in the upper right corner of the window that is marked with a small dot.

(c) To move a window

Move the mouse pointer to the title bar at the top of the window. Push the left mouse button down and hold it down while you move the mouse to drag the window to a new position. Release the button when the window is at the desired position.

(d) To bring a window forward

So it is not obscured by overlapping windows, move the mouse pointer onto the desired window and press Front (L5). If you press Front when the mouse pointer is already on the front window, that window is pushed behind all other windows. Alternatively, move the pointer to any part of the frame surrounding the window and click the left button to bring the window forward.

(e) To resize a window

Move the mouse pointer to the corner of the window whose size you want to change. The pointer will change shape from an arrow to an L-shape matching that corner. Then:

1. Hold down the left mouse button.
2. Drag the outline of the window to the desired size.
3. Release the button.

To move a window to another workspace

Move the mouse pointer over the title bar, or any other part of the frame surrounding the window, and press the right mouse button. The Window Menu will appear. Click on **Occupy Workspace...** to see a window of workspace names, then click the left mouse button on the desired workspace, followed by **OK**.

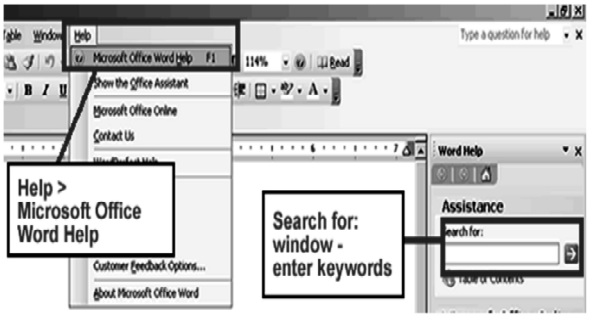
1.2.12 Help

Q36. What is the use of Help Menu in Ms Word?

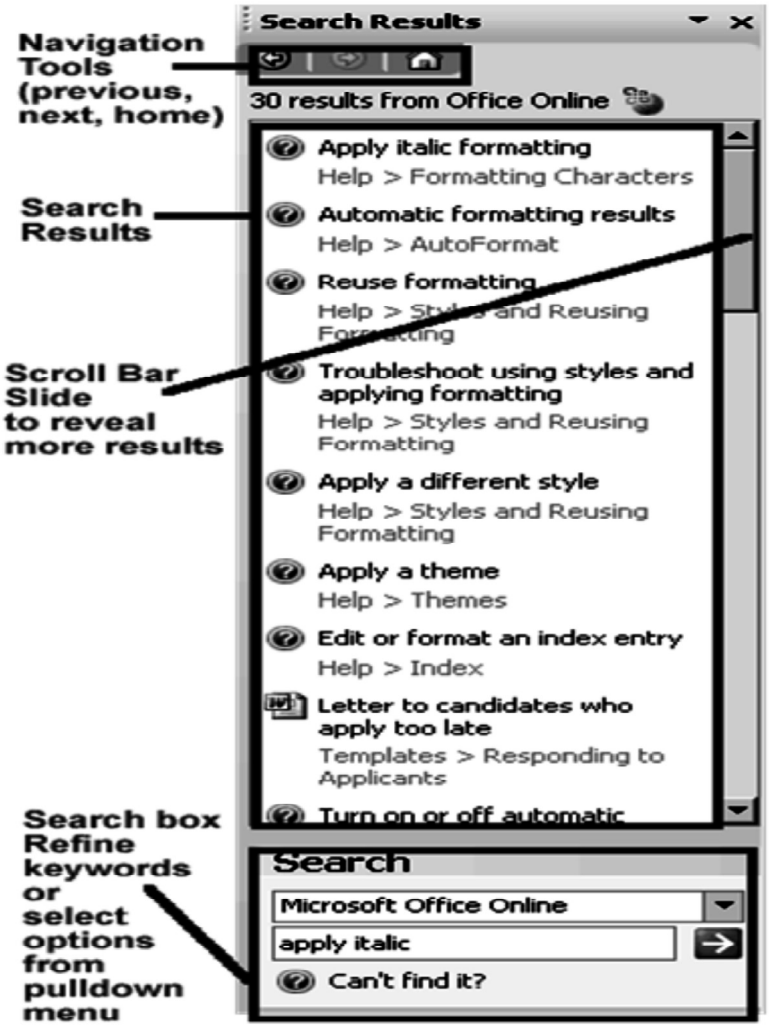
Ans :

Using the Microsoft Word Help Menu

Much like searching the research database for answers to your questions, you can use the help menu which searches a database for answers to your Word questions. To access the help menu, go to the Menu Bar and select **Help > Microsoft Word Help**. Access to Word's Help Resources will open on the right. Enter the keywords or phrase of the skill or information you are researching in the **Search For:** box. See diagram below.



Press the green arrow "next" button. The Word help database will provide you with a number of options. Select the one that best describes the answer you seek. Double-click on the blue title to access the information. See diagram below.



If you do not find what you need, either select the green "back" arrow from the navigation buttons at the top, enter new words in the search box at the bottom of the help window, or click on "Can't find it?" to get some tips on searching more effectively.

1.2.13 Creating Shortcuts

Q37. How to create a Windows shortcut

Ans:

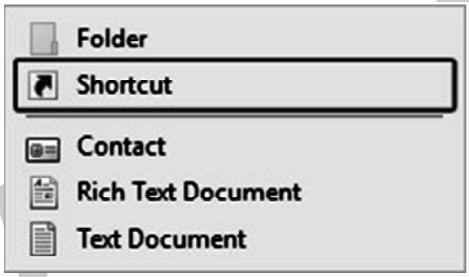
Shortcuts are a great way to quickly access programs, files, folders, and even web pages. They can be conveniently placed on your desktop or in certain directories or folders. There are a few methods used to achieve these results.

Create a shortcut using Microsoft's wizard

This method allows users to create shortcuts on the Windows desktop or in a folder.

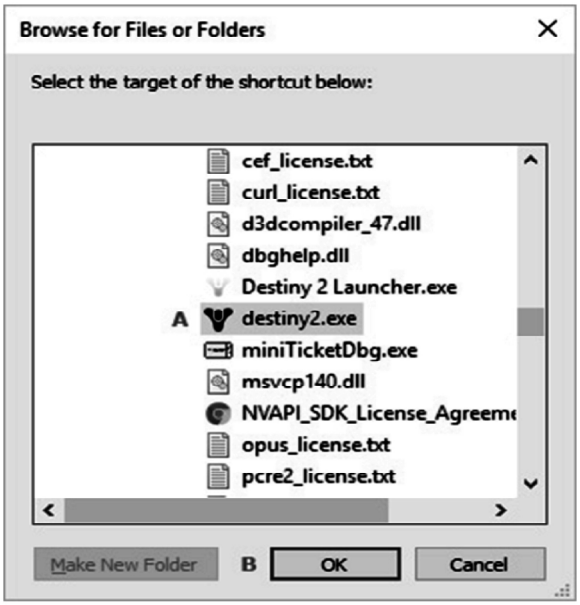
1. **Right-click** a blank space on the Windows desktop, a folder, or in a directory.
2. Move your mouse cursor over **New** in the **drop-down menu** that appears.

3. Then **select Shortcut**.



4. On the Create Shortcut window, click the Browse... button.

5. **Locate the program** for which you'd like to create a shortcut (**A**), and then **click OK** (**B**).

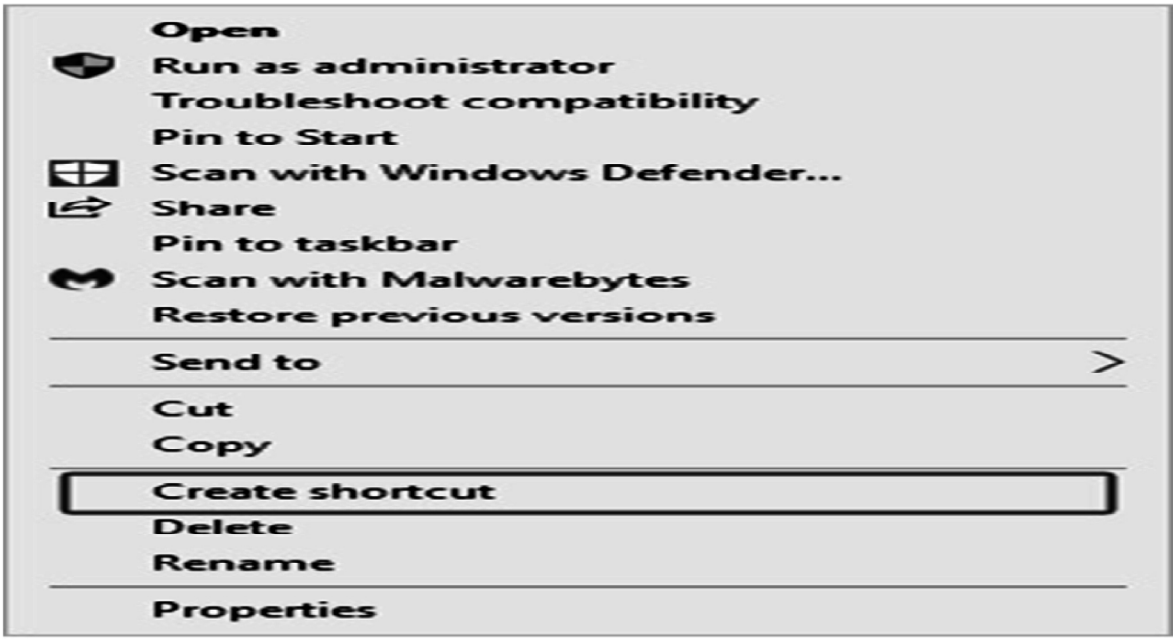


6. Click the Next > button.

7. **Type in a name** for the shortcut, then click the Finish button.

Create a shortcut from a folder

1. Open the **Windows File Explorer** by pressing the **Windows key** and E at the same time.
2. Browse to the folder that contains the program for which you'd like to create a shortcut.
3. **Right-click** on the program and select **Create Shortcut** from the drop-**down menu** that appears.



4. Doing so creates a shortcut named "<selected program's name> - Shortcut" in the current directory.
5. After completing the above steps, you can right-click the shortcut to copy or cut it, and then paste it to another location.

1.2.14 Basics of Operating Set up

Q38. Explain the steps for basics of operating system set up.

Ans :

The steps for installing an operating system, like Linux or Microsoft Windows, depends on the operating system version you are installing. Each version has different steps and options that are unique to that operating system.

Following are the general steps and guidelines for installing an operating system on your computer.

Step 1: Purchase the operating system

First, you need to purchase the operating system that you want to install on the computer. The best place to purchase the operating system from is a retail store, like Best Buy, or through an online store, like Amazon or Newegg. The operating system may come on multiple CD or DVD discs, or it may even come on a USB flash drive.

It is not recommended that you obtain the operating system by downloading it, unless it is downloaded from the operating system publisher, like Microsoft, or from a reputable online store. Downloading it from another source may result in an unusable or illegal copy of the software.

Step 2: Install the operating system

To install the operating system on the computer, if the operating system software came on a CD or DVD, you need to configure your computer to boot to the CD/DVD drive. You can change the boot sequence by accessing the computer BIOS and setting the CD/DVD drive to be the first boot device. Some computers may also allow you to access the boot sequence directly at computer start up, without entering the BIOS, by pressing a specific key on the keyboard. The key to press differs for each computer, but is often either the Delete key or one of the function keys at the top.

If the operating system software came on a USB flash drive, you need to configure the computer to boot to a USB device as the first boot device.

Once the computer is configured to boot to the proper device, the computer should load the operating system installation program and guide you through the install process. You will be asked questions along the way for configuration of basic settings, like date and time, user account name, and if you want to enable automatic operating system updates. Go through the installation steps, answering questions and selecting the preferred options.

Step 3: Running the operating system

After the operating system has been installed, the computer should load into the operating system. You may then proceed with installing software programs that you want on the computer and updating any settings you want.

1.2.15 Common Utilities

Q39. What is utility software?

Ans :

Utility programs, commonly referred to as just "utilities," are software programs that add functionality to your computer or help your computer perform better. These include antivirus, backup, disk repair, file management, security, and networking programs. Utilities can also be applications such as screensavers, font and icon tools, and desktop enhancements. Some utility programs help keep your computer free from unwanted software such as viruses or spyware, while others add functionality that allows you to customize your desktop and user interface. In general, programs that help make your computer better are considered utilities. And unlike water and electric bills, computer utilities don't send you a bill every month!

These software analyse and maintain a computer. These software are focused on how OS works on that basis it perform task to enable smooth functioning of computer. These software may come along with OS like windows defender, windows disk cleanup tool.

Antivirus, backup software, file manager, disk compression tool all are utility software.

Some of popular utility software are described below

Antivirus

It is used to protect a computer from the virus. It detects a virus and notify the user and take action to secure the computer. The virus are kept in different location called vault where it has different file system due to which virus effect it. User can itself instruct antivirus to delete malicious program, put it in vault or even ignore it. These days most come in GUI form.

The first antivirus program appeared in 1987 with the introduction of an antivirus program from G Data Software for the Atari ST. Later in the same year, VirusScan was introduced by John McAfee, which later became the McAfee antivirus program.

Examples

Windows Defender, AVG, AVAST, MCAFEE etc.

File Management Tool

The software is used to manage files stored in a file system. It can be used to create, group file. Like Windows File Explorer is a file management tool.

File system (like FAT32, NTFS) should not be confused with File management tool former is a data structure used to store file in a OS while later is used to perform task on file stored in the file System.

Some example of File management Tool are:

File Manager in Windows.

macOS Finder.

Directory Opus.

Dolphin in KDE.

Compression Tool

These tool are used to reduce the size of a file based on the selected algorithm.

Most operating systems include tools for compressing and uncompressing files.Linux has tools for both .tar.gz and .zip. Other compressed files, like .7z and .rar, require a third-party compression utility to be installed.

Some Examples are:

WinAce

WinZip

WinRAR

7-Zip

PKZIP

DISK MANAGEMENT TOOL

Disk Management is utility first introduced in Window XP as a replacement of the fdisk command.It enables us to view or managed the disk drives installed in their computer and the partition associated with those drives.

Disk Management is used to managed the drives installed in a computer- like hard disk drives, and flash drives.It can be used to partition drives, assign drive letters and much more.

Some Disk Management tools are:-

- Mini Tool Partition Wizard
- Paragon Partition Manager
- EaseUS Partitin Master
- SMART Monitering Tools
- AOMEI Partition Assistant

DISK CLEANUP TOOL

It is computer utility maintenance which is included in Microsoft Windows. It allows user to remove files that are no longer needed or that can be safely deleted. Removing unneccessary files, including temporary files, can help to improve the functioning and increase the free space of the computer. Running Disk Cleanup at least once a month is an excellent maintenance task.

Disk Cleanup tool can delete temporary internet files, old check disk files, compress old filesand offline webpages. Disk cleanup also allows you to empty the Recycle Bin, delete temporary files, and delete Thumbnails.

Some Disk Cleanup software are :

- Iolo System mechanic
- IObit Advanced systemCare
- Piriform CCleaner
- Razer Cortex

Disk Defragmenter

It is a utility in Microsoft Windows designed to increase access speed by rearranging file stored on a disk to ocuppy contiguous storage locations, a technique is called

Defragmentation

Defragmenting a disk minimizes head travel, which reduces the time it takes to read files from and write files to the disk.

The defragmenter will search your harddrive partition and move data from one location to other location, so that the files stored there are one contiguous piece, istead of being throughout multiple locations on the harddrives partition.

Some Disk Defragmenter are:

- Auslogics Disk Defrag
- MyDefrag
- Perfect disk
- Deflaggler

1.3 Understanding Word Processing

1.3.1 Basics of word processing

Q40. Define word processing. What are the use of word processing ?

Ans :

Word processing software is used to manipulate a text document, such as a resume or a report. You typically enter text by typing, and the software provides tools for copying, deleting and various types of formatting. Some of the functions of word processing software include:

- Creating, editing, saving and printing documents.
- Copying, pasting, moving and deleting text within a document.
- Formatting text, such as font type, bolding, underlining or italicizing.
- Creating and editing tables.
- Inserting elements from other software, such as illustrations or photographs.
- Correcting spelling and grammar.

Word processing includes a number of tools to format your pages. For example, you can organize your text into columns, add page numbers, insert illustrations, etc. However, word processing does not give you complete control over the look and feel of your document. When design becomes important, you may need to use desktop publishing software to give you more control over the layout of your pages.

Word processing software typically also contains features to make it easier for you to perform repetitive tasks. For example, let's say you need to send a letter to all your customers regarding a new policy. The letter is the same for all customers except for the name and address at the top of the letter. A mail merge function allows you to produce all the letters using one template document and a table with customer names and addresses in the database.

Text editors shouldn't be confused with word processing software. While they do also allow you to create, edit and save text documents, they only work on plain text. Text editors don't use any formatting, such as underlined text or different fonts. Text editors serve a very different purpose from word processing software. They are used to work with files in plain text format, such as source code of computer programs or configuration files of an operating system. An example of a text editor would be Notepad on the Windows platform.

Q41. List and explain standard features of word processing?

Ans :

Microsoft Word is a popular word processing software. It helps in arranging written text in a proper format and giving it a systematic look. This formatted look facilitates easier reading. It provides spell-check options, formatting functions like cut-copy-paste, and spots grammatical errors on a real-time basis. It also helps in saving and storing documents.

It's also used to add images, preview the complete text before printing it; organize the data into lists and then summarize, compare and present the data graphically. It allows the header and footer to display descriptive information, and to produce personalized letters through mail. This software is used to create, format and edit any document. It allows us to share the resources such as clip arts, drawing tools, etc. available to all office programs.

Standard Features of Word Processors

Word processors vary considerably, but all word processors, whether cloud-based or installed on a system, support the following basic features:

i) Insert text

Allows you to insert text anywhere in the document.

ii) Delete text

Allows you to erase characters, words, lines, or pages.

iii) Cut and paste

Allows you to remove (cut) a section of text from one place in a document and insert (paste) it somewhere else.

iv) Copy

Allows you to duplicate a section of text.

v) Page size and margins

Allows you to define various page sizes and margins, and the word processor will automatically readjust the text so that it fits.

vi) Search and replace

Allows you to direct the word processor to search for a particular word or phrase. You can also direct the word processor to replace one group of characters with another everywhere that the first group appears.

vii) Word Wrap

Automatically moves to the next line when you have filled one line with text, and it will readjust text if you change the margins.

viii) Print

Allows you to send a document to a printer to get hard copy.

ix) File management

Provides file management capabilities that allow you to create, delete, move, and search for files.

x) Font specifications

Allows you to change fonts within a document. For example, you can specify bold, italics, and underlining. Most word processors also let you change the font size and even the typeface.

xi) Windows

Allows you to edit two or more documents at the same time. Each document appears in a separate window. This is particularly valuable when working on a large project that consists of several different files.

xii) Spell checking

Identifies words that don't appear in a standard dictionary.

Q42. Explain the Features of Word Processing.

Ans :

The advanced word processors are called full-featured word processors. These word processor provide additional features to format documents in more sophisticated ways. Following are some important features of an advanced word processor.

i) File management

An advanced word-processor contains file management capabilities. It can be used to create, delete, move and search files.

ii) Font Specification

The appearance of text in the document is called font or typeface. Full-featured word processor can change the font of all or selected text to improve readability. Fonts are used to create the text of different styles and sizes. The user can specify bold, italic and underline.

iii) Graphics

Full-featured word processor is used to insert images and graphs in a document. Some word processors also provide the facility to create images. Some word processors only provide the facility to insert images created in different programs.

iv) Header, Footer and Page Numbering

Full-featured word processor provides header and footer feature. Header is the text that is added to the top of every page. It may include document title or page number. Footer is the text that is added at the bottom of the every page.

v) Spell checker

Spell checker features in full-featured word processor help the user to correct any spelling in the document. The misspelled words are highlighted.

vi) Layout

Full-featured word processor provides the facility to specify different margins within a single document. Is also specifies different methods for indenting paragraphs.

vii) Table of contents and indexes

Full-featured word processor can also generate a table of contents and index. It is based on special code inserted in the document. It is very helpful in writing books.

viii) Merges

It is used merge text from one file into another file. It is useful to generate many files that has same format but different data. Generating mailing labels is an example of merges.

ix) Thesaurus

Thesaurus feature provides the appropriate word or alternate words.

x) Auto Correct

Word processor automatically corrects many commonly misspelled words and punctuation marks with the autocorrect feature.

xi) Document Window

Full-featured word processor can be used to edit two or more documents at the same time. Each document appears in a separate window. It is very useful if a user is working on a large project that consists of several files.

xii) Footnotes and cross-reference

Full-featured word processor can generate footnotes at the bottom of the page. Footnotes are used to cross-reference other section of the document easily.

xiii) WYSIWYG

It stands for what you see is what you get. It means that the printed copy of the document will be similar as appears in the word processor.

xiv) Macros

A macro is a character or word that represents a series of keystrokes. The keystrokes may represent text or commands. The macros are defined to save a lot of time for repeating the same task.

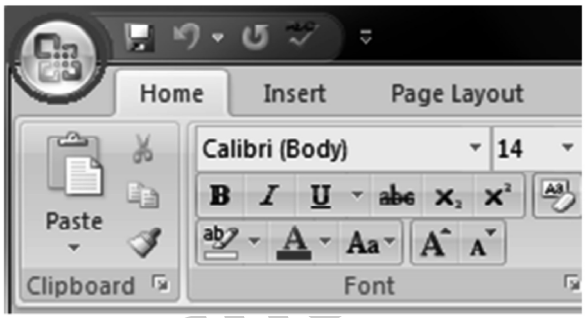
Q43. Explain about office button.

Ans :

Microsoft Office Button

Microsoft Office Button is located on the top left corner of the window.It is a new user interface feature that replaced the traditional "File" menu. You can also see this button in Outlook while creating a new message, task, contact, etc.

See the image



When you click the button it offers a list of commands to perform different tasks which are New, Open, Save, Save As, Print, Prepare, Send, Publish and Close. These commands are described below the following image.

See the image

New

This command enables you create a new file, i.e. Word document.

Open

This command allows you to open an existing file on the computer.

Save

This command is used to save a file after completing the work. You can also save the changes made to the currently open file.

Save As

This command helps you save a new file with a desired file name to a desired location on the hard drive.

Print

This command is used to print a hard copy of the currently open document.

Prepare

This command allows you to prepare the document for distribution, i.e. you can view and edit the document properties and inspect the hidden metadata.

Send

This command allows you share the document with other users, i.e. you can send a document through e-mail or by posting to a blog.

Publish

This command allows you distribute the document to other people, i.e. you can create a blog with the content of the document.

Close

This command is used to close the currently open file.

Q44. What is the use of quick access tool bar?

Ans :

Quick Access Toolbar

Quick Access Toolbar lies next to the Microsoft Office Button. It is a customizable toolbar that comes with a set of independent commands. It gives you quick access to commonly used commands such as Save, Undo, Redo, etc.

See the image

When you click the drop-down arrow next to toolbar it offers more commands. With a left click you can add any of these commands to Quick Access Toolbar. You can also remove the commands added to the tool bar. The indent, spacing values, individual styles and other features that appear on the ribbon cannot be added to quick access toolbar. The following image is showing the menu of quick access toolbar.

See the image

Q45. What is the use of Title bar and ruler?

Ans :

Title Bar

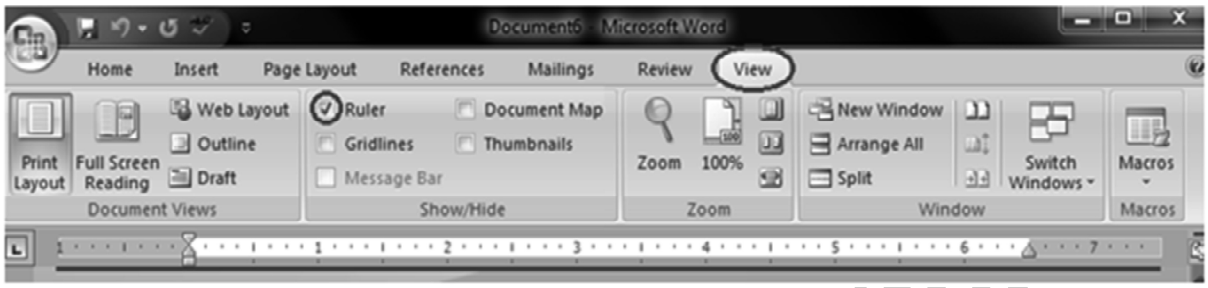
It lies next to the Quick Access Toolbar. It displays the title of the currently open document or application. It is present on almost all windows displayed on your computer. So, if there are several windows across the screen, you can identify each window by looking at the title bar. In many graphical user interfaces, you can also move a window by dragging the title bar.

See the image

Ruler

The Ruler is located below the Ribbon around the edge of the document. It is used to change the format of the document, i.e. it helps you align the text, tables, graphics and other elements of your document. It uses inches or centimeters as the measurements unit and gives you an idea about the size of the document.

See the image



Q46. Give a basic lookup about Ribbon and tabs of word.

Ans :

Ribbon and Tabs

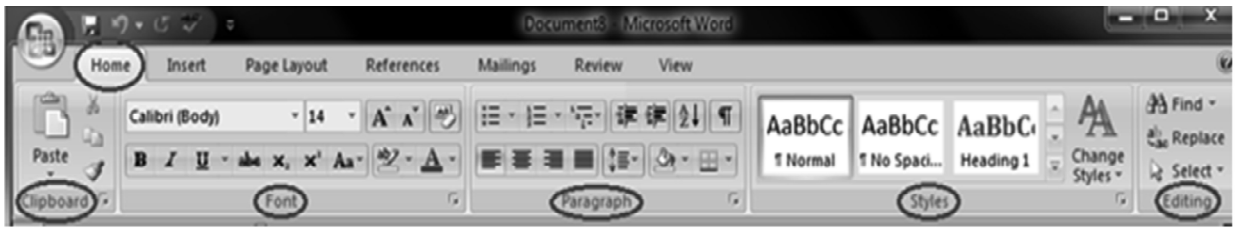
The Ribbon is a user interface element which was introduced by Microsoft in Microsoft Office 2007. It is located below the Quick Access Toolbar and the Title Bar. It comprises seven tabs; Home, Insert, Page layout, References, Mailing, Review and View. Each tab has specific groups of related commands. It gives you quick access to the commonly used commands that you need to complete a task.

See the image

Home tab

The Home tab is the default tab in Microsoft Word. It has five groups of related commands; Clipboard, Font, Paragraph, Styles and Editing. It helps you change document settings like font size, adding bullets, adjusting styles and many other common features. It also helps you to return to the home section of the document.

See the image



Insert tab

Insert Tab is the second tab in the Ribbon. As the name suggests, it is used to insert or add extra features in your document. It is commonly used to add tables, pictures, clip art, shapes, page number, etc. The Insert tab has seven groups of related commands; Pages, Tables, Illustrations, Links, Header & Footer, Text and Symbols.

See the image

Page Layout tab

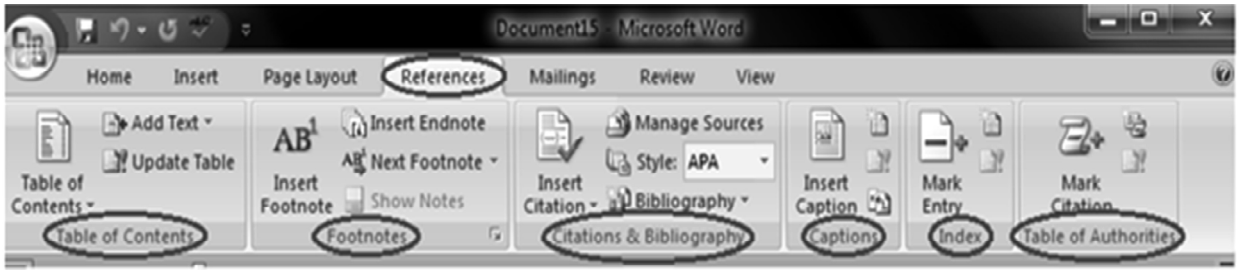
It is the third tab in the Ribbon. This tab allows you to control the look and feel of your document, i.e. you can change the page size, margins, line spacing, indentation, documentation orientation, etc. The Page Layout tab has five groups of related commands; Themes, Page Setup, Page Background, Paragraph and Arrange.

See the image

References tab

It is the fourth tab in the Ribbon. It allows you to enter document sources, citations, bibliography commands, etc. It also offers commands to create a table of contents, an index, table of contents and table of authorities. The References tab has six groups of related commands; Table of Contents, Footnotes, Citations & Bibliography, Captions, Index and Table of Authorities.

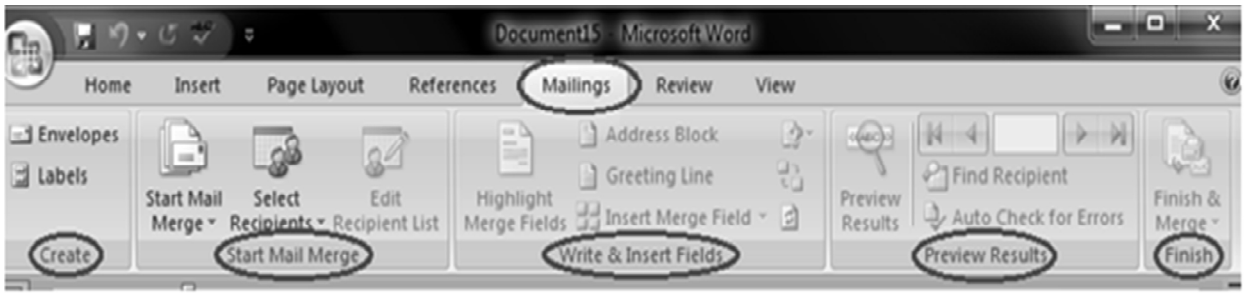
See the image



Mailings tab

It is the fifth tab in the ribbon. It is the least-often used tab of all the tabs available in the Ribbon. It allows you merge emails, writing and inserting different fields, preview results and convert a file into a PDF format. The Mailings tab has five groups of related commands; Create, Start Mail Merge, Write & Insert Fields, Preview Results and Finish.

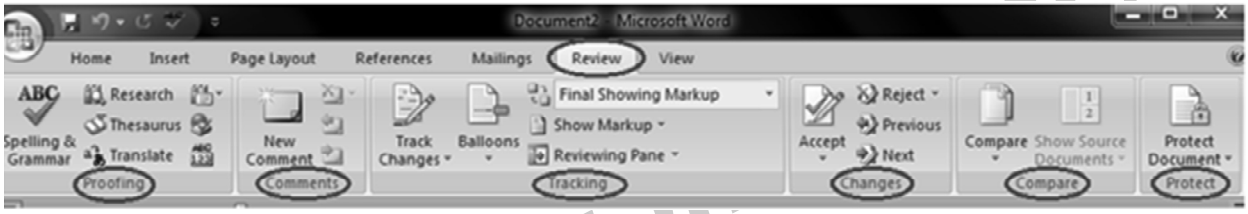
See the image



Review tab

It is the sixth tab in the Ribbon. This tab offers you some important commands to modify your document. It helps you proofread your content, to add or remove comments, track changes, etc. The Review tab has six groups of related commands; Proofing, Comments, Tracking, Changes, Compare and Protect.

See the image



View tab

The View tab is located next to the Review tab. This tab allows you to switch between Single Page and Two Page views. It also enables you to control various layout tools like boundaries, guides, rulers. Its primary purpose is to offers you different ways to view your document. The View tab has five groups of related commands; Document Views, Show/Hide, Zoom, Window and Macros.

See the image

1.3.2 Opening Closing of Documents

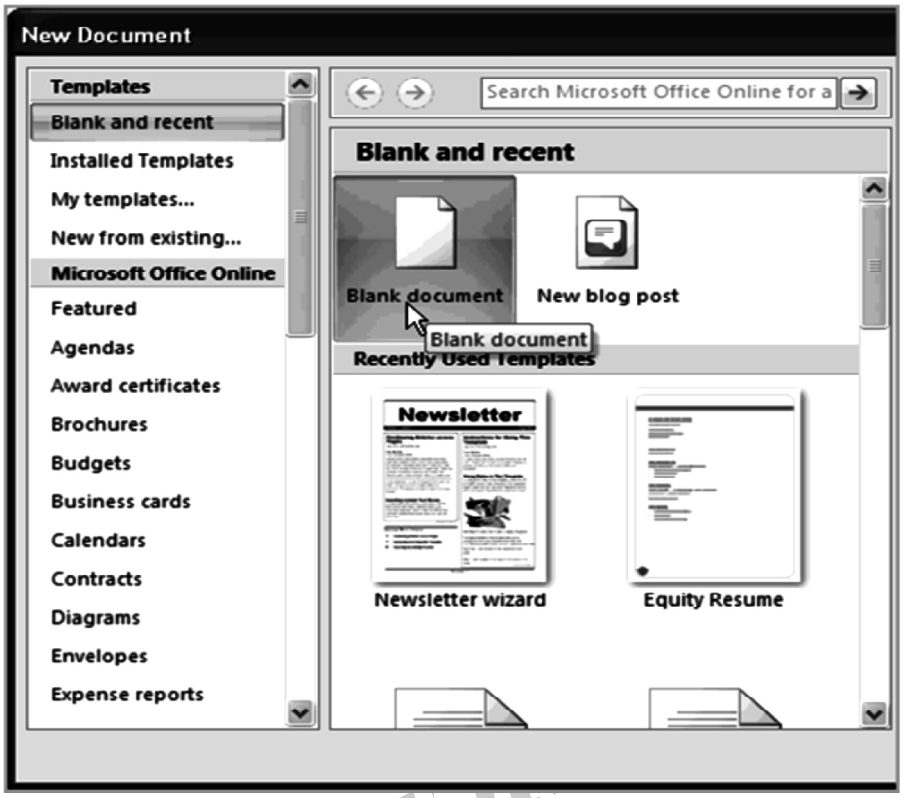
Q47. Explain the steps to create, open, close and save documents in word.

Ans :

To create a new document use following steps

(a) To create a new blank document:

- Click the **Microsoft Office button**.
- Select **New**. The New Document dialog box appears.
- Select **Blank document** under the **Blank and recent** section. It will be highlighted by default.



➢ Click **Create**. A new blank document appears in the Word window.

(b) Open a Saved Document (File) in Microsoft Word

While you are creating a document, it is often important to save it for future use. The saved document now becomes a file. A file is a complete, named collection of information, such as a user-created document. It is the basic unit of storage that enables a computer to distinguish one set of information from another. It is a collection of data that a user can retrieve, change, delete, save, or send to an output device, such as a printer or e-mail program.

From the foregoing explanation, you realize that a saved document can be retrieved, viewed and reused. Here are the steps involved in opening/retrieving a saved document/file in Word environment.

1. On the *Menu bar*, click **File**, and then click **Open**. The *Open dialog box* appears.
2. In the **Look in** list, click the drive or folder that contains the file you want to open.
3. Click the file.
4. You'll see a preview of the selected file in the **Preview box**.
5. Click **Open**.

(c) Save a Document in Microsoft Word

As you create a document, you will need to store it for future reference or use.

In **Word,** you to save your documents in various ways. You can save all open documents at the same time. You can also save a copy of the active document with a different name or in a different location. If you share documents with people who use previous versions of **Word**, and you want to be sure the documents look the same when they're opened in the earlier versions, you can turn off features that are not part of that version.

(d) To save a document

1. Open the **File** menu and click **Save.** *The Save As dialog box appears.*
2. In the **File name** box, enter a desired name for the document.
3. To save the document in a folder or a drive other than the default, click the drop-down arrow in the **Save in** box, and then choose the desired folder or drive.
4. To save the document in a *new* folder within the current drive, click the **Create New Folder** button on the toolbar within the *Save As* dialog box, directly below the title bar of the *Save As* dialog box.
5. Click **Save.**

(e) Close a Document

When you are through working in a document, you need to close it. This will help prevent unintended changes from being made to it, and also to free the computer working memory [Random Access Memory (RAM)] some space.

Note, however, that closing a document means simply closing the active document (using the Close command or alternatives), **without** actually quitting the entire **Word** window.

There are several ways of closing a document in Word. These methods use:

- The *File* menu
- The *Close Window* button on the menu bar
- Shortcut keys

1.3.3 Text Creation and Manuplation

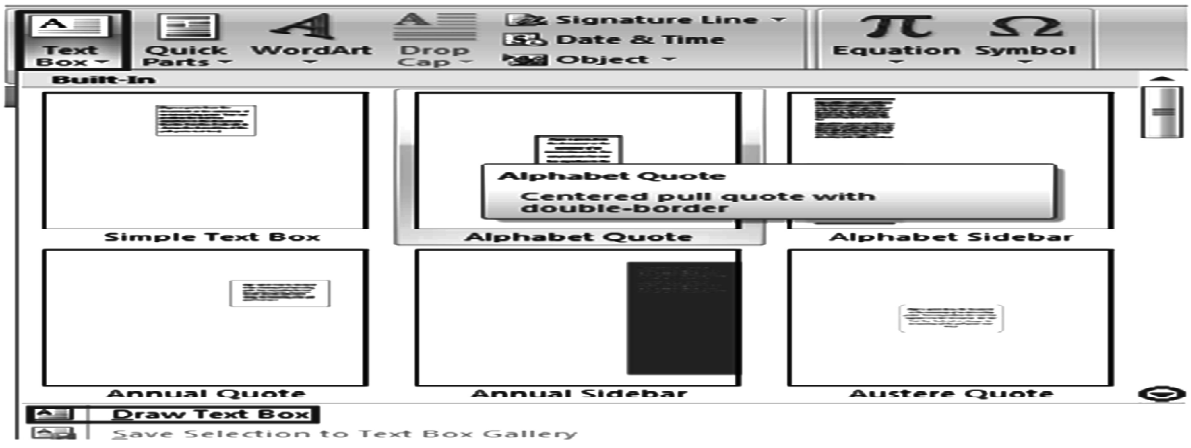
Q48. Explain the Text basics using word.

Ans :

How to Insert Text in MS Word

The basic steps to insert text or to create a new document in Word are listed below;

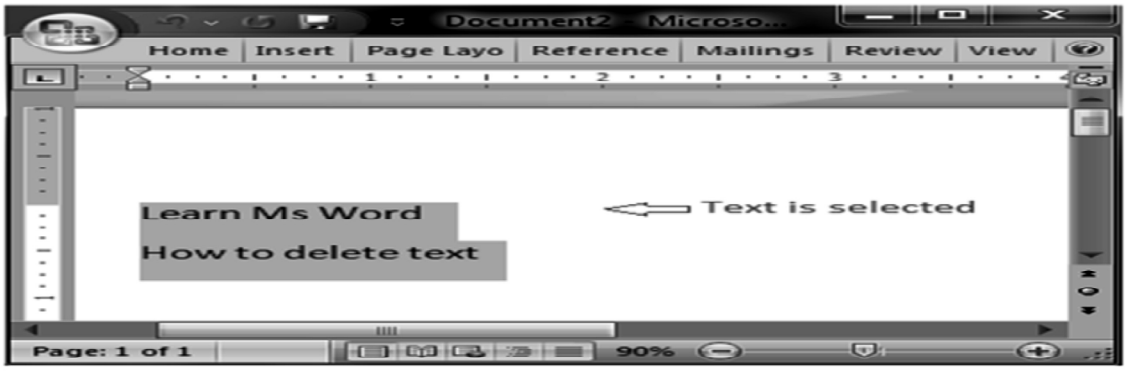
- Go to the start menu and look for Microsoft Word icon
- Click the icon to open the Microsoft Word
- You will see a blinking cursor or insertion point in the text area below the ribbon
- Now, as you start typing, the words will appear on the screen in the text area
- To change the location of insertion point press spacebar, Enter or Tab keys



Delete Text in MS Word

You can easily delete the text in Word including characters, paragraphs or all of the content of your document. Word offers you different methods to delete the text; some of the commonly used methods are given below;

- Place the cursor next to the text then press Backspace key
- Place the cursor to the left of the text then press Delete key
- Select the text and press the Backspace or Delete key
- Select the text and type over it the new text.

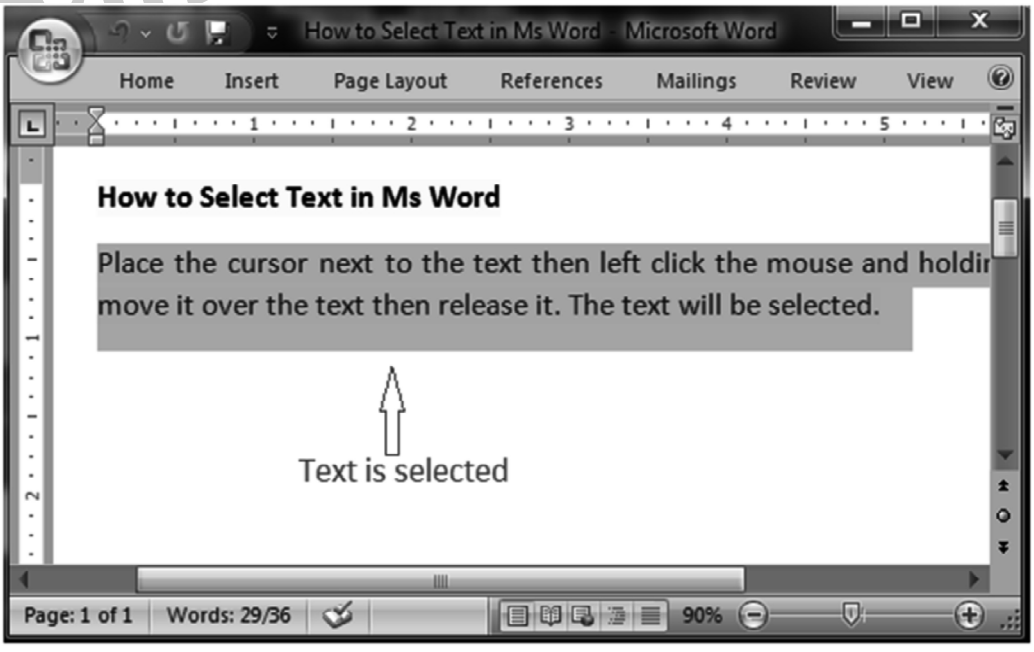


Select Text in MS Word

Place the cursor next to the text then left click the mouse and holding it down move it over the text then release it. The text will be selected.

Some shortcuts for selecting text are:

- To select a single word double click within the word
- To select the entire paragraph triple click within the paragraph
- To select entire document, in Home tab, in Editing group click Select then choose Select All option or press CTRL + A
- Shift + Arrow; hold down the shift key then press the arrow key, the word will select the text in the direction of the arrow key. There are three arrow keys, so you can select the text in three different directions.



How to Copy and Paste Text in MS Word

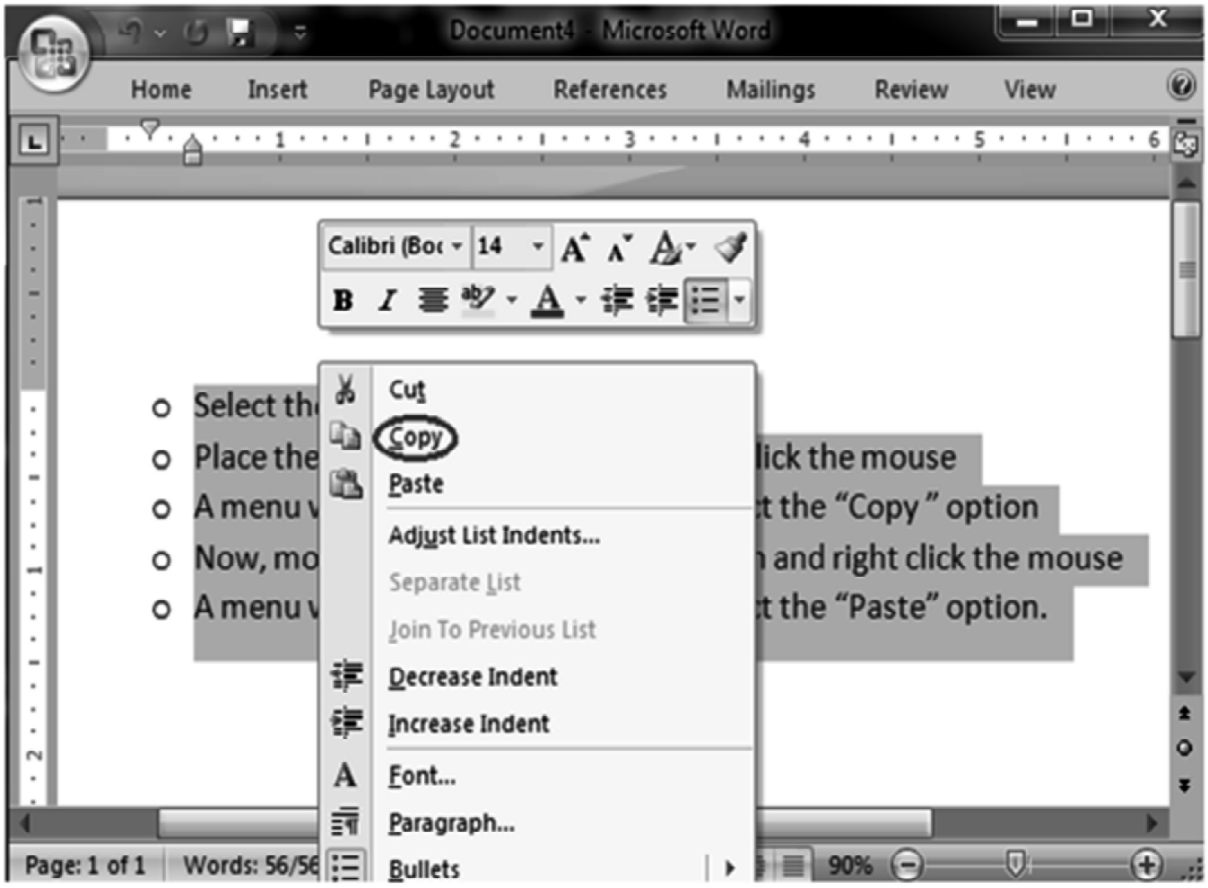
Word offers different methods to copy and paste text. Some of the popular methods are given below;

Method 1

- Select the text you want to copy
- Select the Home tab and click the Copy command
- Place the cursor where you want to paste the text
- Click the Paste command in Home tab

Method 2

- Select the text
- Place the cursor over the text and right click the mouse
- A menu will appear; with a left click select the “Copy” option
- Now, move the cursor to a desired location and right click the mouse
- A menu will appear; with a left click select the ‘Paste” option.



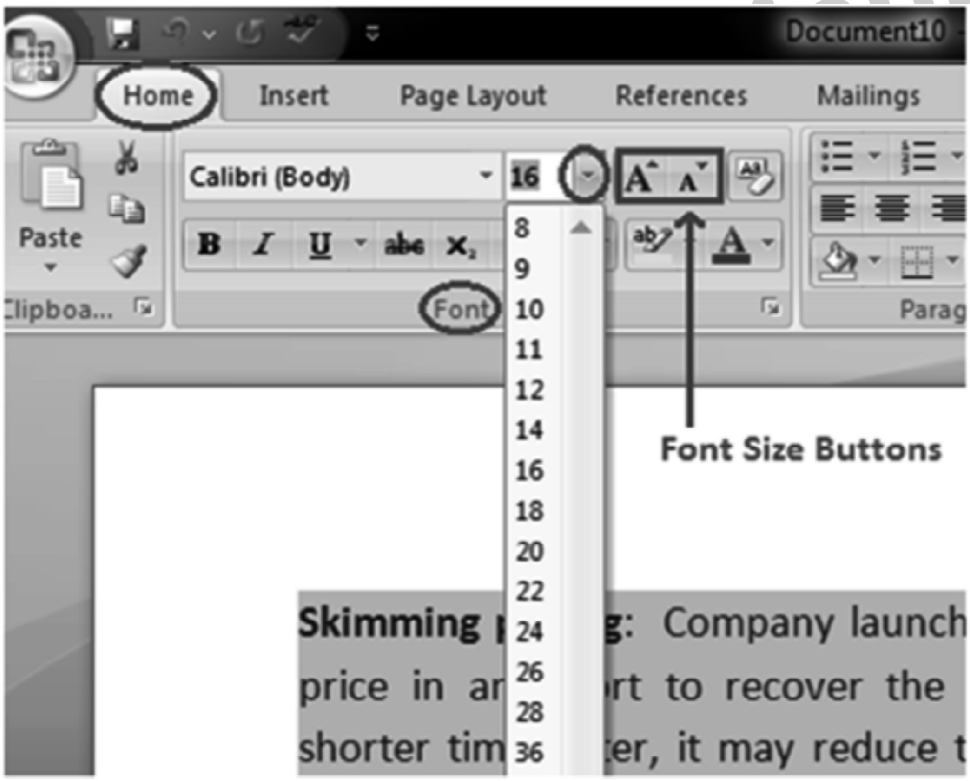
1.3.4 Formatting of Text

Q49. How to Change Font Size ,style, colour in MS Word

Ans :

You can easily change the font size of your text in the document. The basic steps to change the Font size are listed below;

- Select the text that you want to modify
- In Home tab locate the Font group
- In Font group click the drop-down arrow next to font size box
- Font size menu appears
- Select the desired font size with a left click
- Select the text and click the increase or decrease font size buttons



Change Font Style in MS Word

The basic steps to change the font of a text in a document are given below;

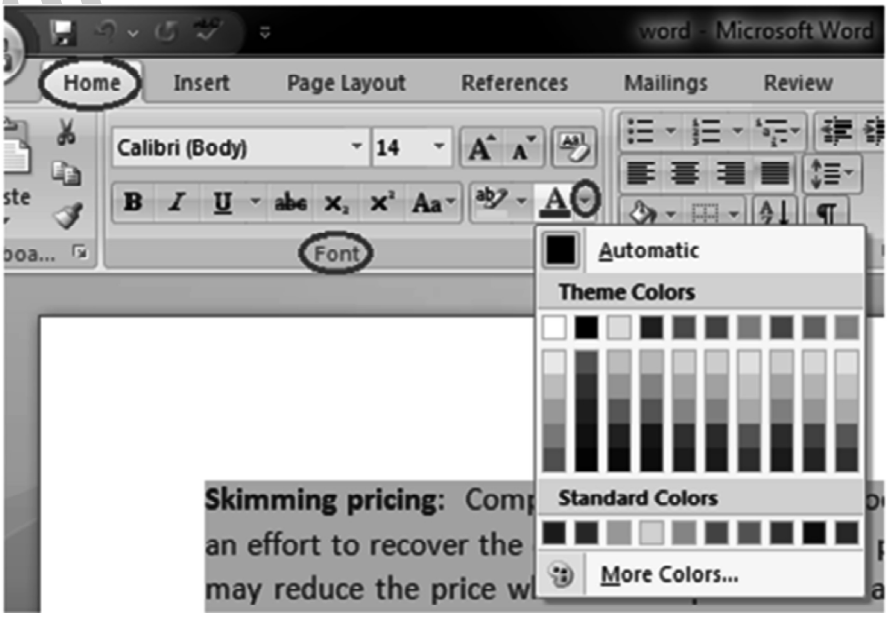
- Select the text you want to modify
- Select the Home tab and locate the Font group
- Click the drop-down arrow next to font style box
- Font style menu appears

- With a left click select the desired font style
- If you want to change the font to bold or italic, click the 'B' or 'I' icons on the format bar.

Format Font Color in MS Word

MS Word allows you to change the Font color of your text. If you want to emphasize a particular word or phrase, you can change its font color. The basic steps to change the Font color are given below;

- Select the text you want to modify
- In Home tab locate the Font group
- Click the drop-down arrow next to Font color button
- Font color menu appears
- Select the desired font color with a left click
- Word will change the Font color of the selected text.



Q50. How to Change Text Case in MS Word

Ans :

You can easily change the text case in your document by following the steps given below;

- Select the text you want to change
- In Home tab locate the Font group
- Click the drop-down arrow in 'Change Case' button
- It displays text case menu
- Select the desired case with a left click

The case menu offers four options;

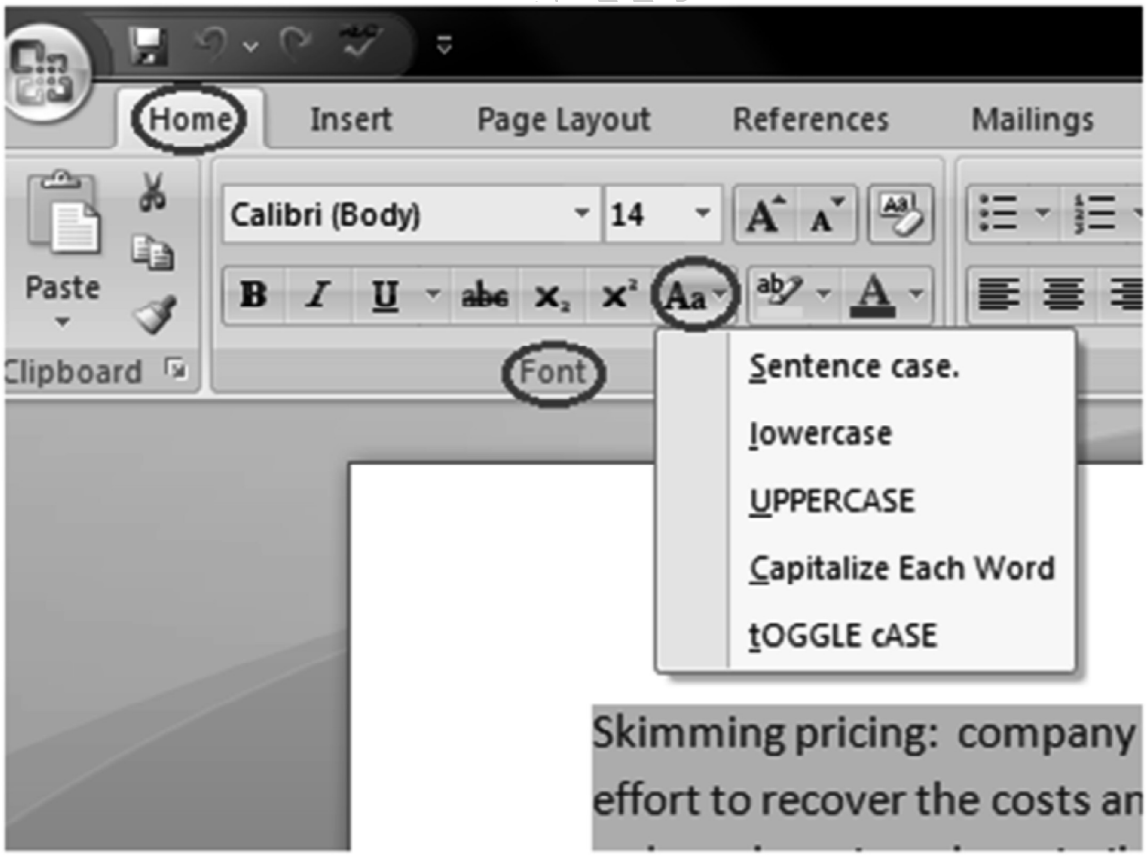
Sentence case: It capitalizes the first letter of each sentence.

Lowercase: It changes the text from uppercase to lowercase.

Uppercase: It capitalizes all the all letters of your text.

Capitalize Each Word: It capitalizes the first letter of each word.

Toggle Case: It allows you to shift between two case views, e.g. to shift between Capitalize Each Word and cAPITALIZE eACH wORD .



Q51. How to Change Text Alignment in MS Word ?

Ans :

You can change the text alignment in your document to make it more presentable and readable. The basic steps to change the text alignment are given below;

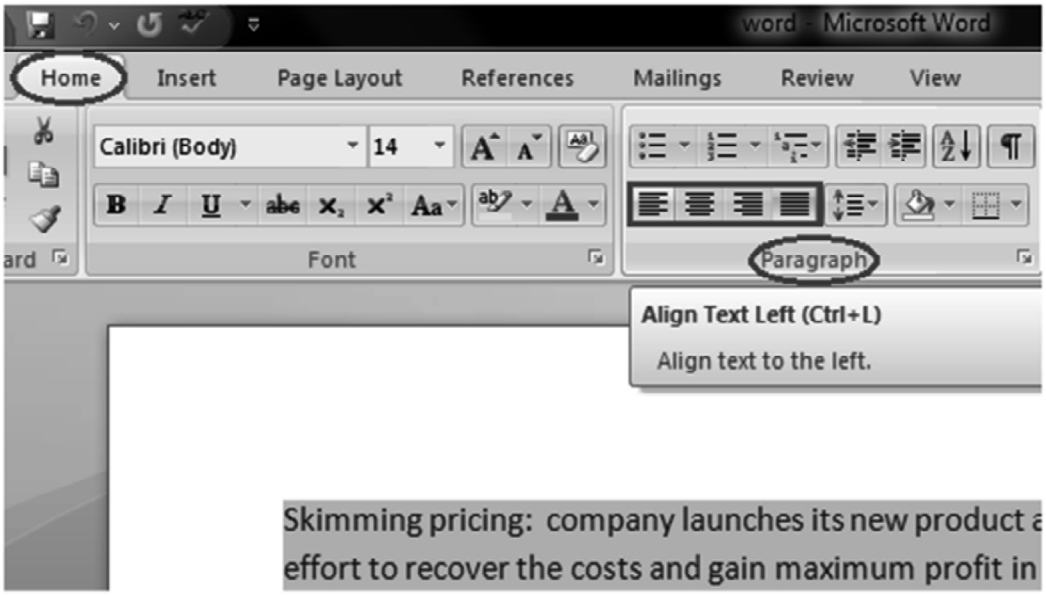
- Select the content you want to modify
- In Home tab locate the Paragraph group
- It has four alignment options ;

  Align Text Left: Aligns the text towards left margin

  Center: Brings the text at centre

  Align Text Right: Aligns the text towards right margin

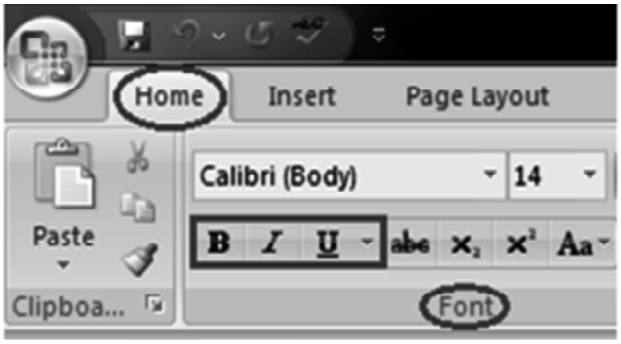
  Justify: Aligns the text to both left and right margins
- Select the desired alignment option with a left click



Bold, Italic and Underline Commands in MS Word

These commands are given in the Font group in the Home tab. Their functions are given below;

- **Bold:** It allows you to Bold the text of your document
- **Italic:** It allows you to Italicize the text of your document
- **Underline:** It allows you to underline the text of your document



1.3.5 Table Handling

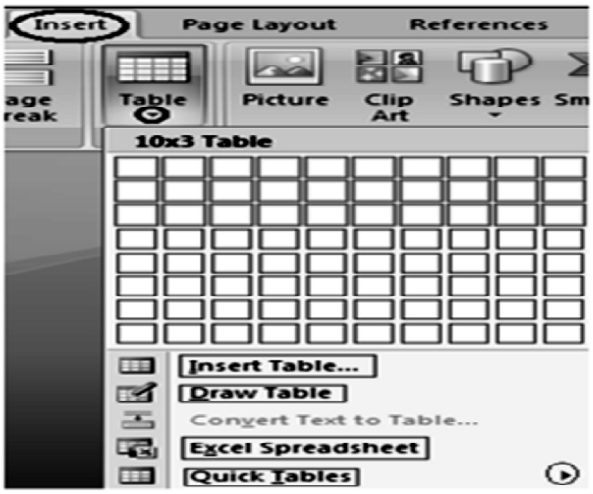
Q52. Explain the procedure to insert a table in word document.

Ans :

Insert Table in MS Word

Table is a versatile tool of MS Word. It allows you to organize your information, i.e. you can align text, present numerical data and create forms and calendar. The steps to insert table are given below;

- Place the cursor where you want to insert the table
- Select the Insert tab
- In Tables group click the Table command
- It displays different options to insert the table
- Select the desired option to insert the table



Add Row in Table

If you want to increase or add a new row in your table, you can follow the steps given below;

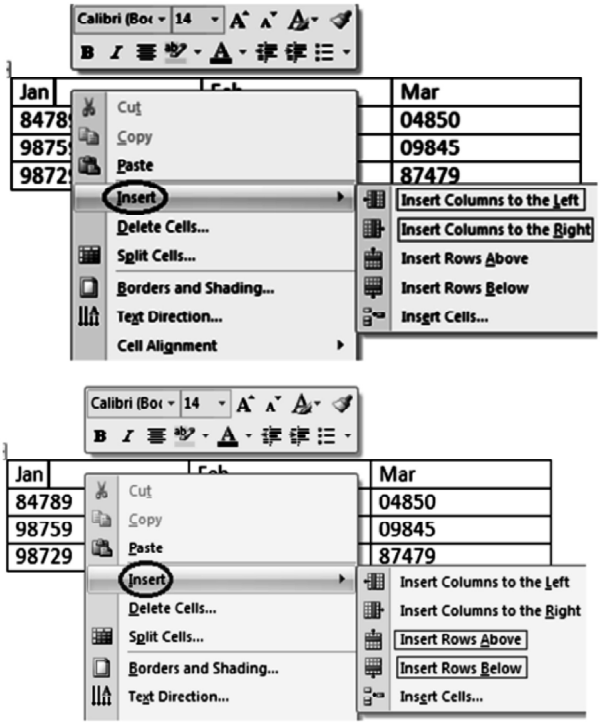
- Place the cursor in a row above or below which you want to add row
- Right click the mouse
- A menu appears
- Place the arrow over Insert option
- It will display a menu
- As required select 'Insert Rows Above' or 'Insert Rows Below'

Add Column in Table

If you want to increase or add a new column in your table, you can follow these steps;

- Place the cursor in the column adjacent to which you want to add the column
- Right click the mouse
- It displays a menu
- Place the arrow over Insert option
- It shows a list of commands
- As required select 'Insert Columns to the Right' or 'Insert Columns to the Left'

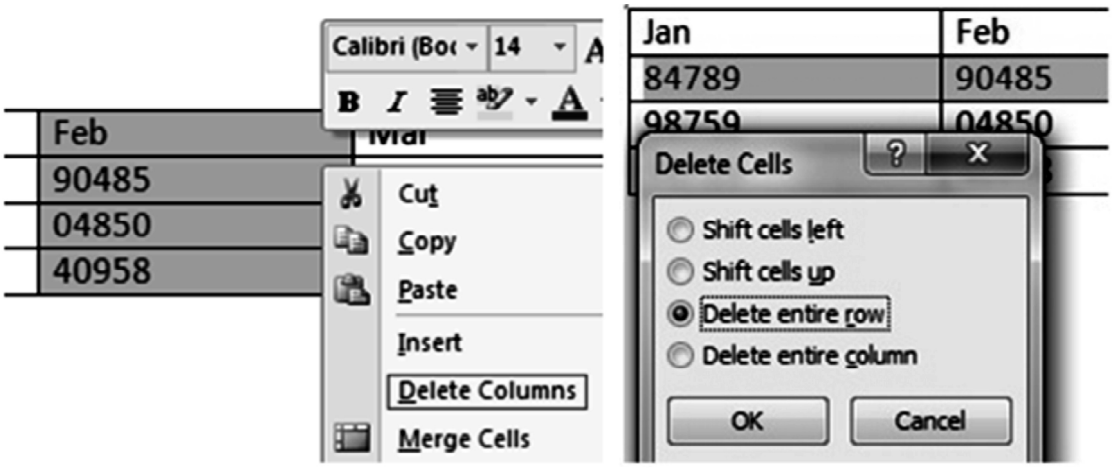
See the image



Delete Column or Row in Table

The table command also allows you to delete a column or row in your table. You can delete the unwanted columns or rows by following these steps;

- Select the column or row of the table
- Right click the mouse
- A menu appears
- As required select 'Delete Columns' or 'Delete Rows'

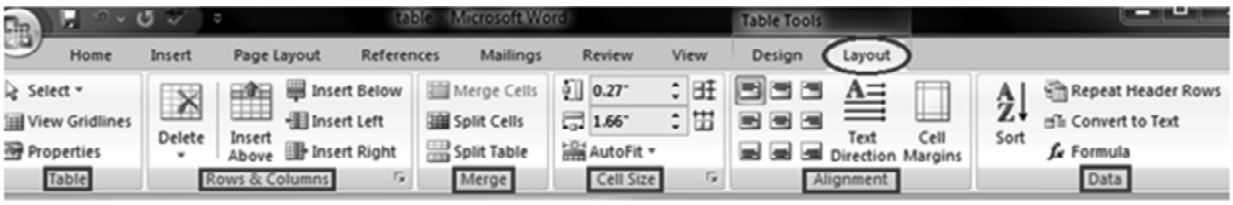


Modify Table

Word allows you to customize tables as per your requirement. You can modify your table in different ways, i.e. you can choose a table style, table design, draw borders. The steps to modify a table are given below;

- Select the table
- Two new tabs Design and Layout appear on the Ribbon
- On Design tab you will see three groups of commands to modify table; Table Style Options, Table Styles and Draw Borders;

- Layout tab has six groups of commands to format table;



1.3.6 Spell Check

Q53. What is spell check in MS Word?

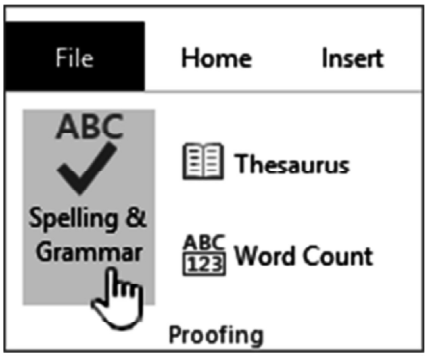
Ans :

Spell check is a software program that corrects **spelling** errors in **word** processing, email and online discussions. **Spell check** identifies and corrects misspelled **words**. ... In **Microsoft Word**, **spell check** options, like **spelling** and grammar may be found under the 'review' tab and 'proofing' window.

Run the spelling and grammar checker manually

To start a check of the spelling and grammar in your file just press F7 or follow these steps:

1. Open most Office programs, click the **Review** tab on the ribbon. In Access or InfoPath you can skip this step. In Project you'll go to the **Project** tab.
2. Click **Spelling** or **Spelling & Grammar**.



3. If the program finds spelling mistakes, a dialog box appears with the first misspelled word found by the spelling checker.
4. After you decide how to resolve the misspelling (ignoring it, adding it to the program's dictionary, or changing it), the program moves to the next misspelled word.

1.3.7 Language settings and Thesaurus

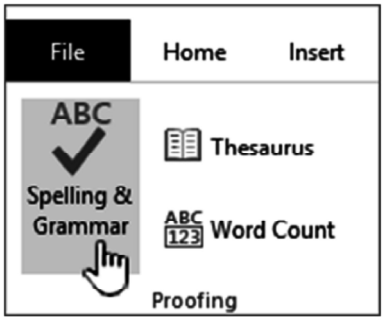
Q54. How to change the Language settings.

Ans :

Changing the Default language

If you would like to check the spelling and grammar of your file in a language other than English, follow these steps:

1. Login to one of the workstations with your UTORid and password.
2. Under the **Start** menu, scroll up to **Microsoft Office** icon and click on **Microsoft Word**.
3. The program will now open on the desktop.
4. Click on the **Review** tab.
5. Under **Language**, click on **Set Proofing Language**.



6. A window will appear on the screen labelled **Language**. Highlight your preferred language by clicking on it, as shown below.

7. Click **OK**.

1.3.8 Printing of a Documents

Q55. Explain the steps to print a document.

Ans :

How to print a document

To print a document, your computer needs to be connected to a printer. Being able to print is not necessary in order to use Word, but if you want to send a letter in the post or print out a poster, you'll need to have access to a printer.

You'll need

- A computer with Microsoft Word installed
- A printer set up and connected to your computer (wireless or connected by cable)

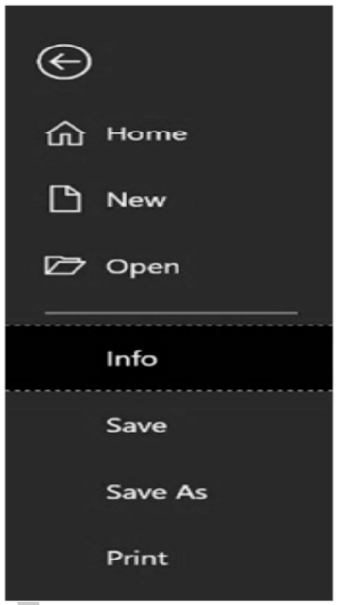
Follow these step-by-step instructions to print a document from Microsoft Office 365.

Step 1

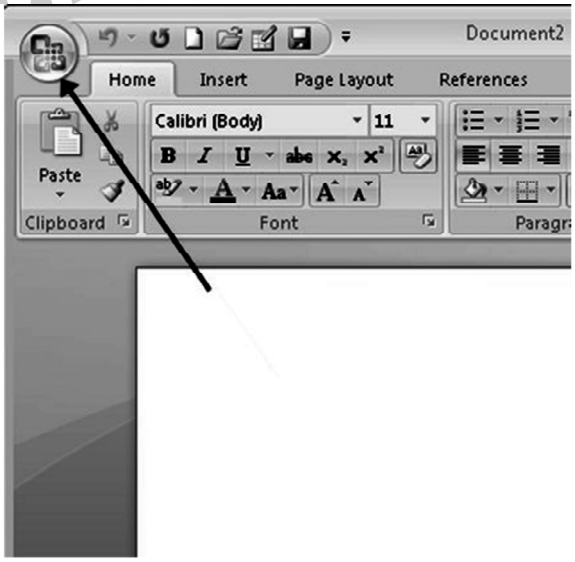
Open an existing Microsoft Word document or start a new document, if you have Windows 10 you can use Cortana to search for it. Before you print, type your text in the blank document or insert an image.

Step 2

When you are ready, click on **File** in the top left-hand corner of your document. Then, click on Print.



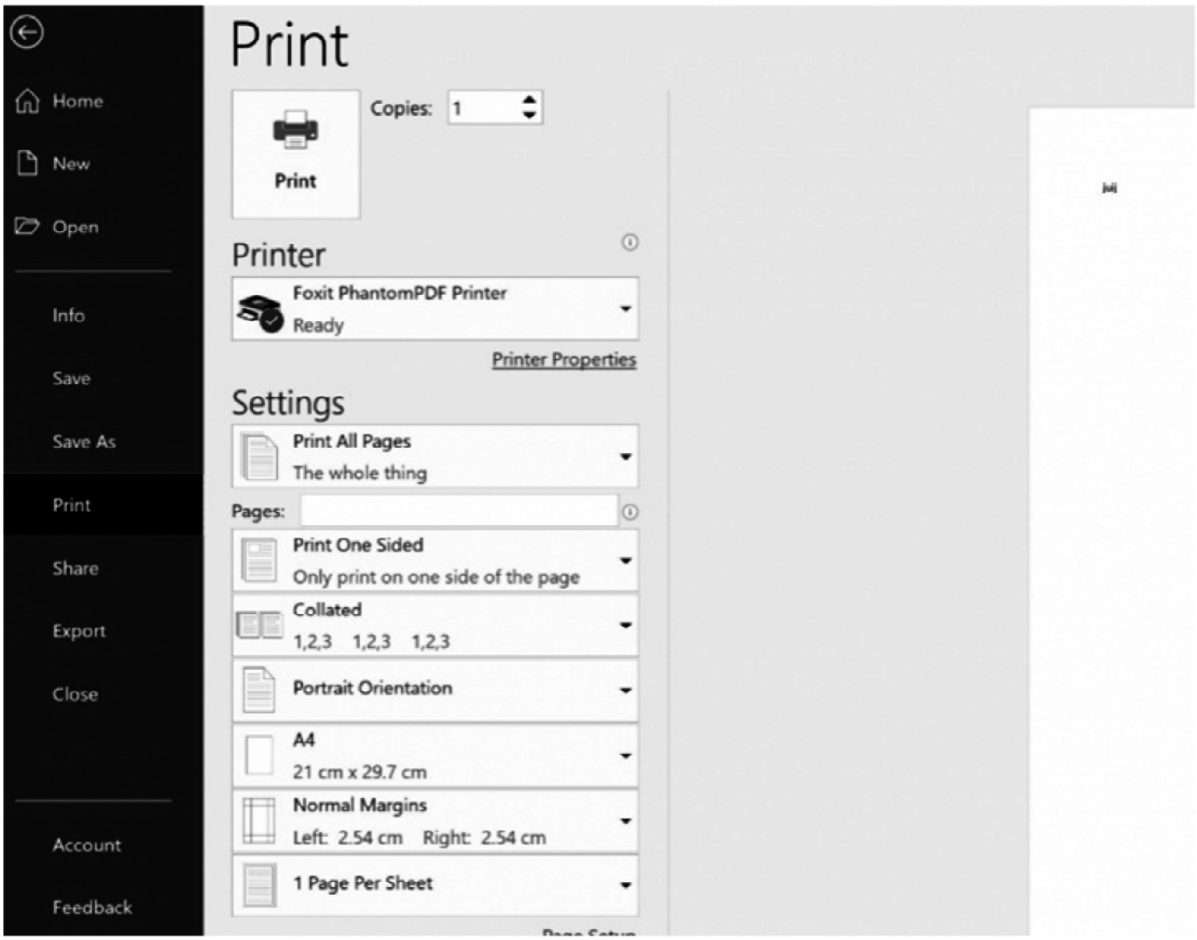
Alternatively, some older versions of Word may have an Office button instead of a 'File' button – it's a round Office icon in the top left-hand corner of the screen, click on this if you have one.



Step 3

For Office 365, click on File then **Print** in the menu, this will bring up the 'Print' dialogue box.

Choose how many copies of your document you need and click on the printer you wish to use. You will have to have your printer already installed on your computer.

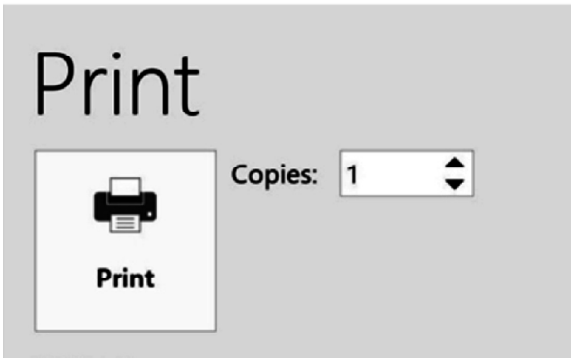


Step 5

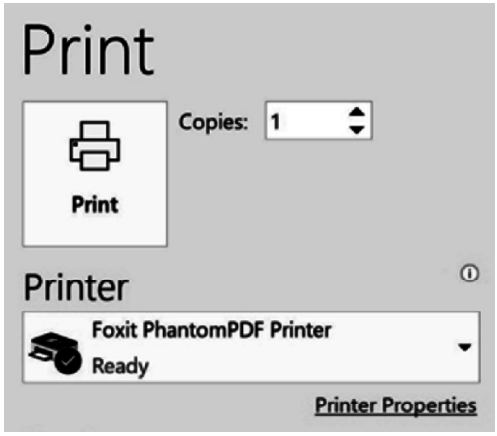
Depending on your printer options, you can choose other printing features such as whether you want to print all pages or only certain pages. You can also change the orientation of the print from portrait to landscape and tell your computer and printer whether you're printing on a certain size of paper. You'll also see, on the right, a preview of your printed document will look like.

Step 6

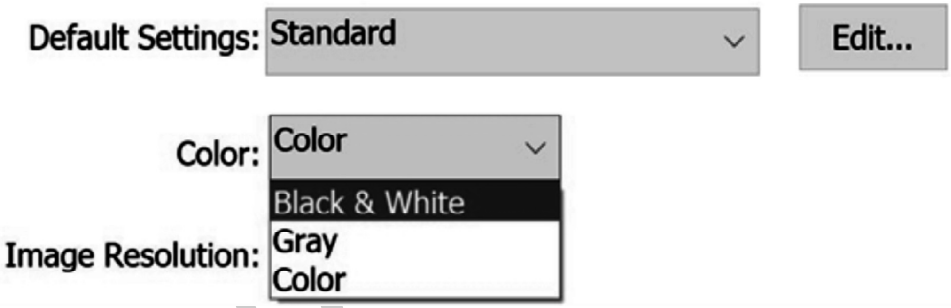
When you're happy with your settings, click **Print**. The document will now start printing on your printer.



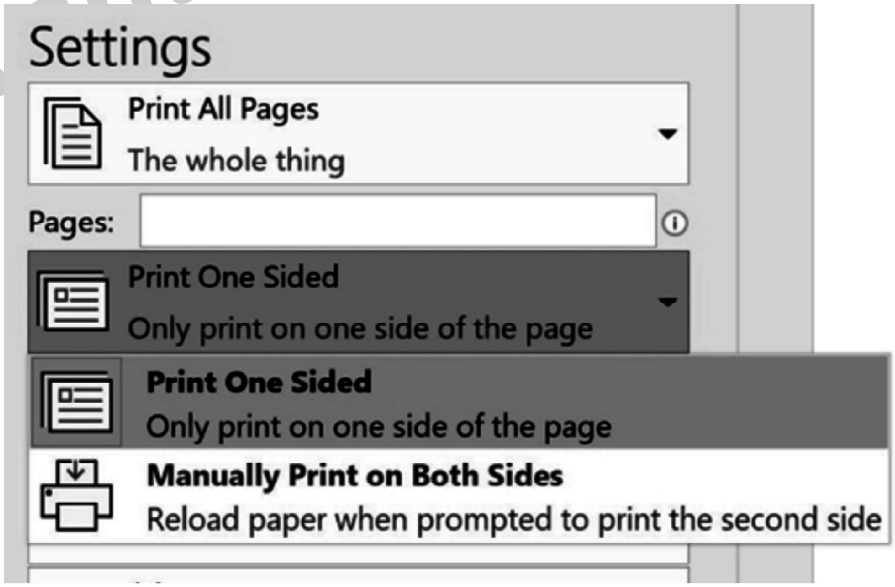
Advanced options



To print in black and white, select Printer Properties in the Print menu, then click on the drop down and select Black & White.



If you want to print your document on one side of the page, make sure you select this in the Print menu.



Short Question and Answers

1. Define computer.

Ans :

Introduction

The word **compute** is derived from the Latin word 'computare', was meaning "arithmetic, accounting".

The Computer meaning is the digital device that stores information in memory using input devices and manipulate information to produce output according to given instructions.

The actual machinery, the physical parts of a computer system refer to as Computer hardware; the instruction (a **program**) that tells the computer what to do or how to do, that is called **Computer software** (often called just software).

Definition

According to Professor Charles Babbage's analytical engine considered as "**fundamental framework of computer**" is a mechanical general-purpose programmable computing engine. It was a successor to the Difference Engine.

Computer that we use today is absolutely different from the first generation computer. Evolution in technology from 19th century to present day modified computer totally.

COMPUTER stands for Common Operating Machine Particularly Used For Trade Education And Research.

C - Common
O - Operating
M - Machine
P - Particularly
U - Used For
T - Trade
E - Education
R - Research.

2. Define CPU.

Ans :

CPU (Central Processing Unit)

CPU is considered as the brain of the computer. CPU performs all types of data processing operations. It stores data, intermediate results, and instructions (program). It controls the operation of all parts of the computer.

CPU itself has the following three components:

- ALU (Arithmetic Logic Unit)
- Memory Unit
- Control Unit

3. Explain about VDU.

Ans :

A video display unit (VDU) is a computer peripheral device, like a TV set, that the computer sends information to. The VDU displays this information in the form of text or graphics (pictures) on a cathode ray tube.

A VDU operates like a normal TV set except the information is sent directly through a cable from the computer. There are many different kinds of VDUs and the choice of a VDU is determined by selecting:

- whether it's monochrome or colour
- the resolution
- the type of drive signal from the computer

4. What is wireless keyboard ?

Ans :

- Wireless keyboards are also available today, but at a higher price than wired keyboard.
- These keyboards do not have any wire attached to them.
- Wireless keyboard interacts with the computer through Bluetooth or Infrared technology.
- Wireless keyboards transfer typing data to the computer via infrared beams. A beam of information is sent from the keyboard, as you type, to a receiver, which is plugged into the computer.

- Wireless keyboard operates on battery power rather than using electricity from the user's computer.
- The main advantage of using a wireless keyboard rather than a regular keyboard is that it offers much more mobility. A wireless keyboard can be used on a lap, in a bed, or just used while on-the-go for laptop users.
- It can maintain required distance between the screen and the seating and also do not need to keep it placed on the working table always saving a lot of space when not using the system.
- One of the disadvantages of using a wireless keyboard is that it has to be installed and configured before it can be used. Regular keyboards, on the other hand, run on Plug and Play software and work immediately after they are plugged in.

5. Write any two charecteristics of impact printers.

Ans :

Impact Printers

Impact printers print the characters by striking them on the ribbon, which is then pressed on the paper.

Characteristics of Impact Printers are the following:

- Very low consumable costs
- Very noisy
- Useful for bulk printing due to low cost
- There is physical contact with the paper to produce an image

These printers are of two types:

- Character printers
- Line printers

6. Write any two charecteristics of Non-impact printers.

Ans :

Non-impact Printers

Non-impact printers print the characters without using the ribbon. These printers print a complete page at a time, thus they are also called as Page Printers.

These printers are of two types:

(a) Laser Printers

(b) Inkjet Printers

Characteristics of Non-impact Printers

- Faster than impact printers
- They are not noisy
- High quality
- Supports many fonts and different character size

7. What is the use of cache?

Ans :

Cache Memory

Cache memory is a very high speed semiconductor memory which can speed up the CPU. It acts as a buffer between the CPU and the main memory. It is used to hold those parts of data and program which are most frequently used by the CPU. The parts of data and programs are transferred from the disk to cache memory by the operating system, from where the CPU can access them.

Fig.: Cache Memory

Advantages

The advantages of cache memory are as follows:

- Cache memory is faster than main memory.

- It consumes less access time as compared to main memory.
- It stores the program that can be executed within a short period of time.
- It stores data for temporary use.

Disadvantages

The disadvantages of cache memory are as follows:

- Cache memory has limited capacity.
- It is very expensive.

8. Discuss about RAM.

Ans :

RAM (Random Access Memory) is the internal memory of the CPU for storing data, program, and program result. It is a read/write memory which stores data until the machine is working. As soon as the machine is switched off, data is erased.

Access time in RAM is independent of the address, that is, each storage location inside the memory is as easy to reach as other locations and takes the same amount of time. Data in the RAM can be accessed randomly but it is very expensive.

RAM is volatile, i.e. data stored in it is lost when we switch off the computer or if there is a power failure. Hence, a backup Uninterruptible Power System (UPS) is often used with computers. RAM is small, both in terms of its physical size and in the amount of data it can hold.

RAM is of two types:

i) Static RAM (SRAM)

ii) Dynamic RAM (DRAM)

9. Define EEP ROM.

Ans :

EEPROM (Electrically Erasable and Programmable Read Only Memory)

EEPROM is programmed and erased electrically. It can be erased and reprogrammed about ten thousand times. Both erasing and programming take about 4 to 10 ms (millisecond). In EEPROM, any location can be selectively erased and programmed. EEPROMs can be erased one byte at a time, rather than erasing the entire chip. Hence, the process of reprogramming is flexible but slow.

10. What are the advantages of ROM?

Ans :

Advantages of ROM

The advantages of ROM are as follows:

- Non-volatile in nature
- Cannot be accidentally changed
- Cheaper than RAMs
- Easy to test
- More reliable than RAMs
- Static and do not require refreshing
- Contents are always known and can be verified

11. What is data? How it is differ from information ?

Ans :

Data can be defined as a representation of facts, concepts, or instructions in a formalized manner, which should be suitable for communication, interpretation, or processing by human or electronic machine.

Data is represented with the help of characters such as alphabets (A-Z, a-z), digits (0-9) or special characters (+,-,/,*,<,>,= etc.)

Information is organized or classified data, which has some meaningful values for the receiver. Information is the processed data on which decisions and actions are based.

12. Discuss the major applications of IECT.

Ans :

IECT stands for Information Electronics and Communication Technology. The applications of IECT are as follows:

- E-governance
- Multimedia and Entertainment

1. E-governance

Electronic governance is application of Information Electronics and Communication Technology in running an effective governance system for people. Communication refers to sharing of information between parties like common people, government, business, etc. Almost every government sector has changed to IECT like rail reservation system, gas subsidy disbursal, etc.

The primary delivery modals of e-Government can be divided into:

(a) Government-to-Business/ Consumer (G2C)

G2C model applies the strategy of customer Relationship Management (CRM) with business concept. By managing their relationship with citizen, government can provide the needed products and services fulfill the needs from customer/citizen.

(b) Government-to-Business

(G2B) is the online non-commercial interaction between Government and people to provide business information and also advice about e-business.

(c) Government-to-Government

(G2G) is the online non-commercial interaction between Government Departments / Authorities and other Government / Departments.

(d) Government-to-Employees (G2E)

This is the best and effective way of online interactions between government and employees.

2. Multimedia and Entertainment

Multimedia refers to combination of text, audio, video, graphics, animation, etc. It is one of applications of IECT. Multimedia is used to improve quality of presentation by incorporating information sharing, usage of graphics and animation, motion capture, etc.

13. What is Operating System? What are the functions of OS ?

Ans :

Personal computer has advanced a lot in a short period of time, and much of the advancement is due to ongoing progresses in operating systems. Evolution of operating systems had made PCs easier to use and understand, flexible and reliable. This chapter is the study of primary operating systems currently used in personal computers and network servers, and their basic features.

Operating System

Operating system is a software that controls system's hardware and interacts with user and application software.

In short, an operating system is computer's chief control program.

Functions of Operating System

The operating system performs the following functions:

- It offers a user interface.
- Loads program into computer's memory.
- Coordinates how program works with hardware and other software.
- Manages how information is stored and retrieved from the disk.
- Saves contents of file on to disk.
- Reads contents of file from disk to memory.
- Sends document to the printer and activates the printer.
- Provides resources that copy or move data from one document to another, or from one program to another.
- Allocates RAM among the running programs.
- Recognizes keystrokes or mouse clicks and displayes characters or graphics on the screen.

14. What is user interface?

Ans :

A user interface, also called a "UI" or simply an "interface," is the means in which a person controls a software **application** or hardware device. A good user interface provides a "user-friendly" experience, allowing the user to interact with the software or hardware in a natural and intuitive way.

Nearly all software programs have a graphical user interface, or **GUI**. This means the program includes graphical controls, which the user can select using a mouse or keyboard. A typical GUI of a

software program includes a **menu bar**, **toolbar**, **windows**, buttons, and other controls. The Macintosh and Windows operating systems have different user interfaces, but they share many of the same elements, such as a **desktop**, windows, icons, etc. These common elements make it possible for people to use either operating system without having to completely relearn the interface. Similarly, programs like **word processors** and **Web browsers** all have rather similar interfaces, providing a consistent user experience across multiple programs.

15. Define Desktop?

Ans :

The desktop is the primary user interface of a computer. When you boot up your computer, the desktop is displayed once the startup process is complete. It includes the desktop background (or wallpaper) and icons of files and folders you may have saved to the desktop. In Windows, the desktop includes a task bar, which is located at the bottom of the screen by default. In Mac OS X, the desktop includes a menu bar at the top of the screen and the Dock at the bottom.

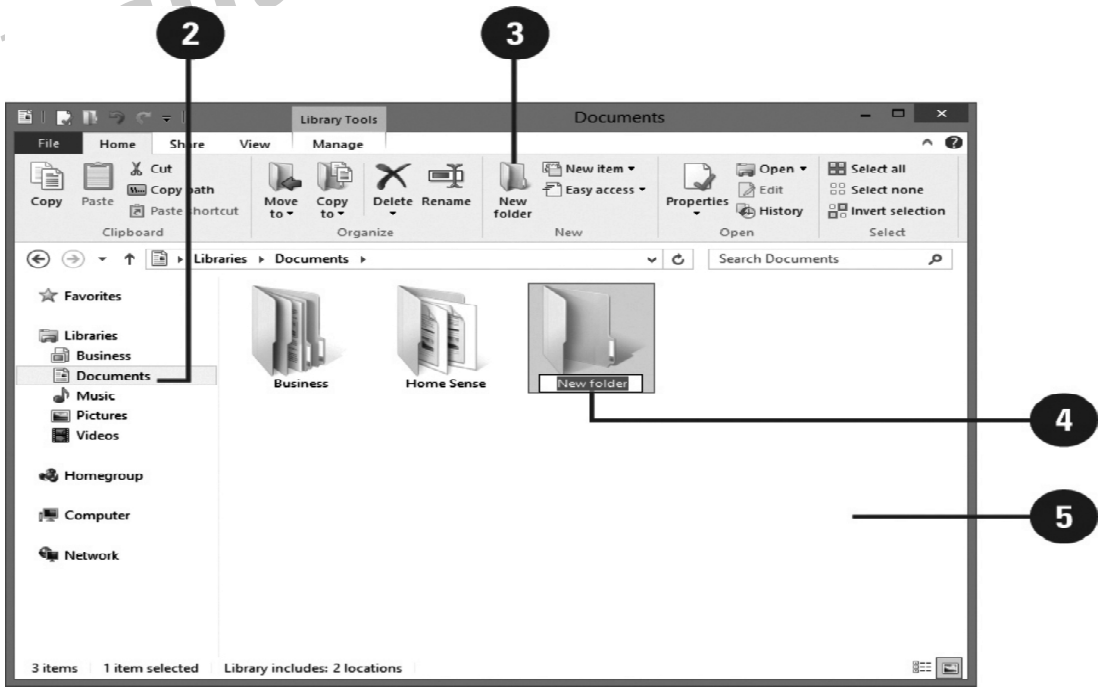
The desktop is visible on both Windows and Macintosh computers as long as an application or window is not filling up the entire screen. You can drag items to and from the desktop, just like a folder. Since the desktop is always present, items on the desktop can be accessed quickly, rather than requiring you to navigate through several directories. Therefore, it may be helpful to store commonly used files, folders, and application shortcuts on your desktop.

16. Write the steps for renaming a file (or) folder.

Ans :

Rename a File or Folder

- 1 In the desktop, click or tap the **File Explorer** button on the taskbar.
- 2 Select the file or folder you want to rename.
- 3 Click or tap the **Rename** button on the Home tab.



- With the name selected, type a new name, or click or tap to position the insertion point, and then edit the name.
- Press Enter or tap in a blank area.

17. What are the uses of word processing?

Ans :

Word processing software is used to manipulate a text document, such as a resume or a report. You typically enter text by typing, and the software provides tools for copying, deleting and various types of formatting. Some of the functions of word processing software include:

- Creating, editing, saving and printing documents.
- Copying, pasting, moving and deleting text within a document.
- Formatting text, such as font type, bolding, underlining or italicizing.
- Creating and editing tables.
- Inserting elements from other software, such as illustrations or photographs.
- Correcting spelling and grammar.

18. Write steps to save a document.

Ans :

To save a document

1. Open the **File** menu and click **Save.** *The Save As dialog box appears.*
2. In the **File name** box, enter a desired name for the document.
3. To save the document in a folder or a drive other than the default, click the drop-down arrow in the **Save in** box, and then choose the desired folder or drive.
4. To save the document in a *new* folder within the current drive, click the **Create New Folder** button on the toolbar within the *Save As* dialog box, directly below the title bar of the *Save As* dialog box.
5. Click **Save.**

19. How to Copy and Paste Text in MS Word

Word offers different methods to copy and paste text. Some of the popular methods are given below;

Method 1

- Select the text you want to copy
- Select the Home tab and click the Copy command
- Place the cursor where you want to paste the text
- Click the Paste command in Home tab

Method 2

- Select the text
- Place the cursor over the text and right click the mouse
- A menu will appear; with a left click select the "Copy" option
- Now, move the cursor to a desired location and right click the mouse
- A menu will appear; with a left click select the 'Paste" option.

Choose the Currect Answers

1. Which of the following are components of Central Processing Unit (CPU) ? [b]

   (a) Arithmetic logic unit, Mouse

   (b) Arithmetic logic unit, Control unit

   (c) Arithmetic logic unit, Integrated Circuits

   (d) Control Unit, Monitor

2. Where is RAM located ? [c]

   (a) Expansion Board (b) External Drive

   (c) Mother Board (d) All of above

3. If a computer has more than one processor then it is known as ? [b]

   (a) Uniprocess (b) Multiprocessor

   (c) Multithreaded (d) Multiprogramming

4. The _____ pen is a small input device used to select and display objects on a screen. [c]

   (a) Ink (b) Magnetic

   (c) Light (d) None of the above

5. Which device of computer operation dispenses with the use of the keyboard? [c]

   (a) Joystick (b) Light pen

   (c) Mouse (d) Touch

6. In computer, GUI stands for [a]

   (a) Graphical user interface (b) General user interrupt

   (c) Graphs, utilities, icons (d) Grayed user interface

7. Work area on which computer windows, icons, menus and dialog box appear is called [b]

   (a) Screen (b) Desktop

   (c) Working area (d) Frame

8. Element which contains computer administrative tools is called [a]

   (a) Control panel (b) Start button

   (c) Internet explorer (d) Recycle bin

9. Computer menu is a collection of [a]

(a) Commands (b) Orders

(c) Instructions (d) Icons

10. Computer files can exist in folders but folders cannot exist in a [b]

(a) Paths (b) Files

(c) Folders (d) Documents

Fill in the blanks

1. To create a letter _____ option is used after clicking on create button.
2. Pictures can be inserted using _____ control in Access
3. Superscript and subscript facility is available in _____ tab of Format cells
4. Paper size facility is available in page setup option in _____ menu
5. Page setup can be done using _____ in _____ menu
6. _____ and _____ are the two orientations that can be fixed in page set up
7. A file created using Word is saved _____ facility in file menu
8. _____ Is known as a main memory.
9. _____ memory is faster than main memory.
10. Picture and sound together is an example for _____ .

ANSWERS

1. Form letters
2. Image
3. Font
4. File
5. Page setup, file
6. Portrait, Landscape
7. Save
8. RAM
9. Cache memory
10. Output device

UNIT II

SPREAD SHEET, PRESENTATION SOFTWARE & INTRODUCTION TO INTERNET, W WW AND WEB BROWSERS

Using Spread Sheet: Basics of Spreadsheet; Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet.

Basics of presentation software: Creating Presentation; Preparation and Presentation of Slides: Slide Show: Taking printouts of presentation / handouts.

Introduction to Internet. WWW' and W'cb Browsers:

Introduction to Internet: Basic of Computer networks; LAN, WAN; Concept of Internet; Applications of Internet; connecting to internet; What is ISP; Knowing the Internet; Basics of internet connectivity related troubleshooting.

World Wide Web: Search Engines; Understanding URL: Domain name; IP Address: Using e-govcmance website.

Web Browsing: Software, Communications and collaboration: Basics of electronic mail; Getting an email account: Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes.

2.1 USING SPREAD SHEET

2.1.1 Basics of Spreadsheet

Q1. Define spread sheet and list out the features of spreadsheet?

Ans :

A spreadsheet is a large sheet having data and information arranged in rows and columns. As you know, Excel is one of the most widely used spreadsheet applications. It is a part of Microsoft Office suite. Spreadsheet is quite useful in entering, editing, analysing and storing data. Arithmatic operations with numerical data such as addition, subtraction, multiplication and division can be done using Excel. You can sort numbers/ characters according to some given criteria (like ascending, descending etc.) and use simple financial, mathematical and statistical formulas.

Features of Spreadsheets

There are a number of features that are available in Excel to make your task easier. Some of the main features are:

1. **AutoSum:** Helps you to add the contents of a cluster of adjacent cells.
2. **List AutoFill:** Automatically extends cell formatting when a new item is added to the end of a list.
3. **AutoFill:** Allows you to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text. AutoFill can also be used to copy functions. You can also alter text and numbers with this feature.
4. **AutoShapes:** Toolbar will allow you to draw a number of geometrical shapes, arrows, flowchart elements, stars and more. With these shapes you can draw your own graphs.
5. **Wizard:** Guides you to work effectively while you work by displaying various helpful tips and techniques based on what you are doing.
6. **Drag and Drop:** It will help you to reposition the data and text by simply dragging the data with the help of mouse.
7. **Charts:** It will help you in presenting a graphical representation of your data in the form of Pie, Bar, Line charts and more.
8. **PivotTable**: It flips and sums data in seconds and allows you to perform data analysis and generating reports like periodic financial statements, statistical reports, etc. You can also analyse complex data relationships graphically.
9. **Shortcut Menus:** The commands that are appropriate to the task that you are doing will appear by clicking the right mouse button

Q2. What are the Features of Microsoft Excel.

Ans :

Features of Microsoft Excel

1. **Add Header and Footer**

   MS Excel allows us to keep the header and footer in our spreadsheet document.

2. **Find and Replace Command**

   MS Excel allows us to find the needed data (text and numbers) in the workbook and also replace the existing data with a new one.

3. Password Protection

It allows the user to protect their workbooks by using a password from unauthorized access to their information.

4. Data Filtering

Filtering is a quick and easy way to find and work with a subset of data in a range. A filtered range displays only the rows that meet the criteria you specify for a column. MS Excel provides two commands for filtering ranges:

- AutoFilter, which includes filter by selection, for simple criteria
- Advanced Filter, for more complex criteria

5. Data Sorting

Data sorting is the process of arranging data in some logical order. MS Excel allows us to sort data either in ascending or descending order.

6. Built-in formulae

MS Excel has got many built-in formulae for sum, average, minimum, etc. We can use those formulae as per our needs.

7. Create different charts (Pivot Table Report)

MS Excel allows us to create different charts such as bar graph, pie- charts, line graphs, etc. This helps us to analyze and compare data very easily.

8. Automatically edits the result

MS Excel automatically edits the result if any changes are made in any of the cells.

9. Formula Auditing

Using formula auditing we can graphically display or trace the relationships between cells and formulas with blue arrows. We can trace the precedents (the cells that provide data to a specific cell) or the dependents (the cells that depend on the value in a specific cell).

Q3. Explain the Basics of Excel ?

Ans :

Following are the Basic Elements of Excel

1. Ribbon

The tabs on the ribbon are: File, Home, Insert, Page layout, Formulas, Data, Review and View. Excel selects the ribbon's Home tab when you open a workbook.

2. Workbook

A workbook is another word for your Excel file. When you start Excel, click Blank workbook to create an Excel workbook from scratch.

3. Worksheets

A worksheet is a collection of cells where you keep and manipulate the data. Each Excel workbook can contain multiple worksheets.

4. Format Cells

When we format cells in Excel, we change the appearance of a number without changing the number itself.

5. Find & Select

Learn how to use Excel's Find, Replace and Go To Special feature.

6. Templates

Instead of creating an Excel workbook from scratch, you can create a workbook based on a template. There are many free templates available, waiting to be used.

7. Data Validation

Use data validation in Excel to make sure that users enter certain values into a cell.

8. Keyboard Shortcuts

Keyboard shortcuts allow you to do things with your keyboard instead of your mouse to increase your speed.

9. Print

This chapter teaches you how to print a worksheet and how to change some important print settings in Excel.

10. Share

Learn how to share Excel data with Word documents and other files.

11. Protect

Encrypt an Excel file with a password so that it requires a password to open it.

Q4. How can we create, Rename, Delete, move a worksheet ?

Ans :

A worksheet is a collection of cells where you keep and manipulate the data. Each Excel workbook can contain multiple **worksheets**.

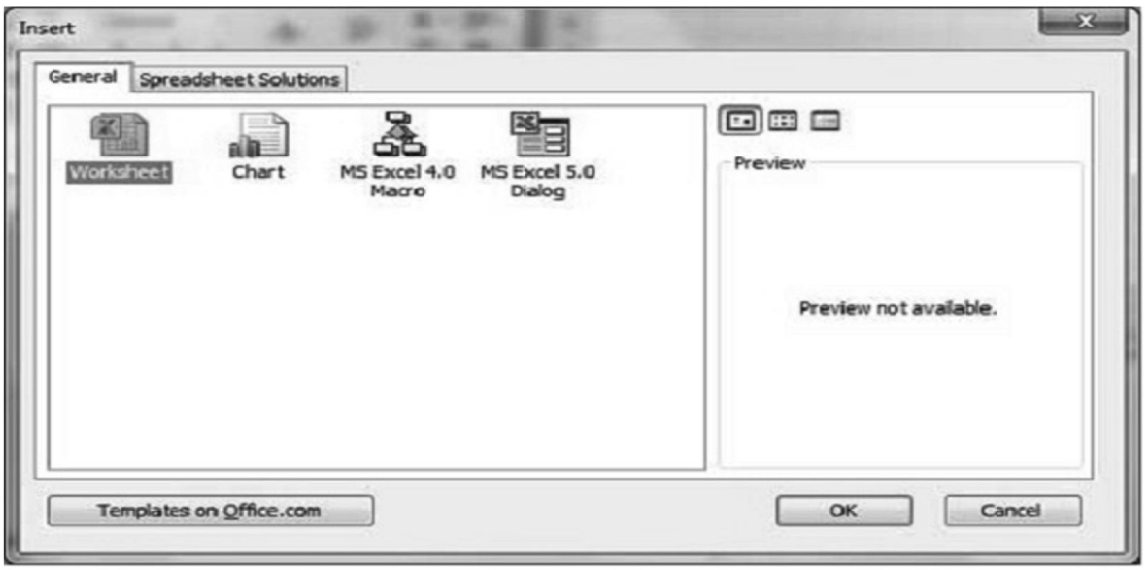
a) Creating New Worksheet

Three new blank sheets always open when you start Microsoft Excel. Below steps explain you how to create a new worksheet if you want to start another new worksheet while you are working on a worksheet, or you closed an already opened worksheet and want to start a new worksheet.

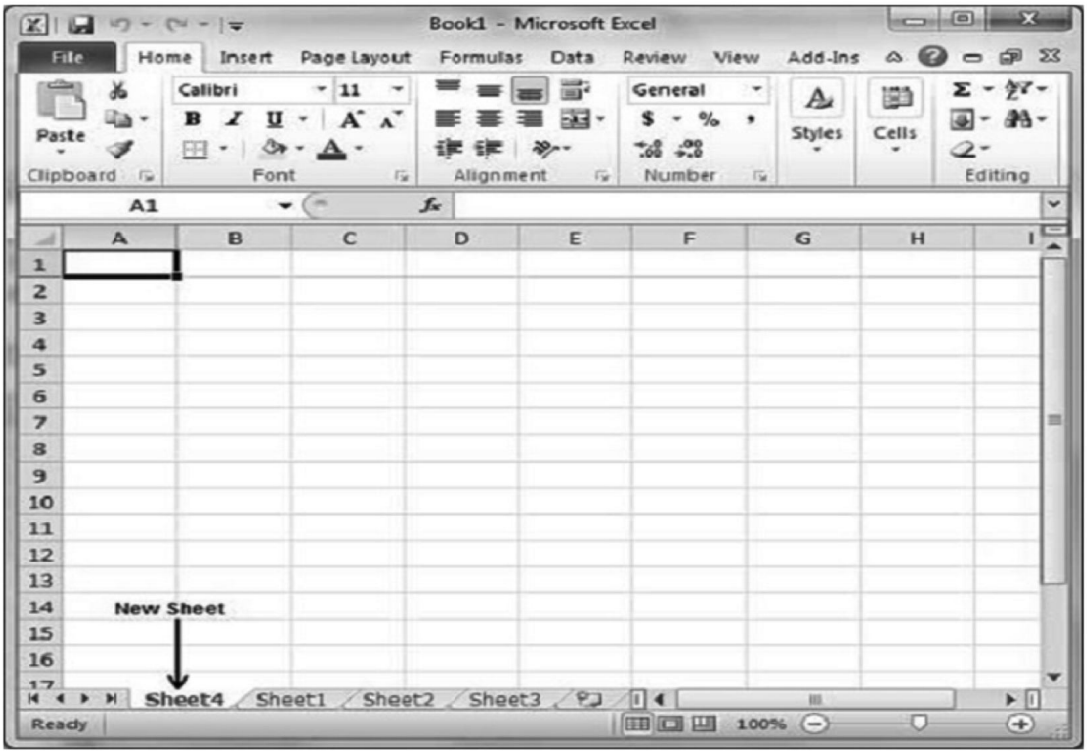
Step 1: Right Click the **Sheet Name** and select **Insert** option.

Step 2

Now you'll see the Insert dialog with select **Worksheet** option as selected from the general tab. Click the **Ok** button.



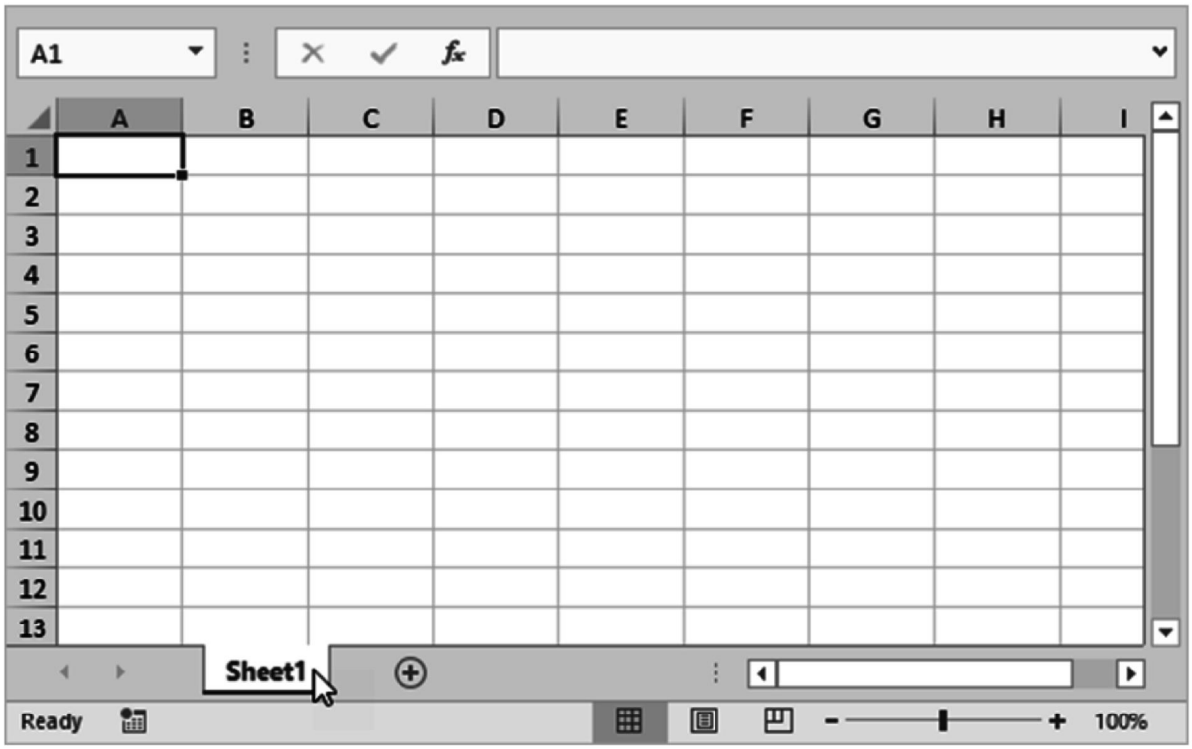
Now you should have your blank sheet as shown below ready to start typing your text.



You can use a short cut to create a blank sheet anytime. Try using the **Shift+F11** keys and you will see a new blank sheet similar to the above sheet is opened.

b. Select a Worksheet

When you open an **Excel** workbook, Excel automatically selects Sheet1 for you. The name of the worksheet appears on its sheet tab at the bottom of the document window.



c. Insert a Worksheet

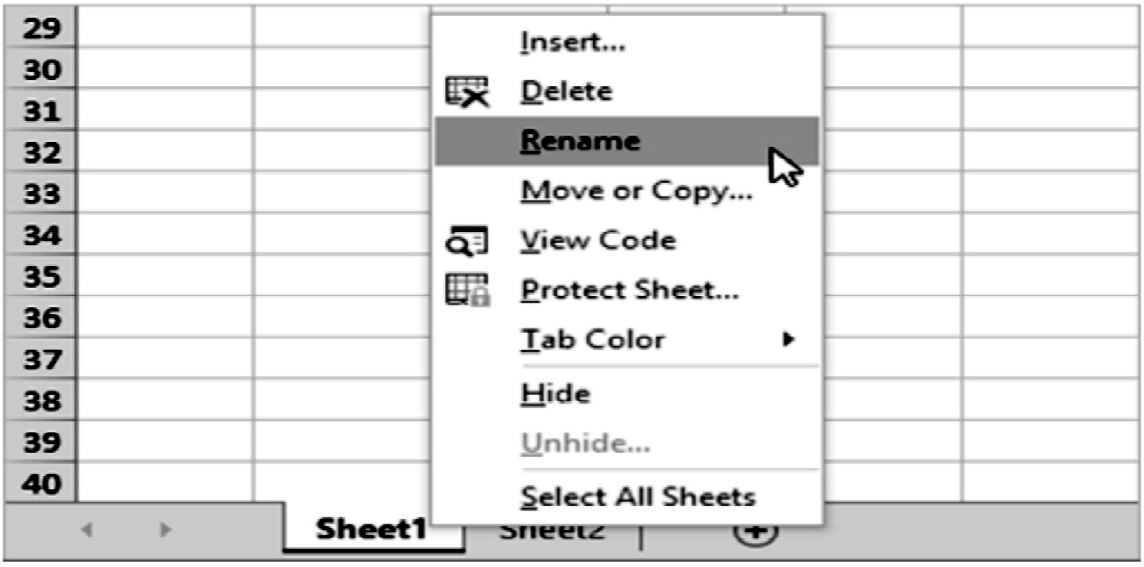
You can insert as many worksheets as you want. To quickly insert a new **worksheet**, click the plus sign at the bottom of the document window.

Result

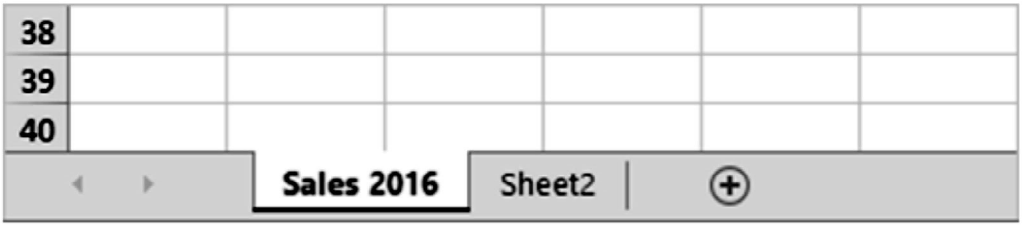
d. Rename a Worksheet

To give a worksheet a more specific name, execute the following steps.

1. Right click on the sheet tab of Sheet1.
2. Choose Rename.



3. For example, type Sales 2016.

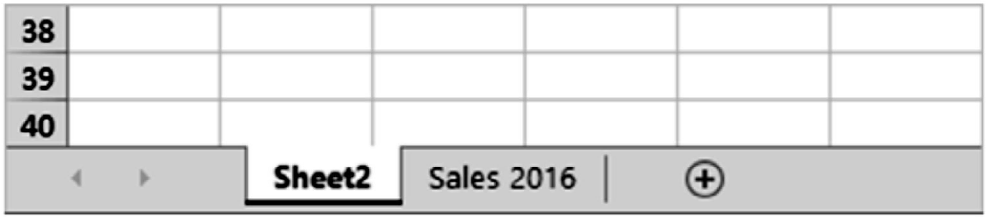


e. Move a Worksheet

To move a worksheet, click on the sheet tab of the worksheet you want to move and drag it into the new position.

1. For example, click on the sheet tab of Sheet2 and drag it before Sales 2016.

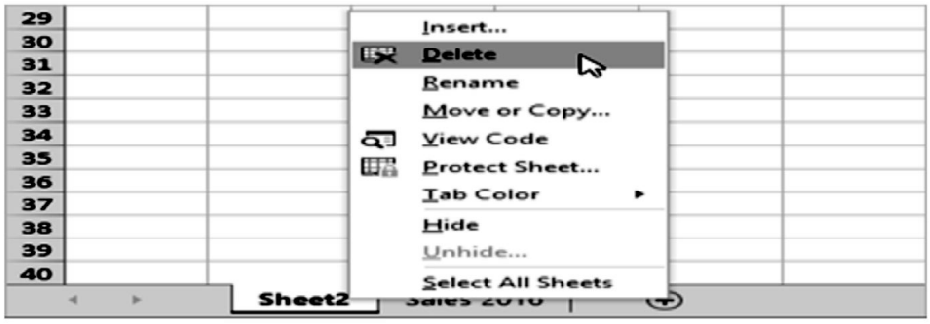
Result



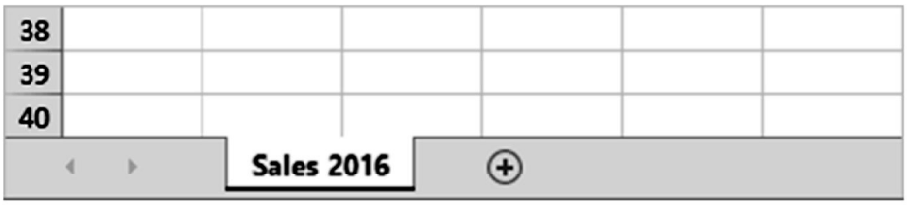
f. Delete a Worksheet

To delete a worksheet, right click on a sheet tab and choose Delete.

1. For example, delete Sheet2.



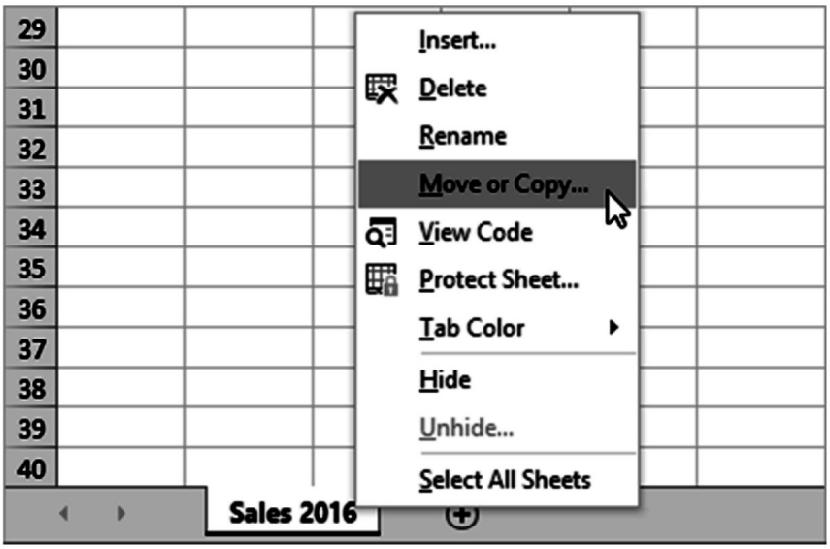
Result



g. Copy a Worksheet

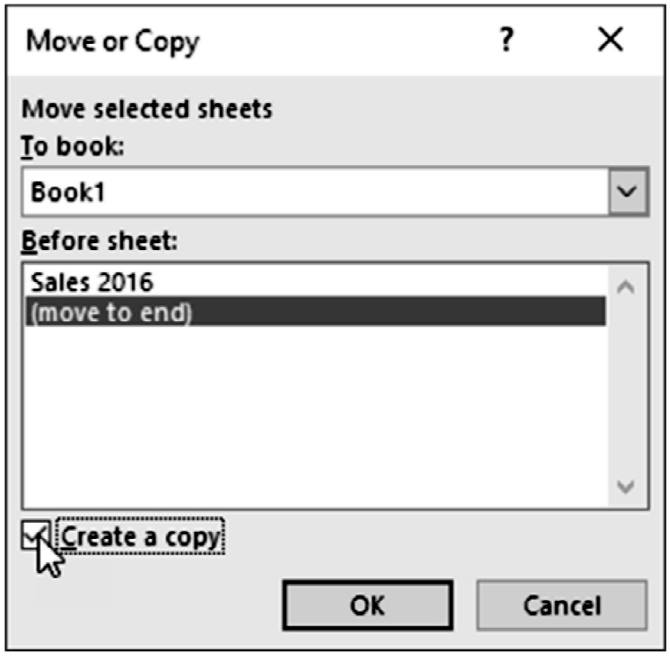
Imagine, you have got the sales for 2016 ready and want to create the exact same sheet for 2017, but with different data. You can recreate the worksheet, but this is time-consuming. It's a lot easier to copy the entire worksheet and only change the numbers.

1. Right click on the sheet tab of Sales 2016.
2. Choose Move or Copy.



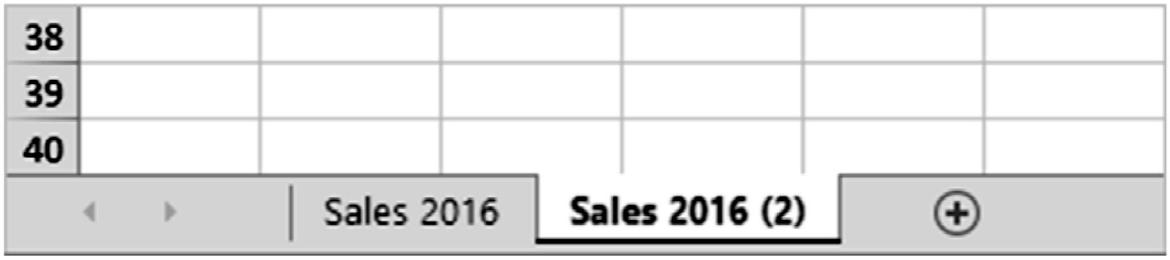
The 'Move or Copy' dialog box appears.

3. Select (move to end) and check Create a copy.



4. Click OK

Result



Note

You can even copy a worksheet to another Excel workbook by selecting the specific workbook from the drop-down list (see the dialog box shown earlier).

2.1.2 Manipulation of Cells

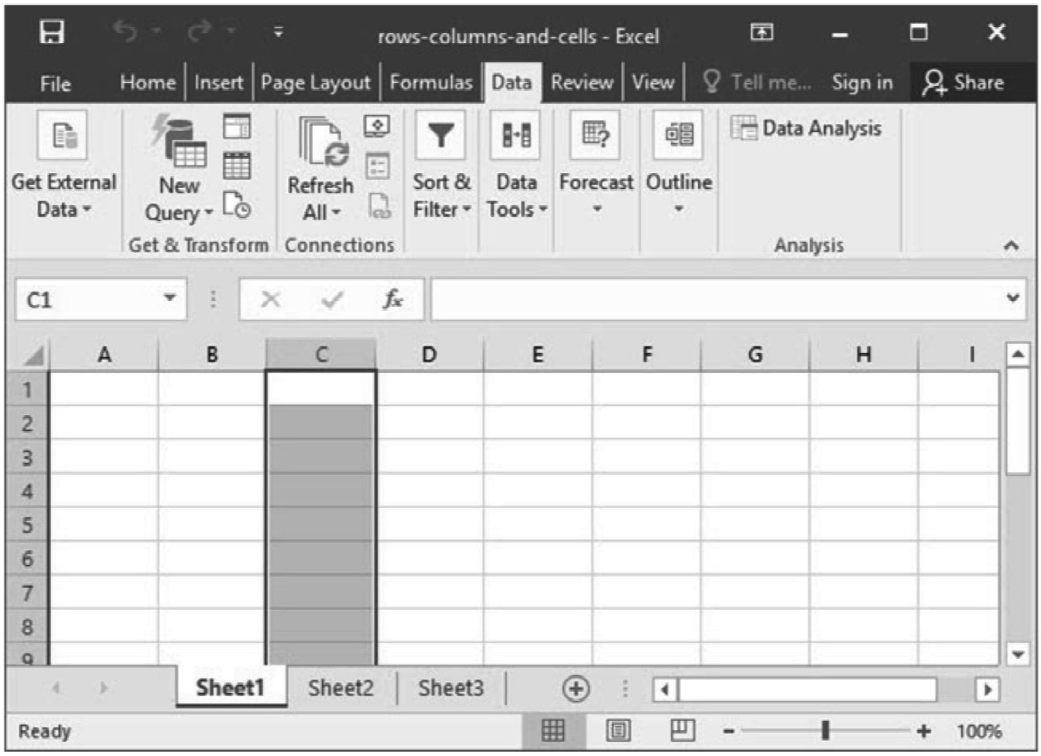
Q5. How can we manipulate Rows, Columns, and cells in a work sheet ?

Ans :

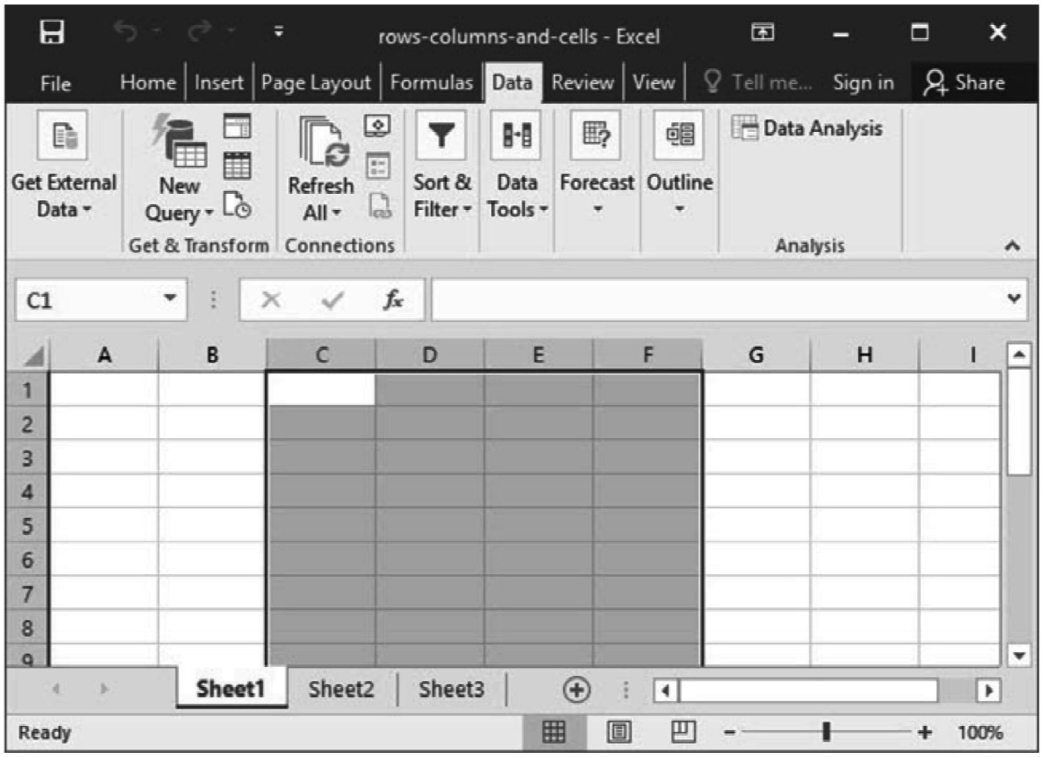
a. Manipulating rows and columns

There are many things you can do to manipulate a row or column; but before you can do to, you must select it.

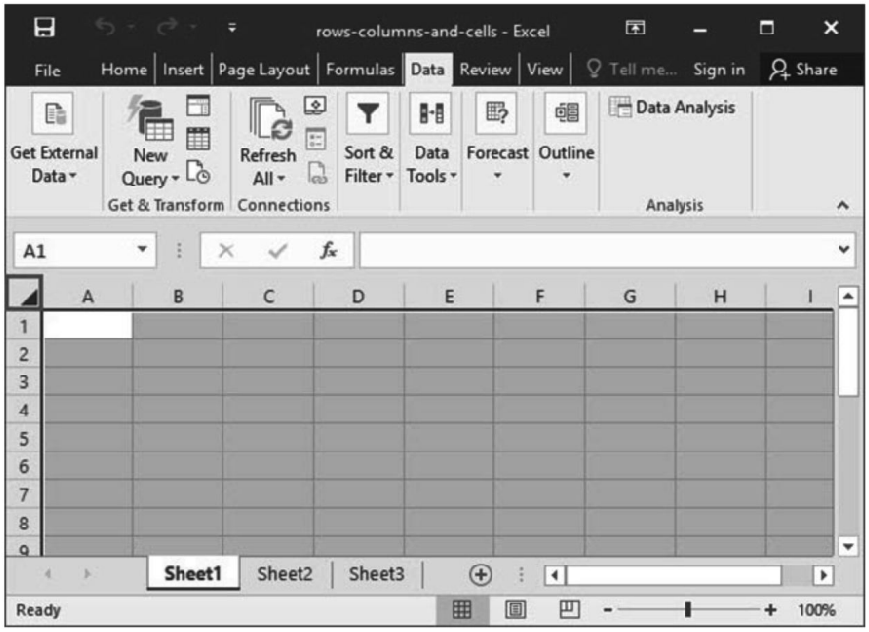
To select a single row or column, click the label of that row or column at the left or top of the screen:



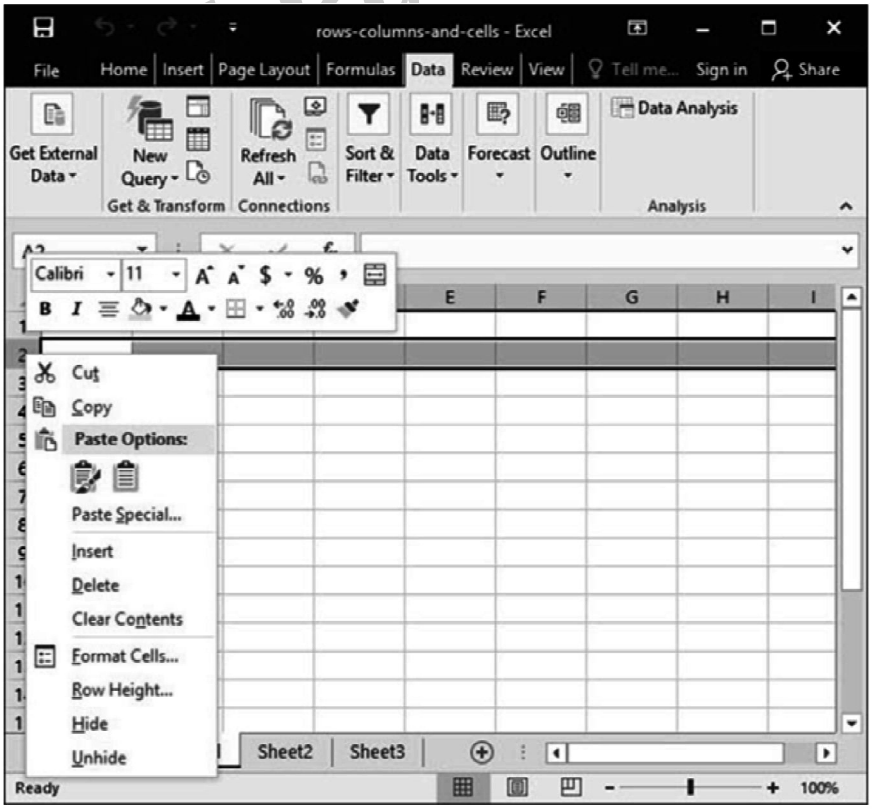
To select multiple rows or columns, click the label of one row or column and keep the mouse button held down, then drag over to select multiple:



To select all rows and all columns in a worksheet, click the small box that appears at the intersection of row 1 and column A:



Once you have rows or columns selected, right click their labels to bring up the row / column manipulation menu, which appears in the screenshot below.



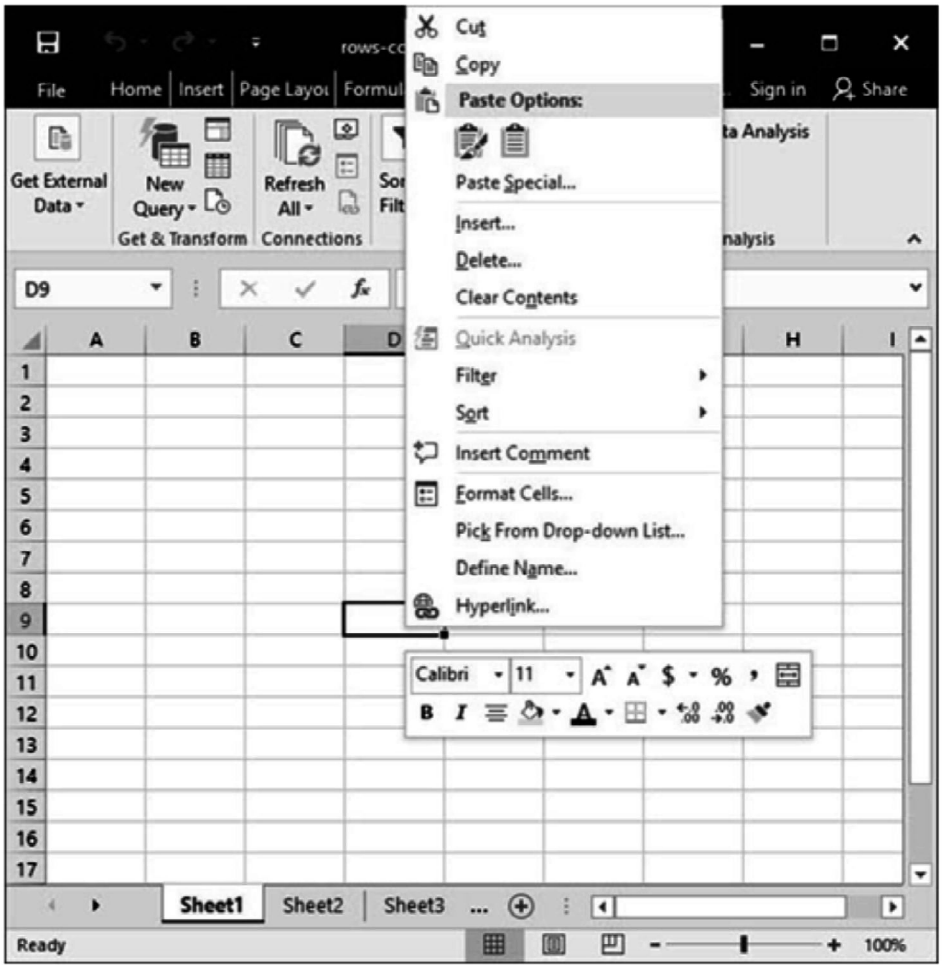
This menu has a variety of functions, and will allow you to do any of the following:

- **Cut /copy / paste rows or columns**: Use this if you would like to duplicate rows or columns, or if you would like to rearrange their order.
- **Insert new rows or columns:** This will insert new rows above - or new columns to the left of - the row or column you have selected.
- **Delete rows or columns**: This will delete the rows or columns in question entirely and collapse the remainder of the sheet in to take the place of the removed row or column.
- **Format rows or columns**: Use this option to apply formatting to each cell within a row or column. Potential formatting options include text colors, background colors, and borders.
- **Hide and unhide rows or columns**: Use this option to temporarily hide or unhide rows or columns. This makes it easier to manage large spreadsheets by hiding non-critical data.

You can also resize a row or column by hovering your mouse over the divider between two rows or two columns, then clicking and dragging to expand or contract it.

b. Manipulating cells

Cells can be manipulated just like rows and columns. To do so, select a cell or range, then right click. The cell manipulation menu will appear.



This menu allows you to:

- **Cut / copy / paste cells:** Use this to duplicate cells from one place in your worksheet to another.
- **Insert new cells**. Note that when you insert a cell, you'll have to tell Excel how to do it (you must either shift rows or columns in the existing sheet to accomodate the new cell).
- **Delete cells**. Like insertion, deletion also causes a shift in your sheet. Excel will ask you where you want cells to shift when you delete a cell.
- **Format cells**. Use this option to apply formatting to each cell. Potential formatting options include text colors, background colors, and borders.

2.1.3 Formulas and Functions

Q6. What is the need of Formula in work sheet ?

Ans :

Formulas in MS Excel

Formulas are the Bread and butter of worksheet. Without formula, worksheet will be just simple tabular representation of data. A formula consists of special code, which is entered into a cell. It performs some calculations and returns a result, which is displayed in the cell.

Formulas use a variety of operators and worksheet functions to work with values and text. The values and text used in formulas can be located in other cells, which makes changing data easy and gives worksheets their dynamic nature. For example, you can quickly change the data in a worksheet and formulas works.

Elements of Formulas

A formula can consist of any of these elements:

- **Mathematical operators, such as +(for addition) and *(for multiplication)**

  Example

  P = A1+A2 Adds the values in cells A1 and A2.

- **Values or text**

  Example

  P = 200*0.5 Multiplies 200 times 0.15. This formula uses only values, and it always returns the same result as 100.

- **Cell references (including named cells and ranges)**

  Example

  P = A1=C12 Compares cell A1 with cell C12. If the cells are identical, the formula returns TRUE; otherwise, it returns FALSE.

- **Worksheet functions (such as SUMor AVERAGE)**

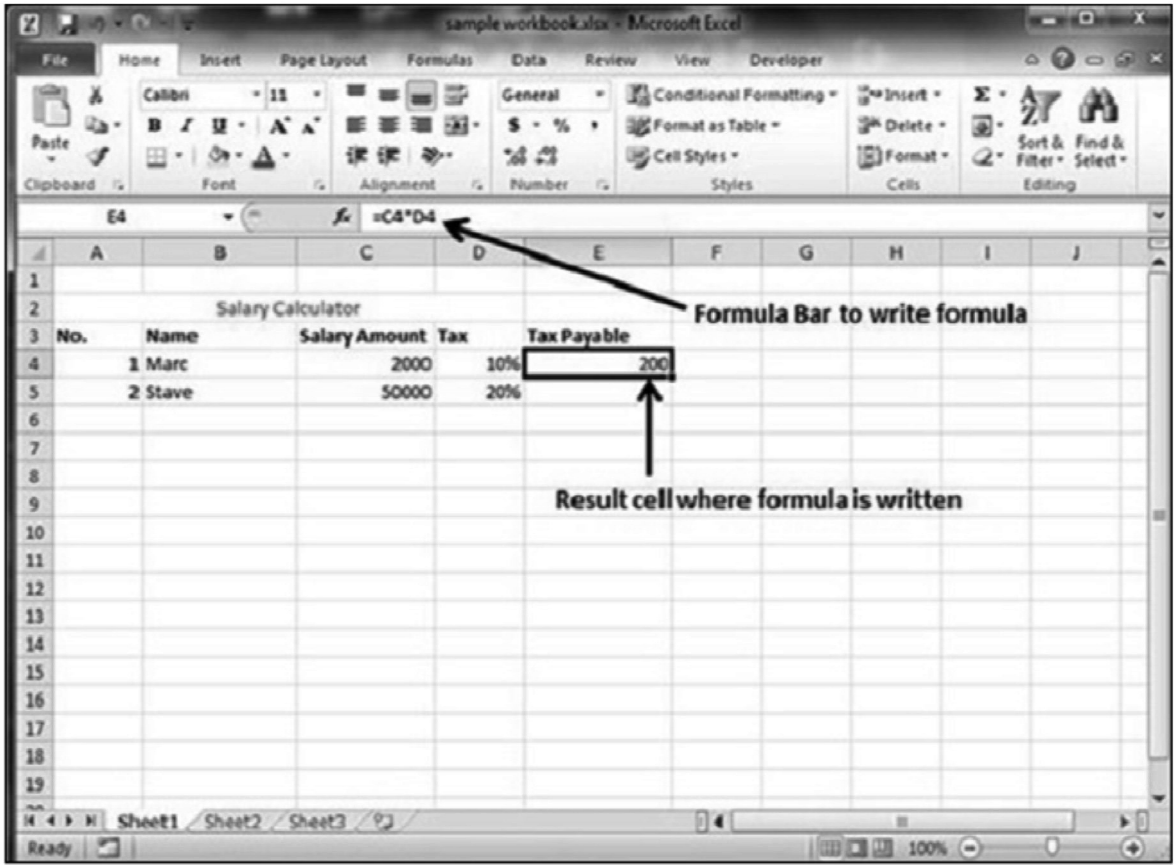
  Example

  P = SUM(A1:A12) Adds the values in the range A1:A12.

Creating Formula

For creating a formula you need to type in the Formula Bar. Formula begins with '=' sign. When building formulas manually, you can either type in the cell addresses or you can point to them in the

worksheet. Using the **Pointing method** to supply the cell addresses for formulas is often easier and more powerful method of formula building. When you are using built-in functions, you click the cell or drag through the cell range that you want to use when defining the function's arguments in the Function Arguments dialog box. See the below screen shot.



As soon as you complete a formula entry, Excel calculates the result, which is then displayed inside the cell within the worksheet (the contents of the formula, however, continue to be visible on the Formula bar anytime the cell is active). If you make an error in the formula that prevents Excel from being able to calculate the formula at all, Excel displays an Alert dialog box suggesting how to fix the problem.

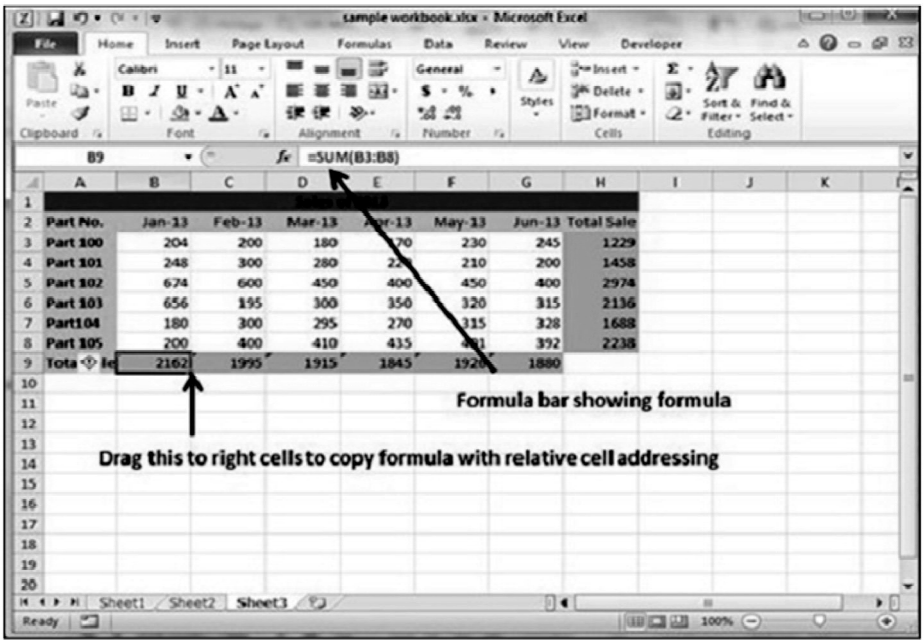
Copying Formulas in MS Excel

Copying formulas is one of the most common tasks that you do in a typical spreadsheet that relies primarily on formulas. When a formula uses cell references rather than constant values, Excel makes the task of copying an original formula to every place that requires a similar formula.

Relative Cell Addresses

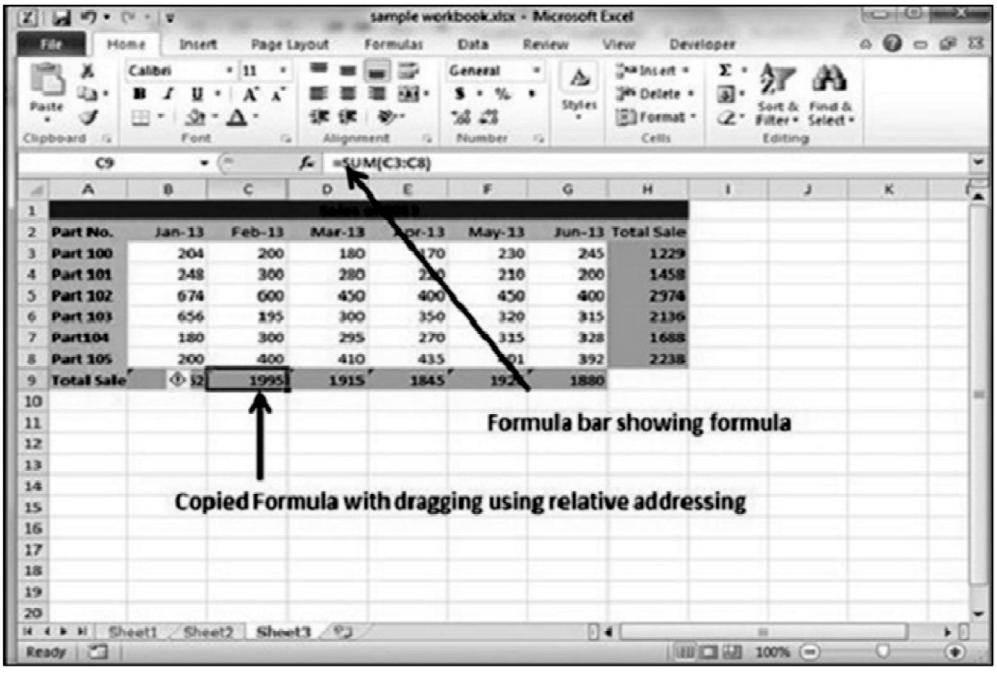
MS Excel does it automatically adjusting the cell references in the original formula to suit the position of the copies that you make. It does this through a system known as **relative cell addresses,** where by the column references in the cell address in the formula change to suit their new column position and the row references change to suit their new row position.

Let us see this with the help of example. Suppose we want the sum of all the rows at last, then we will write a formula for first column i.e. B. We want sum of the rows from 3 to 8 in the 9th row.



After writing formula in the 9th row, we can drag it to remaining columns and the formula gets copied. After dragging we can see the formula in the remaining columns as below.

- **column C :** =SUM(C3:C8)
- **column D :** =SUM(D3:D8)
- **column E :** =SUM(E3:E8)
- **column F :** =SUM(F3:F8)
- **column G :** =SUM(G3:G8)



Q7. What is cell reference ? Explain the types of cell references ?

Ans :

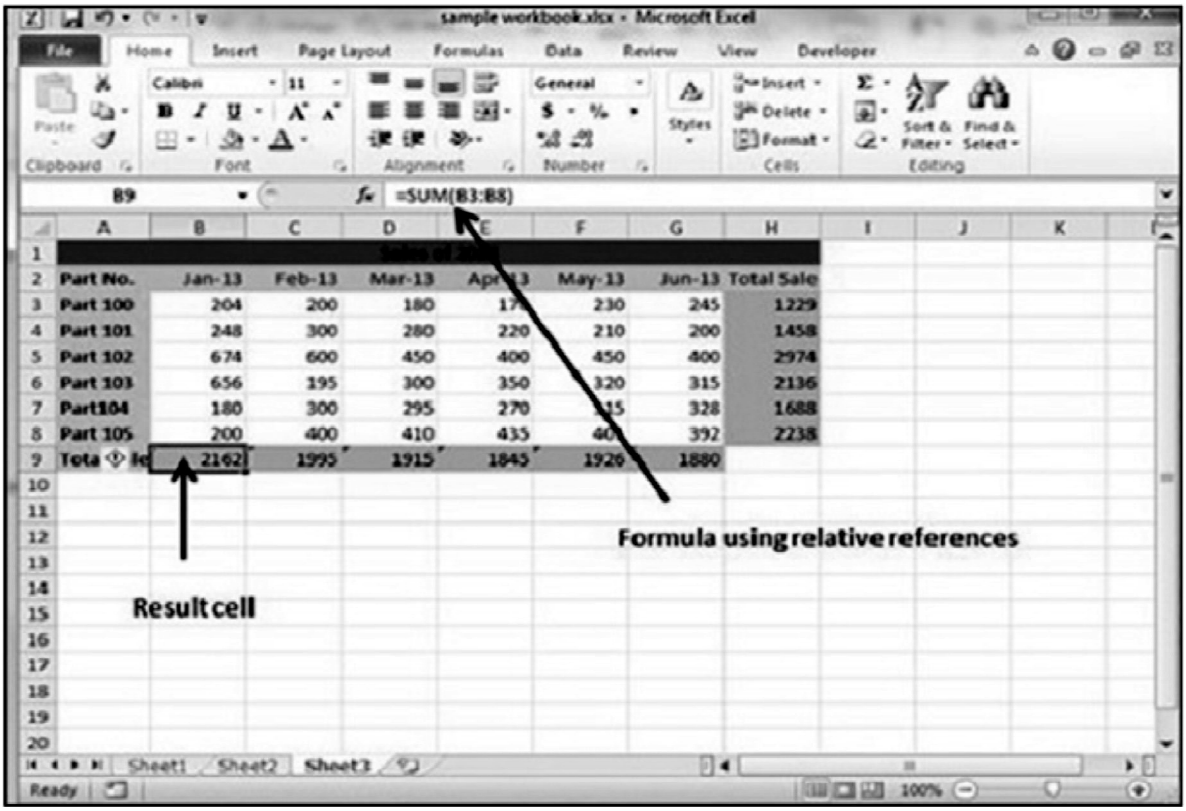
Cell References in Formulas

Most formulas you create include references to cells or ranges. These references enable your formulas to work dynamically with the data contained in those cells or ranges. For example, if your formula refers to cell C2 and you change the value contained in C2, the formula result reflects new value automatically. If you didn't use references in your formulas, you would need to edit the formulas themselves in order to change the values used in the formulas.

When you use a cell (or range) reference in a formula, you can use three types of references - relative, absolute, and mixed references.

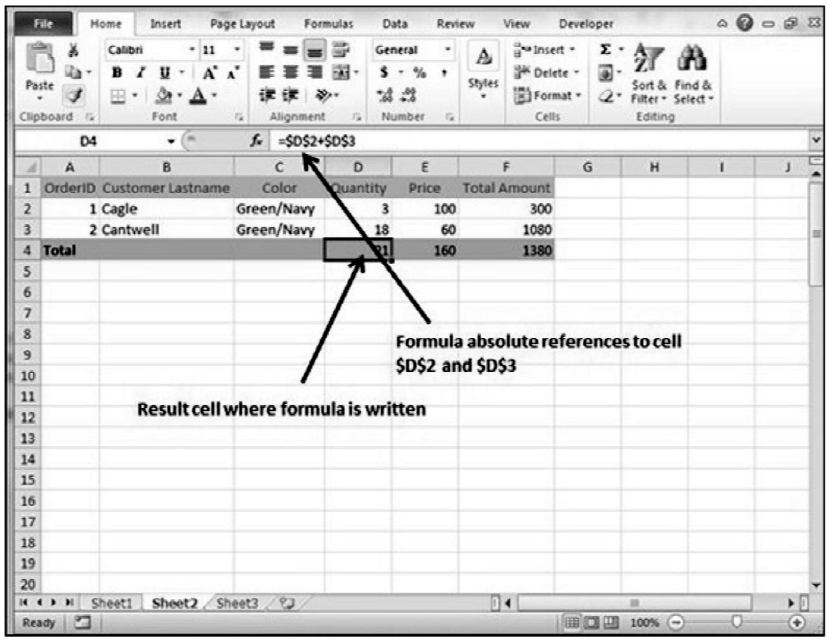
a. Relative Cell References

The row and column references can change when you copy the formula to another cell because the references are actually offsets from the current row and column. By default, Excel creates relative cell references in formulas.



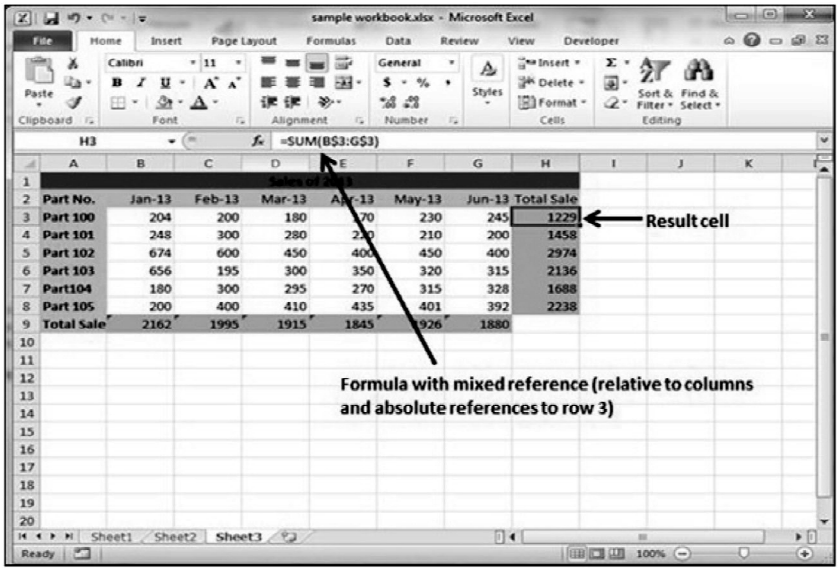
b. Absolute Cell References

The row and column references do not change when you copy the formula because the reference is to an actual cell address. An absolute reference uses two dollar signs in its address: one for the column letter and one for the row number (for example, A5).



c. Mixed Cell References

Both the row or column reference is relative and the other is absolute. Only one of the address parts is absolute (for example, $A5 or A$5).



Q8. Explain about Built in functions in MS Excel.

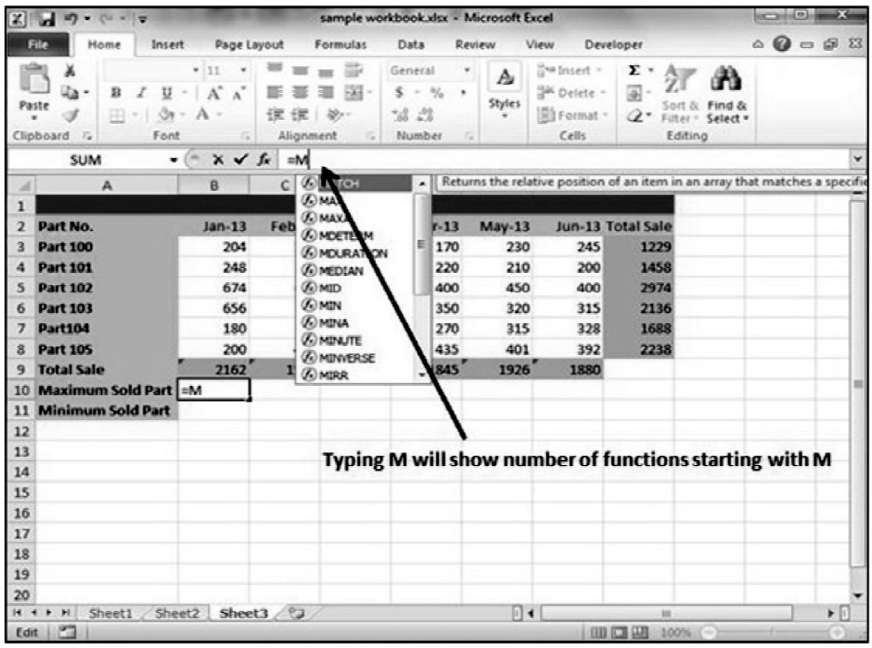
Ans :

Functions in Formula

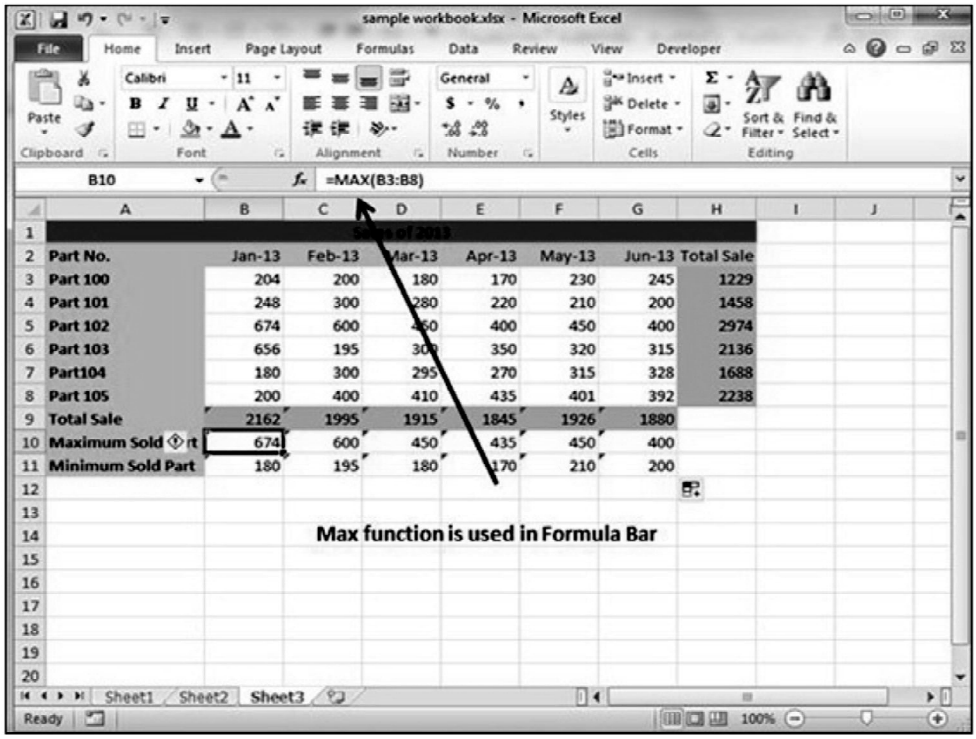
Many formulas you create use available worksheet functions. These functions enable you to greatly enhance the power of your formulas and perform calculations that are difficult if you use only the operators. For example, you can use the LOG or SIN function to calculate the Logarithm or Sin ratio. You can't do this complicated calculation by using the mathematical operators alone.

Using Functions

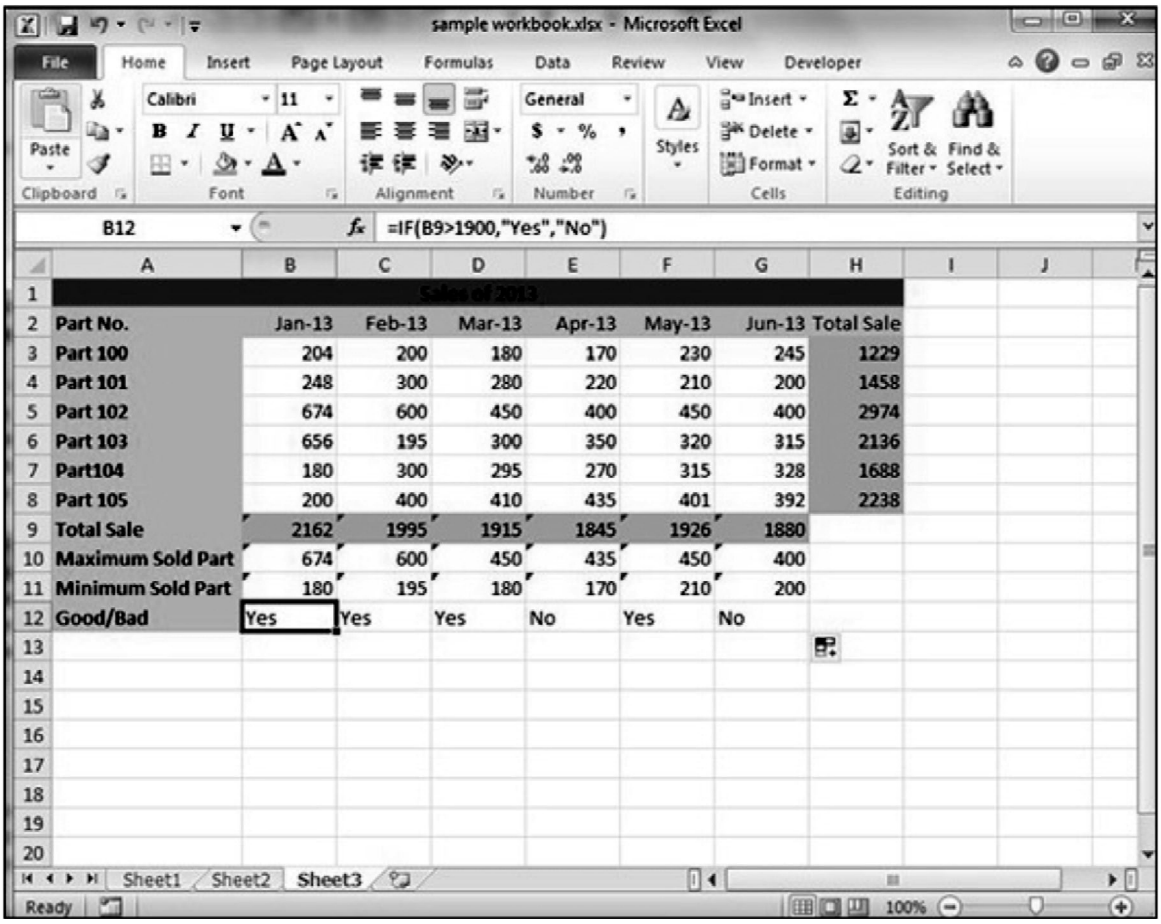
When you type = sign and then type any alphabet you will see the searched functions as below.



Suppose you need to determine the largest value in a range. A formula can't tell you the answer without using a function. We will use formula that uses the MAX function to return the largest value in the range B3:B8 as **=MAX(A1:D100)**.



Another example of functions. Suppose you want to find if the cell of month is greater than 1900 then we can give Bonus to Sales representative. The we can achieve it with writing formula with IF functions as **=IF(B9>1900,"Yes","No").**



	A	B	C	D	E	F	G	H	I	J
1	Sales of 2013									
2	Part No.	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Total Sale		
3	Part 100	204	200	180	170	230	245	1229		
4	Part 101	248	300	280	220	210	200	1458		
5	Part 102	674	600	450	400	450	400	2974		
6	Part 103	656	195	300	350	320	315	2136		
7	Part104	180	300	295	270	315	328	1688		
8	Part 105	200	400	410	435	401	392	2238		
9	Total Sale	2162	1995	1915	1845	1926	1880			
10	Maximum Sold Part	674	600	450	435	450	400			
11	Minimum Sold Part	180	195	180	170	210	200			
12	Good/Bad	Yes	Yes	Yes	No	Yes	No			
13										
14										
15										
16										
17										
18										
19										
20										

Function Arguments

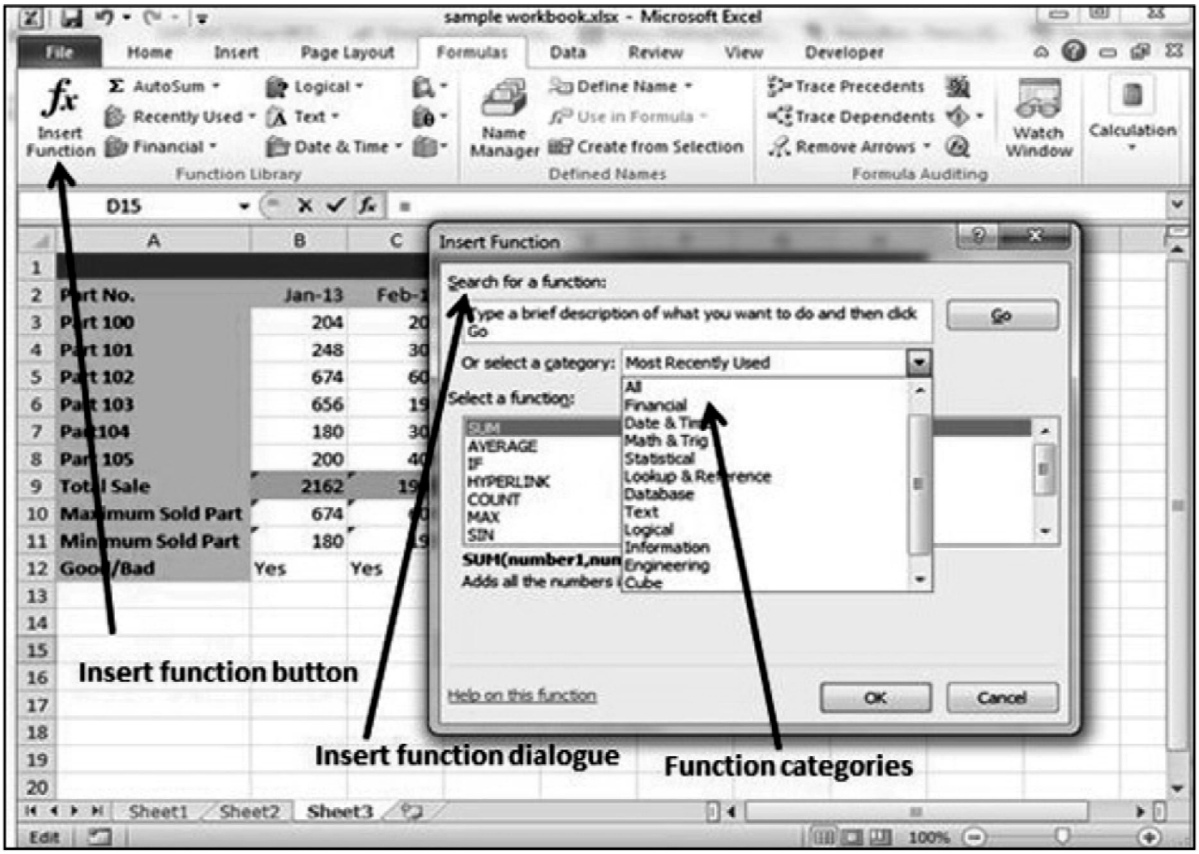
In the above examples, you may have noticed that all the functions used parentheses. The information inside the parentheses is the list of arguments.

Functions vary in how they use arguments. Depending on what it has to do, a function may use.

- **No arguments**: Examples " Now(), Date(), etc.
- **One argument:** UPPER(), LOWER(), etc.
- **A fixed number of arguments:** IF(), MAX(), MIN(), AVERGAGE(), etc.
- **Infinite number of arguments:**
- **Optional arguments:**

Built In Functions

MS Excel has many built in functions, which we can use in our formula. To see all the functions by category, choose **Formulas Tab - Insert Function.** Then Insert function Dialog appears from which we can choose the function.



Functions by Categories

Let us see some of the built in functions in MS Excel.

i) Text Functions

LOWER: Converts all characters in a supplied text string to lower case

UPPER: Converts all characters in a supplied text string to upper case

TRIM: Removes duplicate spaces, and spaces at the start and end of a text string

CONCATENATE: Joins together two or more text strings.

LEFT: Returns a specified number of characters from the start of a supplied text string.

MID: Returns a specified number of characters from the middle of a supplied text string

RIGHT: Returns a specified number of characters from the end of a supplied text string.

LEN: Returns the length of a supplied text string

FIND: Returns the position of a supplied character or text string from within a supplied text string (case-sensitive).

ii) Date & Time

DATE: Returns a date, from a user-supplied year, month and day.

TIME: Returns a time, from a user-supplied hour, minute and second.

DATEVALUE: Converts a text string showing a date, to an integer that represents the date in Excel's date-time code.

TIMEVALUE: Converts a text string showing a time, to a decimal that represents the time in Excel.

NOW: Returns the current date & time.

TODAY: Returns today's date.

iii) Statistical

MAX: Returns the largest value from a list of supplied numbers.

MIN: Returns the smallest value from a list of supplied numbers.

AVERAGE: Returns the Average of a list of supplied numbers.

COUNT: Returns the number of numerical values in a supplied set of cells or values.

COUNTIF: Returns the number of cells (of a supplied range), that satisfies a given criteria.

SUM: Returns the sum of a supplied list of numbers

iv) Logical

AND: Tests a number of user-defined conditions and returns TRUE if ALL of the conditions evaluate to TRUE, or FALSE otherwise

OR: Tests a number of user-defined conditions and returns TRUE if ANY of the conditions evaluate to TRUE, or FALSE otherwise.

NOT: Returns a logical value that is the opposite of a user supplied logical value or expression i.e. returns FALSE if the supplied argument is TRUE and returns TRUE if the supplied argument is FAL

v) Math & Trig

ABS: Returns the absolute value (i.e. the modulus) of a supplied number.

SIGN: Returns the sign (+1, -1 or 0) of a supplied number.

SQRT: Returns the positive square root of a given number.

MOD: Returns the remainder from a division between two supplied numbers.

2.1.4 Editing of Spread Sheet

Q9. How Can we edit an existing spread sheet?

Ans :

Editing a Spreadsheet

The two ways to edit a spreadsheet are:

Edit the data itself, such as the labels, numbers, and formulas that make up a spreadsheet.

Edit the physical layout of the spreadsheet, such as adding or deleting rows and columns, or widening or shrinking the width or heights of rows and columns.

Editing Data in a Cell

To edit data in a single cell, follow these steps:

1. Double-click the cell that contains the data you want to edit. Excel displays a cursor in your selected cell.
2. Edit your data by using the Backspace or Delete key, or by typing new data.
3. If you click a cell, Excel displays the contents of that cell in the Formula bar. You can click and edit data directly in the Formula bar, which can be more convenient for editing large amounts of data.

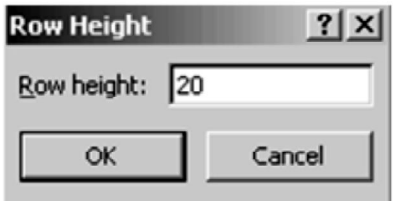
Changing the size of rows and columns with the mouse Using the mouse can be a quick way to modify the sizes of rows and columns. To change the height of a row or the width of a column, follow these steps:

1. Move the mouse pointer over the bottom line of a row heading, such as the 2 or 18 heading. (Or move the mouse pointer over the right line of the column heading, such as A or D.) The mouse pointer turns into a two-way pointing arrow.
2. Hold down the left mouse button and drag (move) the mouse. Excel resizes your row or column.
3. Release the left mouse button when you are happy with the size of your row or column.

Typing the size of rows and columns

If you need to resize a row or column to a precise value, it is easier to type a specific value into the Row Height or Column Width dialog box instead. To type a value into a Row Height or Column Width dialog box, follow these steps:

1. Click the Home tab and then click the row or column heading that you want to resize. Excel highlights your entire row or column.
2. Click the Format icon that appears in the Cells group. A pull-down menu appears and then click Height (if you selected a row) or Width (if you selected a column). The Row Height or Column Width dialog box appears.



Enter a height for the row.

3. Type a value and then click OK. Excel resizes your row or column.

Excel measures column width in characters. (A cell defined as 1 character width can display a single letter or number.) Excel measures row height by points where 1 point equals $^{1}/_{72}$ inch.

We can also add and delete the rows and columns.

We can add, Rename, Rearrange, and deleting sheets.

2.1.5 Printing of spread sheet

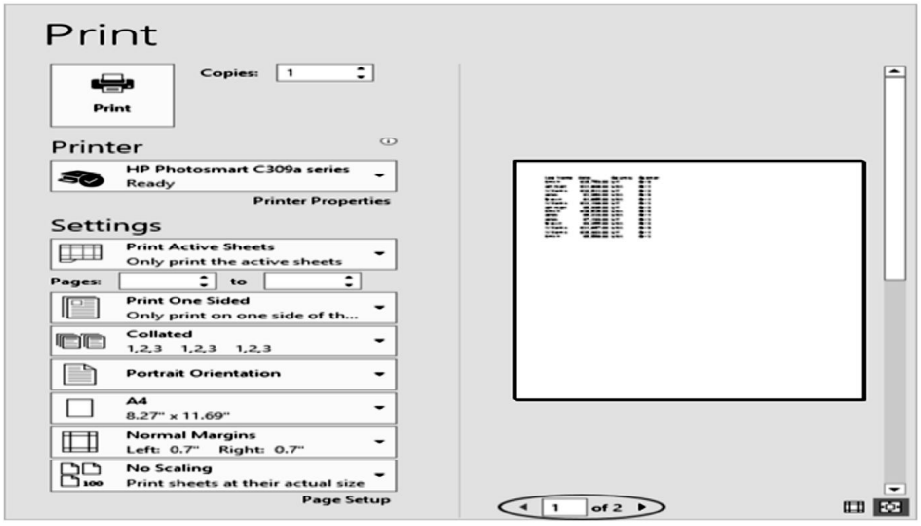
Q10. Explain the steps to print a work sheet

Ans :

Print a Worksheet

To print a worksheet in **Excel**, execute the following steps.

1. On the File tab, click Print.
2. To preview the other pages that will be printed, click 'Next Page' or 'Previous Page' at the bottom of the window.



3. To print the worksheet, click the big Print button.

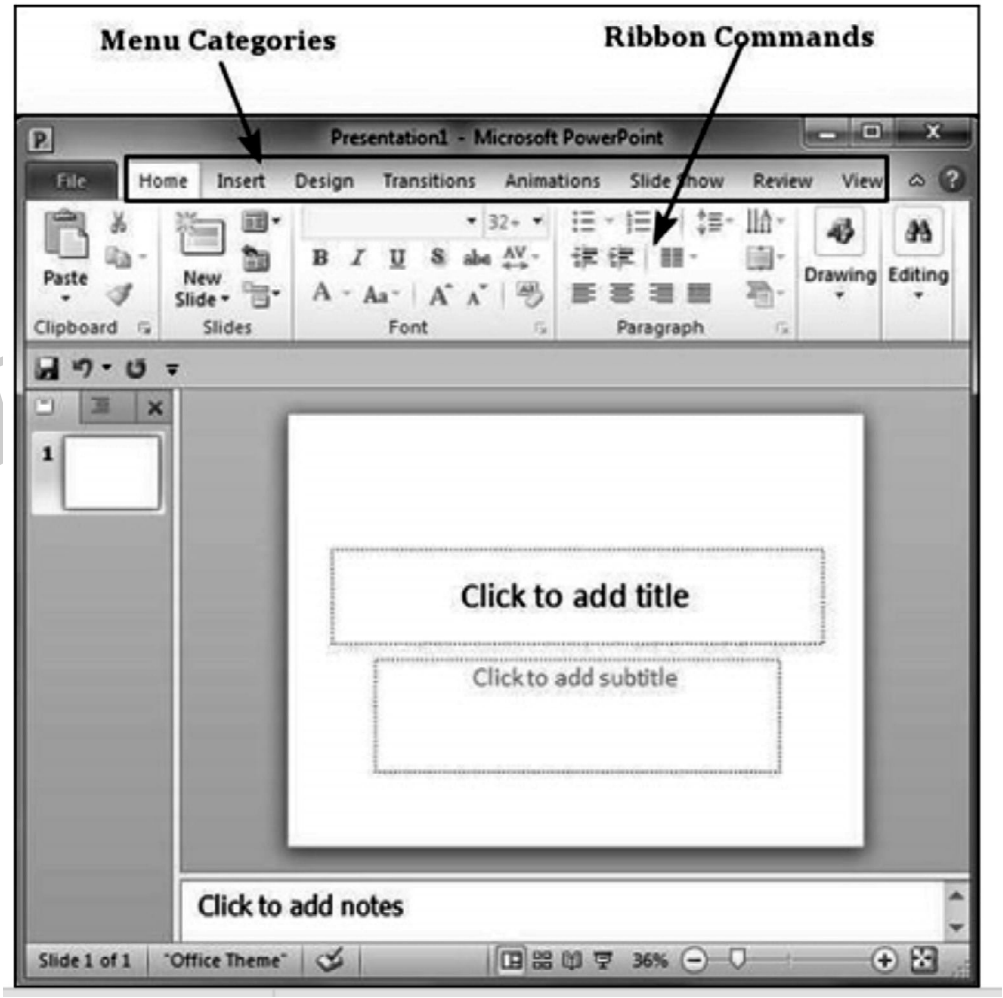
2.2 Basics of Presentation Software

2.2.1 Creating/Preparing Presentation and preparation of slides.

Q11. Explain the procedure of creating a new presentation and also explain how new slides added ?

Ans :

PowerPoint offers a host of tools that will aid you in creating a presentation. These tools are organized logically into various ribbons in PowerPoint. The table below describes the various commands you can access from the different menus.



Menu Category	Ribbon Commands
Home	Clipboard functions, manipulating slides, fonts, paragraph settings, drawing objects and editing functions.
Insert	Insert tables, pictures, images, shapes, charts, special texts, multimedia and symbols.
Design	Slide setup, slide orientation, presentation themes and background.
Transitions	Commands related to slide transitions.
Animations	Commands related to animation within the individual slides.
Slide Show	Commands related to slideshow set up and previews.
Review	Proofing content, language selection, comments and comparing presentations.
View	Commands related to presentation views, Master slides, color settings and window arrangements.

Besides these depending on the objects selected in the slide, there are other menu tabs that get enabled.

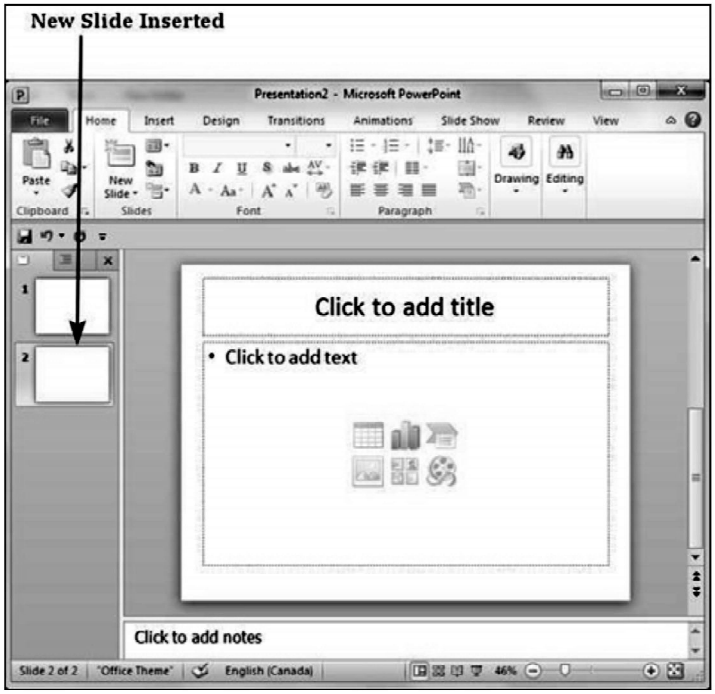
We will understand how to add new slides in an existing presentation. Here are the steps that allow you to insert a new slide in the deck -

Step 1

Right-click in the **Navigation Pane** under any existing slide and click on the **New Slide** option.

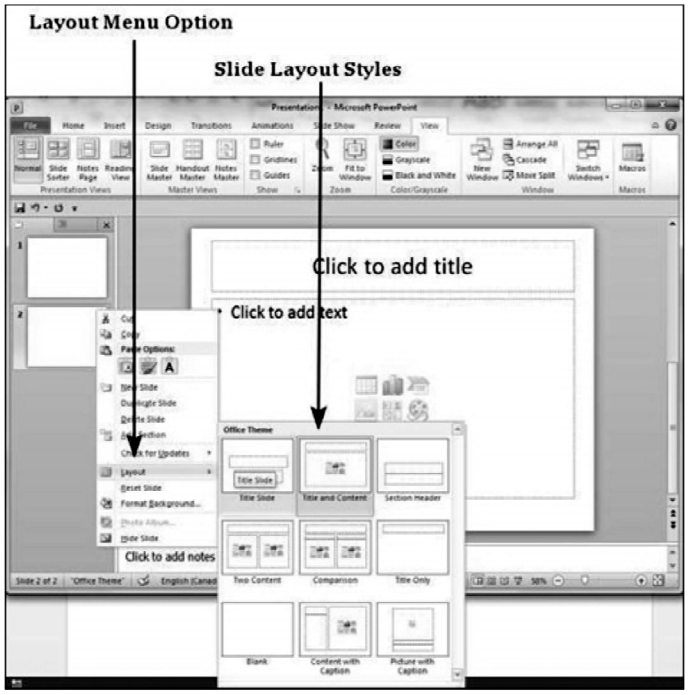
Step 2

The new slide is inserted. You can now change the layout of this slide to suit your design requirements.



Step 3

To change the slide layout, right-click on the newly inserted slide and go to the **Layout** option where you can choose from the existing layout styles available to you.



You can follow the same steps to insert a new slide in between existing slides or at the end on the slide list.

When we insert a new slide, it inherits the layout of its previous slide with one exception. If you are inserting a new slide after the first slide (**Title** slide), the subsequent slide will have the **Title and Content** layout.

You will also notice that if you right-click in the first step without selecting any slide the menu options you get are different, although you can insert a new slide from this menu too.

Q12. Explain the steps to create an effective presentation using MS Powerpoint.

Ans :

Creating a PowerPoint Slide

Step 1

Open Microsoft PowerPoint.

Step 2

Go to File at the top of the screen and click New. A box that says "New Presentation" should appear on the right side of your screen.

Step 3

In the "New Presentation" dialog box, click on "From Design Template." You may then scan through design templates and choose one that you like.

Step 4

Slide Design Select a design template by clicking on the template you like. You may choose a different color for your template by clicking on "Color Schemes" in the "New Presentation" dialog box. 1

Step 5

Slide Layout Change the Slide Layout. You may change the slide layout (how information is presented in the slide) by going to the top of the screen and clicking on "Format" – "Slide Layout." A box will appear on the right side of your screen (where "New Presentation" appeared) labeled "Slide Layout." You may select a design by clicking on it.

Step 6

Adding Text Enter your text by clicking and then typing in the box titled "Click to Add Text" or "Click to Add Title."

Step 7

Adding Pictures You may add pictures by clicking on the box that says "Click to add content." Inside that box, there will be a smaller box with six icons. Click on the icon that looks like a photograph of a mountain. A new window will open, allowing you to browse for a picture on your computer or a CD. Once you find your picture, click on it and then click "Insert." 2

Step 8

Resizing Pictures You may change the size of your picture by clicking on the picture. The picture will then have black lines around it with small bubbles or boxes in the corners. Place your mouse over the bubbles or boxes and click. Holding the mouse pointer down, drag the picture to the size you want.

Step 9

You're Done! Now you can do it again to make more.

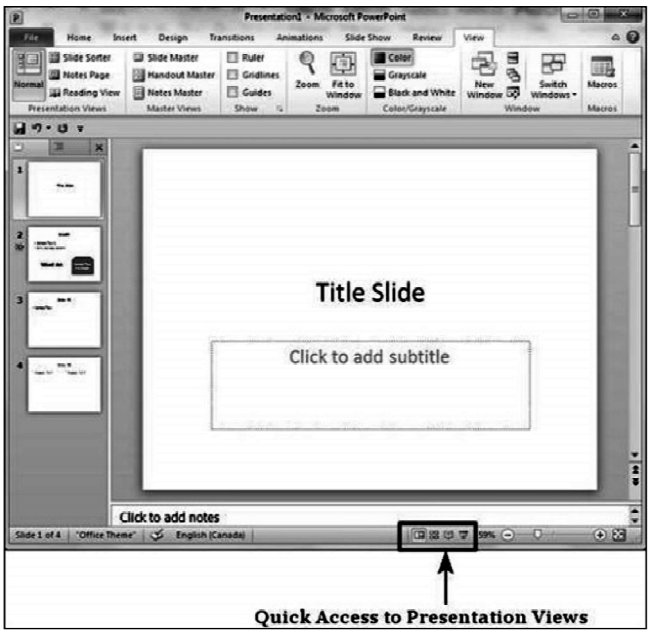
Q13. Write about types of views in power point presentation?

Ans :

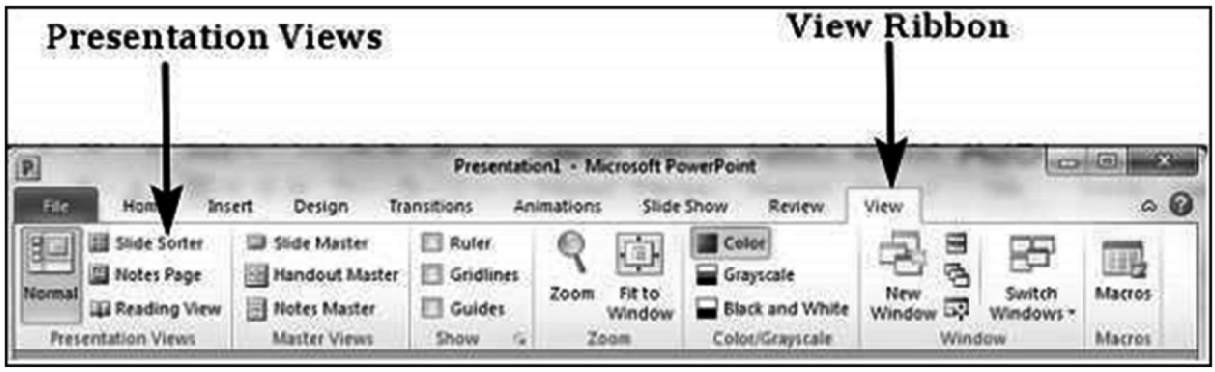
PowerPoint supports multiple views to allow users to gain the maximum from the features available in the program. Each view supports a different set of functions and is designed accordingly.

PowerPoint views can be accessed from two locations.

Views can be accessed quickly from the bottom bar just to the left of the zoom settings.



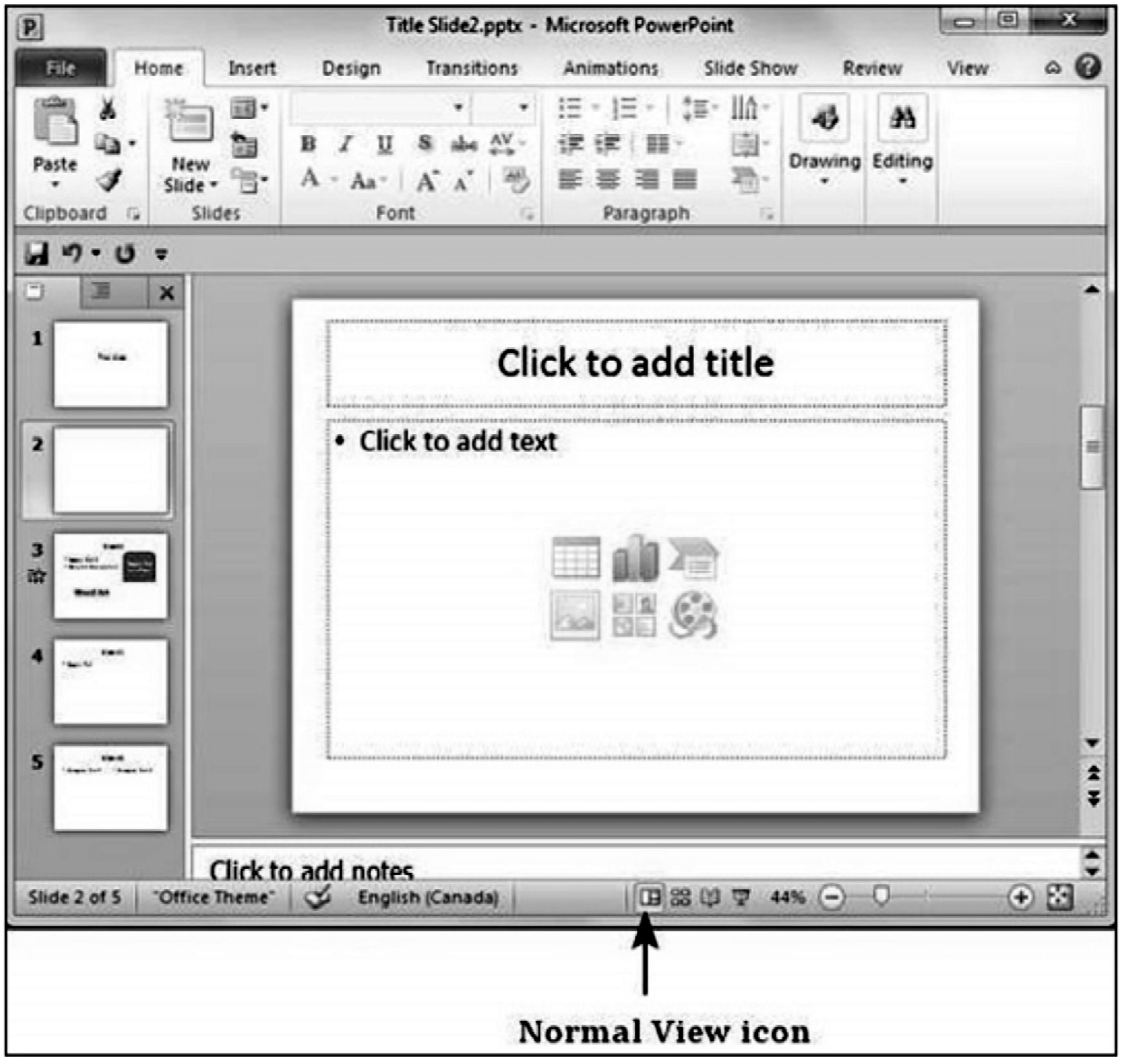
- Views can also be accessed from the **Presentation Views** section in the View ribbon



Here is a short description of the various views and their features.

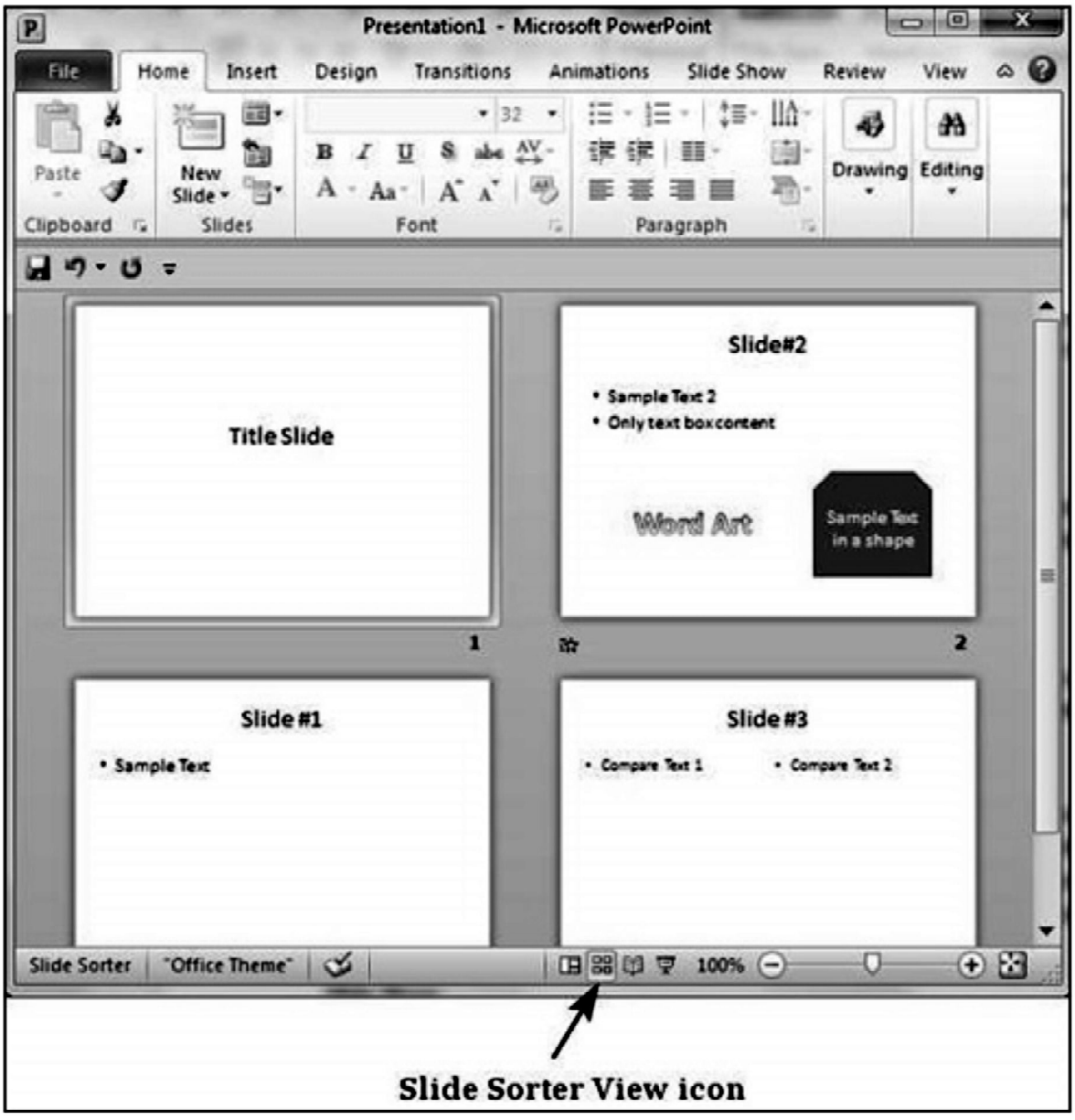
a. Normal View

This is the default view in PowerPoint and this is primarily used to create and edit slides. You can create/ delete/ edit/ rearrange slides, add/ remove/ modify content and manipulate sections from this vie



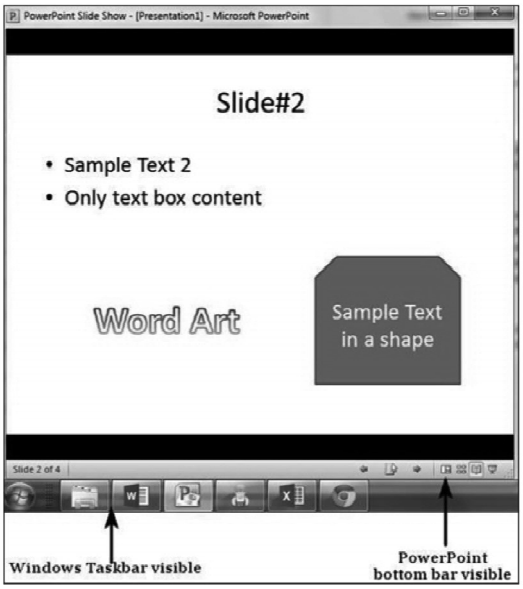
b. Slide Sorter View

This view is primarily used to sort slides and rearrange them. This view is also ideal to add or remove sections as it presents the slides in a more compact manner making it easier to rearrange them.



c. Reading View

This view is new to PowerPoint 2010 and it was created mainly to review the slideshow without losing access to rest of the Windows applications. Typically, when you run the slideshow, the presentation takes up the entire screen so other applications cannot be accessed from the taskbar. In the reading view the taskbar is still available while viewing the slideshow which is convenient. You cannot make any modifications when on this view.



d. SlidesShow

This is the traditional slideshow view available in all the earlier versions of PowerPoint. This view is used to run the slideshow during presentation.

2.2.2 Slide show

Q14. What is the use of slide show in powerpoint? How it useful ?

Ans :

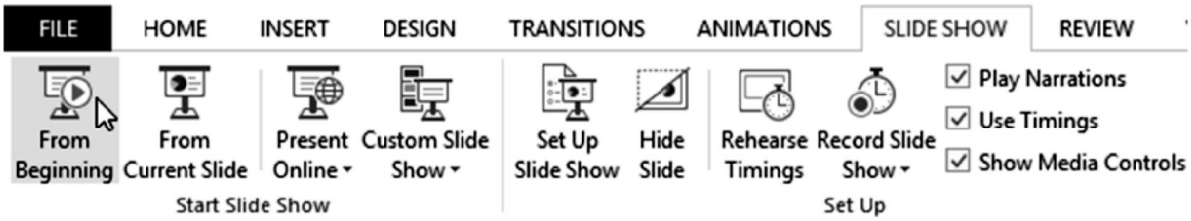
A **slide show** is a presentation of a series of still images on a projection screen or electronic **display** device, typically in a prearranged sequence. The changes may be automatic and at regular intervals or they may be manually controlled by a presenter or the viewer.

To start a slide show

- Click the **Start From Beginning** command on the Quick Access toolbar, or press the **F5** key at the top of your keyboard. The presentation will appear in full-screen mode.

You can also click the **Play Slide Show** command at the bottom of the PowerPoint window to begin a presentation from the current slide.

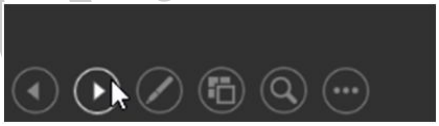
Click the **Slide Show** tab on the Ribbon to access even more options. From here, you can start the presentation **from the current slide** and access **advanced presentation options**.



To advance and reverse slides

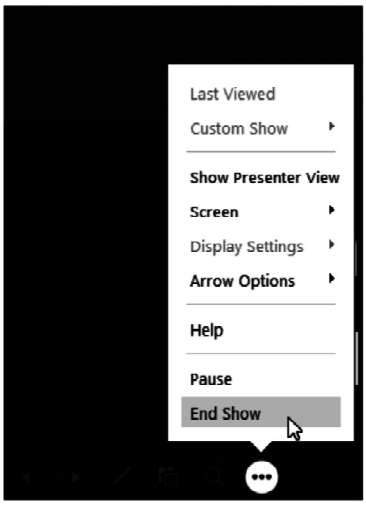
- You can advance to the next slide by **clicking your mouse** or pressing the **spacebar** on your keyboard. Alternatively, you can use or **arrow keys** on your keyboard to move forward or backward through the presentation.

  You can also hover your mouse over the bottom-left and click the **arrows** to move forward or backward.



To stop a slide show

- You can exit presentation mode by clicking the **Esc** key on your keyboard. Alternatively, you can click the **Slide Show Options** button in the bottom-left and select **End Show**.



The presentation will also end after the **last slide**. You can click the mouse or press the spacebar to return to Normal view.

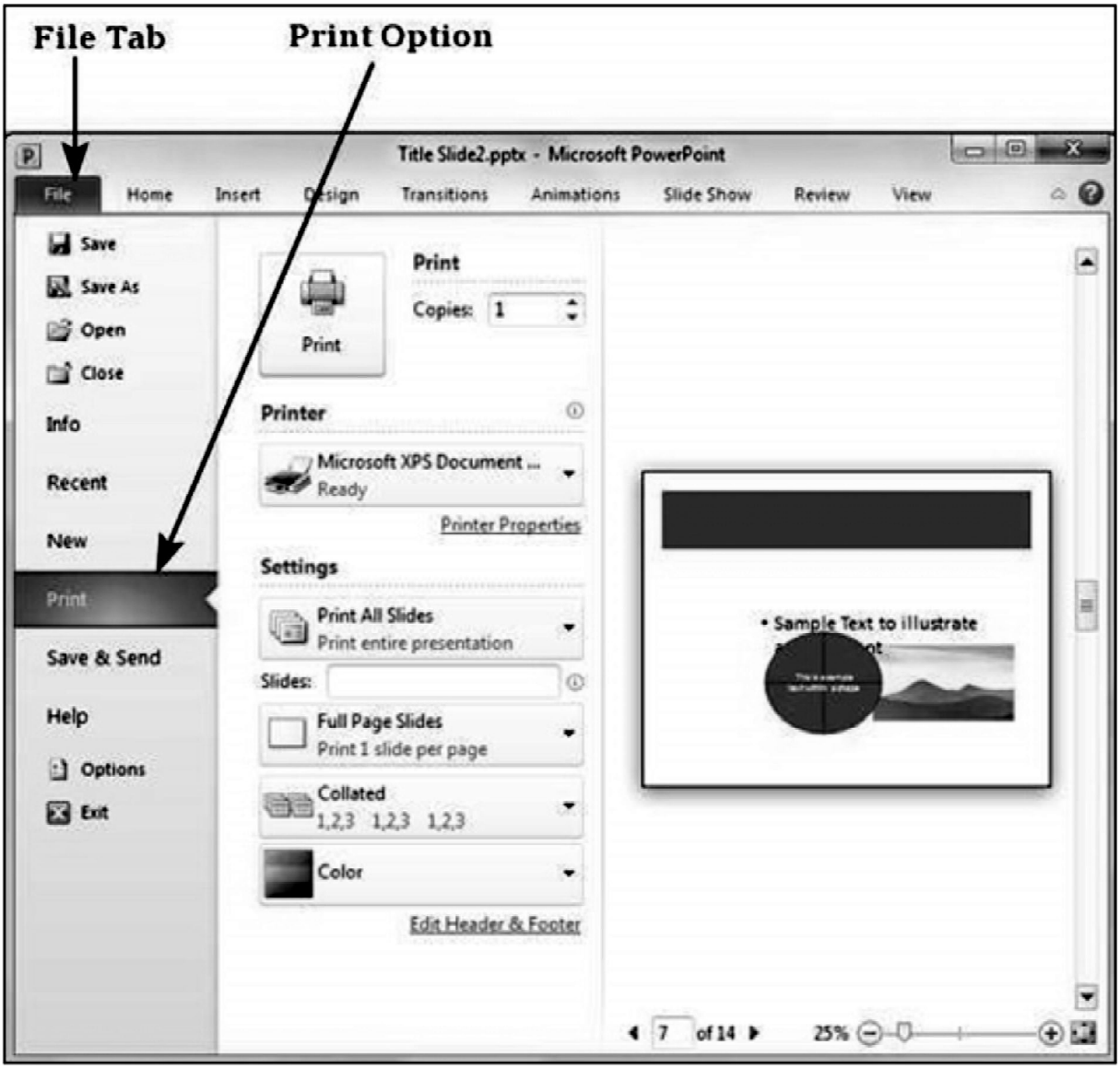
2.2.3 Taking Printout from Presentation

Q15. How can we take printouts from a presentation ?

Ans :

It is sometimes necessary that you share your slides with your audience in printed format before you begin presenting them so they can take notes. There are other times when you want to give your audience handouts with additional notes.

To print slides, you must go to the **Backstage** view under the **File** tab and click on the **Print** menu.



The following table describes the various printing options available in PowerPoint.

Main Settings	Options	Description
Printing Slides	Print All Slides	Prints all the slides in the presentation.
	Print Selection	Prints just the selected objects.
	Print Current Slide	Prints just the selected slide.
	Custom Range	Defines the slides you want printed.
	Slides	This is same as the Custom Range.
Print Layout	Full Page Slides	One slide per page.
	Notes Page	Slide and notes for every slide printed one below another - one slide per page.
	Outline	Print Slide outline.
	Handouts	Prints 1 or 2 or 3 or 4 or 6 or 9 slides per page - aligned vertically or horizontally. When you print handouts with 3 slides, you get the slide and the notes printed next to each other.
Collation	Collating Options	Prints slides in sequence or prints multiple copies of each slide one after another.
Printing Color	Color	Selects color, greyscale or black & white printing options. Although you can select any color settings, the output will depend on the kind of printer you use. A non-color printer cannot print color slides.

2.3 INTRODUCING TO INTERNET

2.3.1 Basics of computer networks

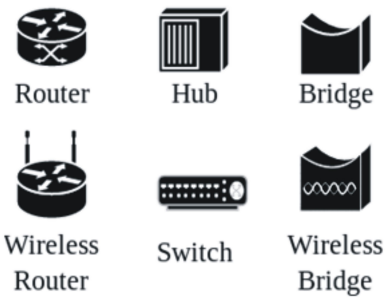
Q16. What is Network?

Ans :

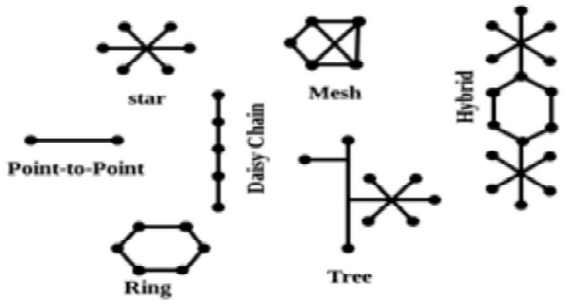
Computer Network

It is the interconnection of multiple devices, generally termed as Hosts connected using multiple paths for the purpose of sending/receiving data or media.

There are also multiple devices or mediums which helps in the communication between two different devices which are known as **Network devices**. Ex: Router, Switch, Hub, Bridge.



The layout pattern using which devices are interconnected is called as network topology. Such as Bus, Star, Mesh, Ring, Daisy chain.



Q17. Explain the Types of Networks.

Ans :

The **Network** allows computers to **connect and communicate** with different computers via any medium. LAN, MAN and WAN are the three major types of the network designed to operate over the area they cover. There are some similarities and dissimilarities between them. One of the major differences is the geographical area they cover, i.e. **LAN** covers the smallest area; **MAN** covers an area larger than LAN and **WAN** comprises the largest of all.

There are other types of Computer Networks also, like :

- PAN (Personal Area Network)
- SAN (Storage Area Network)
- EPN (Enterprise Private Network)
- VPN (Virtual Private Network)

a) Local Area Network (LAN)

LAN or Local Area Network connects network devices in such a way that personal computer and workstations can share data, tools and programs. The group of computers and devices are connected together by a switch, or stack of switches, using a private addressing scheme as defined by the TCP/IP protocol. Private addresses are unique in relation to other computers on the local network. Routers are found at the boundary of a LAN, connecting them to the larger WAN.

Data transmits at a very fast rate as the number of computers linked are limited. By definition, the connections must be high speed and relatively inexpensive hardware (Such as hubs, network adapters and Ethernet cables). LANs cover smaller geographical area (Size is limited to a few kilometers) and are privately owned. One can use it for an office building, home, hospital, schools, etc. LAN is easy to design and maintain. A Communication medium used for LAN has twisted pair cables and coaxial cables. It covers a short distance, and so the error and noise are minimized.

Early LAN's had data rates in the 4 to 16 Mbps range. Today, speeds are normally 100 or 1000 Mbps. Propagation delay is very short in a LAN. The smallest LAN may only use two computers, while larger LANs can accommodate thousands of computers. A LAN typically relies mostly on wired connections for increased speed and security, but wireless connections can also be part of a LAN. The fault tolerance of a LAN is more and there is less congestion in this network. For example : A bunch of students playing Counter Strike in the same room (without internet).

b) Metropolitan Area Network (MAN)

MAN or Metropolitan area Network covers a larger area than that of a LAN and smaller area as compared to WAN. It connects two or more computers that are apart but resides in the same or different cities. It covers a large geographical area and may serve as an ISP (Internet Service Provider). MAN is designed for customers who need a high-speed connectivity. Speeds of MAN ranges in terms of Mbps. It's hard to design and maintain a Metropolitan Area Network.

The fault tolerance of a MAN is less and also there is more congestion in the network. It is costly and may or may not be owned by a single organization. The data transfer rate and the propagation delay of MAN is moderate. Devices used for transmission of data through MAN are: Modem and Wire/Cable. Examples of a MAN are the part of the telephone company network that can provide a high-speed DSL line to the customer or the cable TV network in a city.

c) Wide Area Network (WAN)

WAN or Wide Area Network is a computer network that extends over a large geographical area, although it might be confined within the bounds of

a state or country. A WAN could be a connection of LAN connecting to other LAN's via telephone lines and radio waves and may be limited to an enterprise (a corporation or an organization) or accessible to the public. The technology is high speed and relatively expensive.

There are two types of WAN: Switched WAN and Point-to-Point WAN. WAN is difficult to design and maintain. Similar to a MAN, the fault tolerance of a WAN is less and there is more congestion in the network. A Communication medium used for WAN is PSTN or Satellite Link. Due to long distance transmission, the noise and error tend to be more in WAN.

WAN's data rate is slow about a 10th LAN's speed, since it involves increased distance and increased number of servers and terminals etc. Speeds of WAN ranges from few kilobits per second (Kbps) to megabits per second (Mbps). Propagation delay is one of the biggest problems faced here. Devices used for transmission of data through WAN are: Optic wires, Microwaves and Satellites. Example of a Switched WAN is the asynchronous transfer mode (ATM) network and Point-to-Point WAN is dial-up line that connects a home computer to the Internet.

2.3.2 Concept of Internet

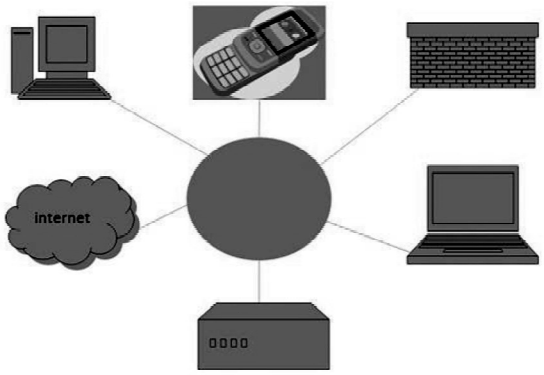
Q18. Describe the overview of an Internet.

Ans :

Internet

Internet is defined as an Information super Highway, to access information over the web. However, It can be defined in many ways as follows:

- Internet is a world-wide global system of interconnected computer networks.
- Internet uses the standard Internet Protocol (TCP/IP).
- Every computer in internet is identified by a unique IP address.
- IP Address is a unique set of numbers (such as 110.22.33.114) which identifies a computer location.
- A special computer DNS (Domain Name Server) is used to give name to the IP Address so that user can locate a computer by a name.
- For example, a DNS server will resolve a name **http://www.tutorialspoint.com** to a particular IP address to uniquely identify the computer on which this website is hosted.
- Internet is accessible to every user all over the world.



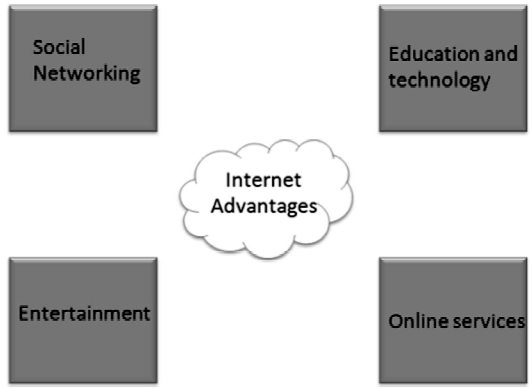
Evolution

The concept of Internet was originated in 1969 and has undergone several technological & Infrastructural changes as discussed below:

- The origin of Internet devised from the concept of **Advanced Research Project Agency Network (ARPANET).**
- **ARPANET** was developed by United States Department of Defense.
- Basic purpose of ARPANET was to provide communication among the various bodies of government.
- Initially, there were only four nodes, formally called **Hosts.**
- In 1972, the **ARPANET** spread over the globe with 23 nodes located at different countries and thus became known as **Internet.**
- By the time, with invention of new technologies such as TCP/IP protocols, DNS, WWW, browsers, scripting languages etc.,Internet provided a medium to publish and access information over the web.

Advantages

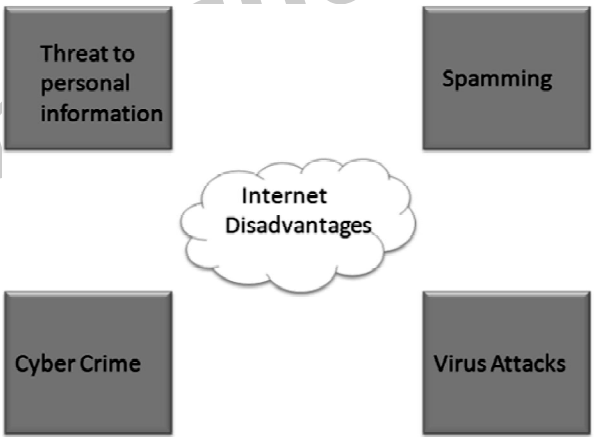
Internet covers almost every aspect of life, one can think of. Here, we will discuss some of the advantages of Internet:



- Internet allows us to communicate with the people sitting at remote locations. There are various apps available on the wed that uses Internet as a medium for communication. One can find various social networking sites such as:
  - Facebook
  - Twitter
  - Yahoo
  - Google +
  - Flickr
  - Orkut
- One can surf for any kind of information over the internet. Information regarding various topics such as Technology, Health & Science, Social Studies, Geographical Information, Information Technology, Products etc can be surfed with help of a search engine.
- Apart from communication and source of information, internet also serves a medium for entertainment. Following are the various modes for entertainment over internet.
  - Online Television
    - Online Games
    - Songs
    - Videos
    - Social Networking Apps
- Internet allows us to use many services like:
  - Internet Banking
  - Matrimonial Services
  - Online Shopping
  - Online Ticket Booking
  - Online Bill Payment
  - Data Sharing
  - E-mail
- Internet provides concept of **electronic commerce**, that allows the business deals to be conducted on electronic systems

Disadvantages

However, Internet has prooved to be a powerful source of information in almost every field, yet there exists many disadvanatges discussed below:



- There are always chances to loose personal information such as name, address, credit card number. Therefore, one should be very careful while sharing such information. One should use credit cards only through authenticated sites.
- Another disadvantage is the **Spamming**. Spamming corresponds to the unwanted e-mails in bulk. These e-mails serve no purpose and lead to obstruction of entire system.
- **Virus** can easily be spread to the computers connected to internet. Such virus attacks may cause your system to crash or your important data may get deleted.

- Also a biggest threat on internet is pornography. There are many pornographic sites that can be found, letting your children to use internet which indirectly affects the children healthy mental life.
- There are various websites that do not provide the authenticated information. This leads to misconception among many people.

Q19. What are the Features of Internet.

Ans :

Features of Internet

Let us now discuss the features of Internet. The features are described below:

i. Accessibility

An Internet is a global service and accessible to all. Today, people located in a remote part of an island or interior of Africa can also use Internet.

ii. Easy to Use

The software, which is used to access the Internet (web browser), is designed very simple; therefore, it can be easily learned and used. It is easy to develop.

iii. Interaction with Other Media

Internet service has a high degree of interaction with other media. For example, News and other magazine, publishing houses have extended their business with the help of Internet services.

iv. Low Cost

The development and maintenance cost of Internet service are comparatively low.

v. Extension of Existing IT Technology

This facilitates the sharing of IT technology by multiple users in organizations and even facilitates other trading partners to use.

vi. Flexibility of Communication

Communication through Internet is flexible enough. It facilitates communication through text, voice, and video too. These services can be availed at both organizational and individual levels.

Security

Last but not the least, Internet facility has to a certain extent helped the security system both at the individual and national level with components such as CCTV camera, etc.

2.3.3 Applications of Internet

Q20. List out the basic applications of Internet.

Ans :

The internet is treated as one of the biggest invention. It has a large number of applications.

1. Communication
2. Job searches
3. Finding books and study material
4. Health and medicine
5. Travel
6. Entertainment
7. Shopping
8. Stock market updates
9. Research
10. Business use of internet: different ways by which intenet can be used for business are:
    - Information about the product can be provided can be provided online to the the customer.
    - Provide market information to the business
    - It help business to recruit talented people
    - Help in locating suppliers of the product .
    - Fast information regarding customers view about companies product
    - Eliminate middle men and have a direct contact with contact with customer .
    - Providing information to the investor by providing companies back ground and financial information on web site.

2.3.4 Connecting to internet, ISPS

Q21. Explain about Internet connectivity.

(Or)

Classify the different types of ISPS.

Ans :

Following are the essential elements required to connect with the internet.

- Internet service providers,
- Software and hardware requirements,
- Configuring internet connection etc.

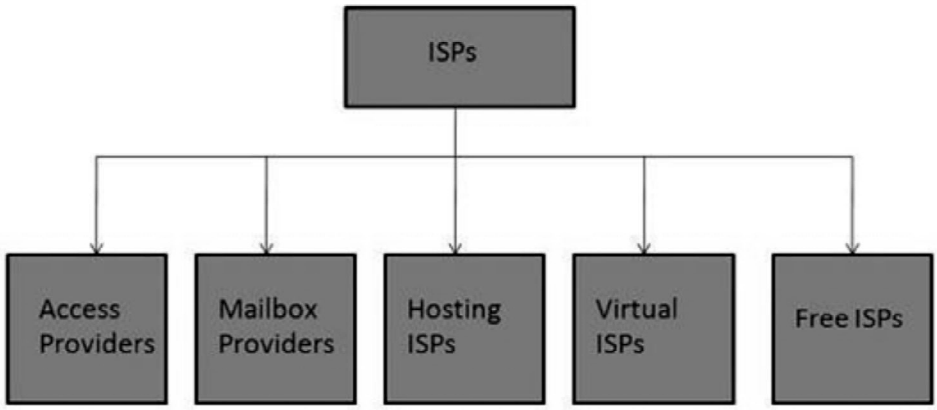
Internet Service Providers (ISP)

Internet Service Provider (ISP) is a company offering access to internet. They offer various services:

- Internet Access
- Domain name registration
- Dial-up access
- Leased line access

ISP Types

ISPs can broadly be classified into six categories as shown in the following diagram:



Access providers

They provide access to internet through telephone lines, cable wi-fi or fiber optics.

Mailbox Provider

Such providers offer mailbox hosting services.

Hosting ISPs

Hosting ISPs offers e-mail, and other web hosting services such as virtual machines, clouds etc.

Virtual ISPs

Such ISPs offer internet access via other ISP services.

Free ISPs

Free ISPs do not charge for internet services.

Connection Types

There exist several ways to connect to the internet. Following are these connection types available:

1. Dial-up Connection
2. ISDN
3. DSL

4. Cable TV Internet connections
5. Satellite Internet connections
6. Wireless Internet Connections

1. Dial-up Connection

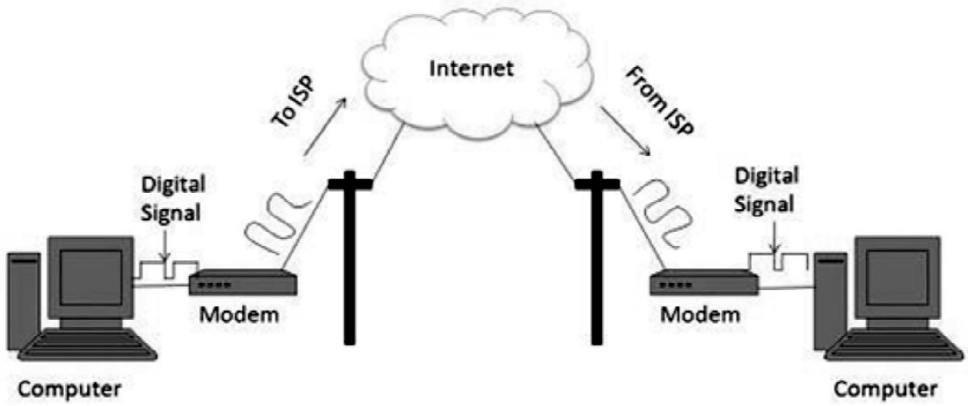
Dial-up connection uses telephone line to connect PC to the internet. It requires a modem to setup dial-up connection. This modem works as an interface between PC and the telephone line.

There is also a communication program that instructs the modem to make a call to specific number provided by an ISP.

Dial-up connection uses either of the following protocols:

1. Serial Line Internet Protocol (SLIP)
2. Point to Point Protocol (PPP)

The following diagram shows the accessing internet using modem:



2. ISDN

ISDN is acronym of **Integrated Services Digital Network.** It establishes the connection using the phone lines which carry digital signals instead of analog signals.

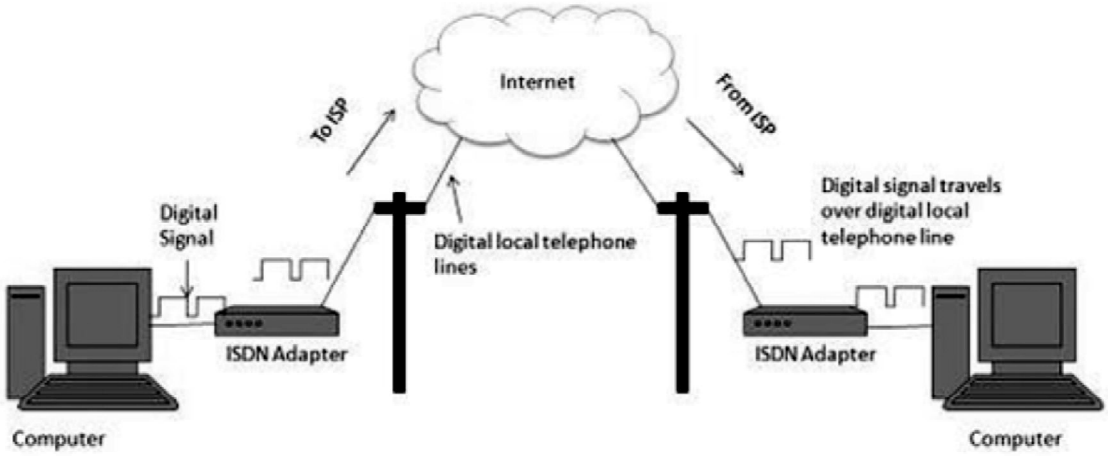
There are two techniques to deliver ISDN services:

1. Basic Rate Interface (BRI)
2. Primary Rate Interface (PRI)

Key points

- The BRI ISDN consists of three distinct channels on a single ISDN line: t1o 64kbps B (Bearer) channel and one 16kbps D (Delta or Data) channels.
- The PRI ISDN consists of 23 B channels and one D channels with both have operating capacity of 64kbps individually making a total transmission rate of 1.54Mbps.

The following diagram shows accessing internet using ISDN connection:



3. DSL

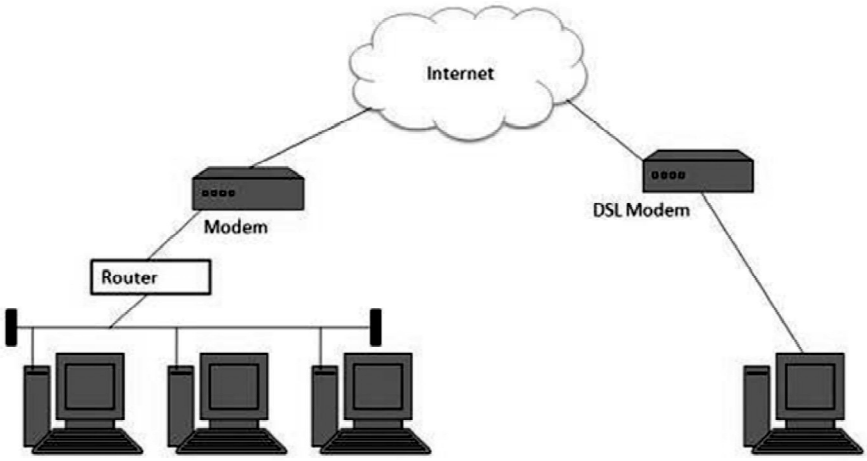
DSL is acronym of **Digital Subscriber Line.** It is a form of broadband connection as it provides connection over ordinary telephone lines.

Following are the several versions of DSL technique available today:

1. Asymmetric DSL (ADSL)
2. Symmetric DSL (SDSL)
3. High bit-rate DSL (HDSL)
4. Rate adaptive DSL (RDSL)
5. Very high bit-rate DSL (VDSL)
6. ISDN DSL (IDSL)

All of the above mentioned technologies differ in their upload and download speed, bit transfer rate and level of service.

The following diagram shows that how we can connect to internet using DSL technology:



Internet Access Using DSL Modem

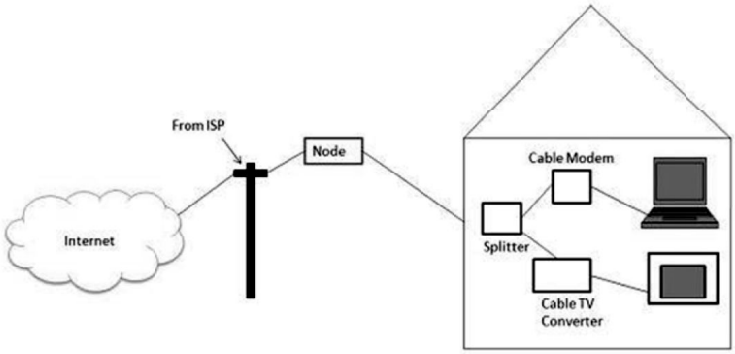
4. Cable TV Internet Connection

Cable TV Internet connection is provided through Cable TV lines. It uses coaxial cable which is capable of transferring data at much higher speed than common telephone line.

Key Points

- A cable modem is used to access this service, provided by the cable operator.
- The Cable modem comprises of two connections: one for internet service and other for Cable TV signals.
- Since Cable TV internet connections share a set amount of bandwidth with a group of customers, therefore, data transfer rate also depends on number of customers using the internet at the same time.

The following diagram shows that how internet is accessed using Cable TV connection:



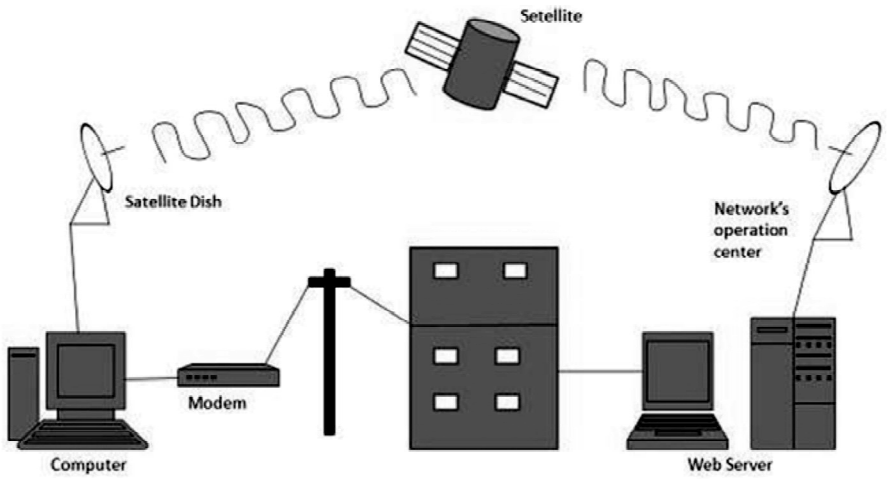
5. Satellite Internet Connection

Satellite Internet connection offers high speed connection to the internet. There are two types of satellite internet connection: one way connection or two way connection.

In one way connection, we can only download data but if we want to upload, we need a dialup access through ISP over telephone line.

In two way connection, we can download and upload the data by the satellite. It does not require any dialup connection.

The following diagram shows how internet is accessed using satellite internet connection:



6. Wireless Internet Connection

Wireless Internet Connection makes use of radio frequency bands to connect to the internet and offers a very high speed. The wireless internet connection can be obtained by either WiFi or Bluetooth.

Key Points

- Wi Fi wireless technology is based on IEEE 802.11 standards which allow the electronic device to connect to the internet.
- Bluetooth wireless technology makes use of short-wavelength radio waves and helps to create personal area network (PAN).

2.3.5 Basics of internet connectivity related troubleshooting

Q22. Define troubleshooting? Explain along with Internet Connectivity

Ans :

Troubleshoot is the process of solving a problem or determining a problem to an issue. Troubleshooting often involves the process of elimination, where a technician follows a set of steps to determine the problem or resolve the problem.

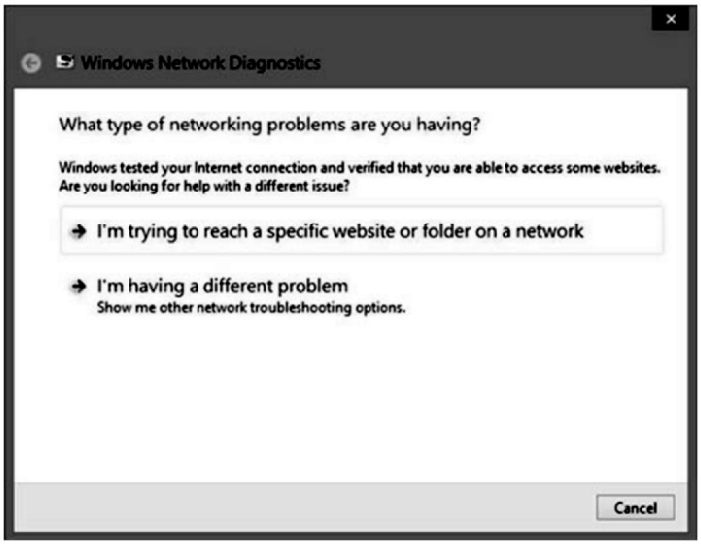
If you can't view web pages or send and receive email, your Internet connection is probably to blame. Sometimes it's not your equipment's fault that the Internet isn't working. Service providers can have their own problems that result in temporary outages, ranging from a few seconds to a few hours.

Here are some things to try when troubleshooting, in the approximate order to try them:

- Restart your computer.
- Power-cycle the modem (and router, if they are separate units). That means to turn the device off or unplug it for 30 seconds, and then turn it back on again. Some modems take several minutes to fully come back up after a power cycle; this is normal.
- If you are using a wired connection, check to make sure the cables are plugged in snugly.
- If you are using a wireless connection, check to make sure that your computer's wireless networking feature is turned on. On some notebooks, there's a button somewhere near the keyboard that toggles the wireless networking on/off.

If you accidentally press that button, your wireless turns off. If you look for the wireless icon in the notification area and it has a red X on it, that's a pretty good clue that the wireless networking is turned off on the device.

- Right-click the networking icon in the notification area and choose Troubleshoot Problems. Then follow the prompts to walk through a Windows Network Diagnostics utility, which will ask you questions about your problem and try various fixes.



2.4 World Wide Web (WWW)

Q23. Give an overview of WWW.

(or)

Draw and explain the LAQ architecture of WWW.

Ans :

Overview

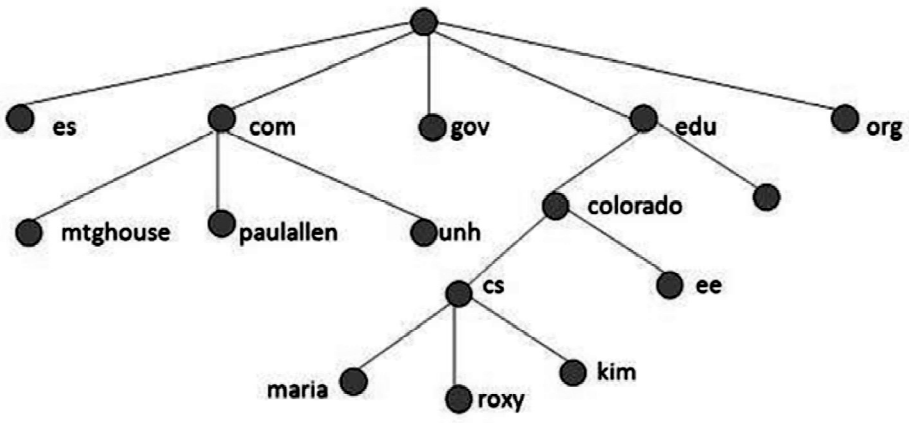
WWW stands for **World Wide Web.** A technical definition of the World Wide Web is : all the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP).

A broader definition comes from the organization that Web inventor **Tim Berners-Lee** helped found, the **World Wide Web Consortium (W3C).**

The World Wide Web is the universe of network-accessible information, an embodiment of human knowledge.

In simple terms, The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.

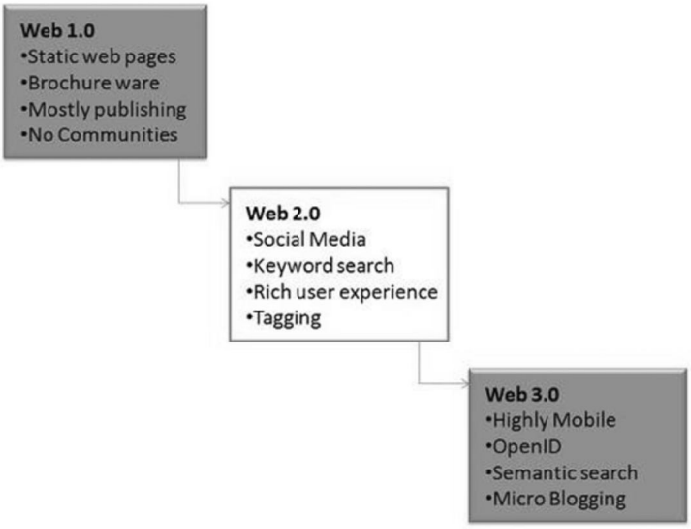
Internet and **Web** is not the same thing: Web uses internet to pass over the information.



Evolution

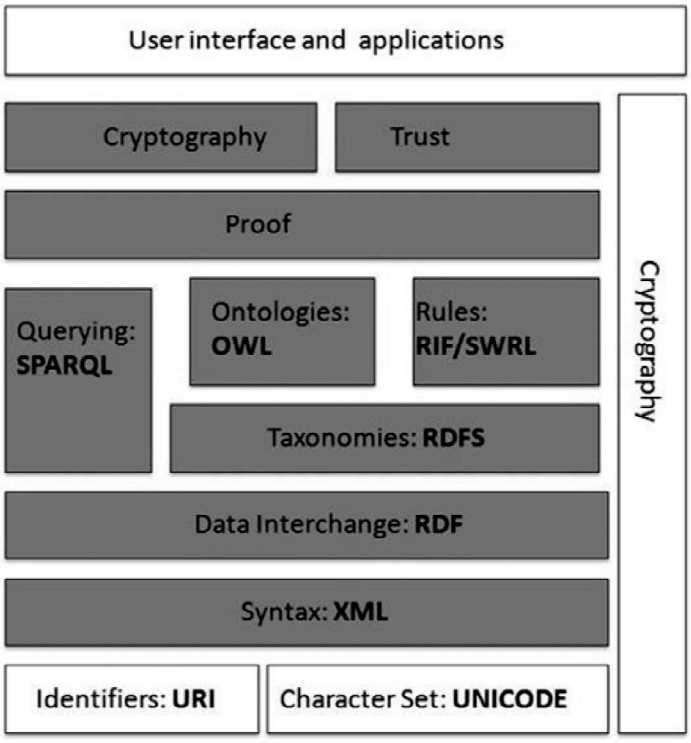
World Wide Web was created by **Timothy Berners Lee** in 1989 at **CERN** in **Geneva.** World Wide Web came into existence as a proposal by him, to allow researchers to work together effectively and efficiently at **CERN.** Eventually it became **World Wide Web.**

The following diagram briefly defines evolution of World Wide Web:



WWW Architecture

WWW architecture is divided into several layers as shown in the following diagram:



Identifiers and Character Set

Uniform Resource Identifier (URI) is used to uniquely identify resources on the web and **UNICODE** makes it possible to built web pages that can be read and write in human languages.

Syntax

XML (Extensible Markup Language) helps to define common syntax in semantic web.

Data Interchange

Resource Description Framework (RDF) framework helps in defining core representation of data for web. RDF represents data about resource in graph form.

Taxonomies

RDF Schema (RDFS) allows more standardized description of **taxonomies** and other **ontological** constructs.

Ontologies

Web Ontology Language (OWL) offers more constructs over RDFS. It comes in following three versions:

- OWL Lite for taxonomies and simple constraints.
- OWL DL for full description logic support.
- OWL for more syntactic freedom of RDF

Rules

RIF and **SWRL** offers rules beyond the constructs that are available from **RDFs** and **OWL.** Simple Protocol and **RDF Query Language (SPARQL)** is SQL like language used for querying RDF data and OWL Ontologies.

Proof

All semantic and rules that are executed at layers below Proof and their result will be used to prove deductions.

Cryptography

Cryptography means such as digital signature for verification of the origin of sources is used.

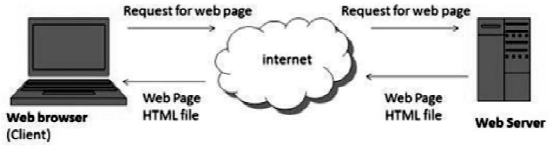
User Interface and Applications

On the top of layer **User interface and Applications** layer is built for user interaction.

WWW Operation

WWW works on client- server approach. Following steps explains how the web works:

1. User enters the URL (say, **http://www.tutorialspoint.com**) of the web page in the address bar of web browser.
2. Then browser requests the Domain Name Server for the IP address corresponding to www.tutorialspoint.com.
3. After receiving IP address, browser sends the request for web page to the web server using HTTP protocol which specifies the way the browser and web server communicates.
4. Then web server receives request using HTTP protocol and checks its search for the requested web page. If found it returns it back to the web browser and close the HTTP connection.
5. Now the web browser receives the web page, It interprets it and display the contents of web page in web browser's window.



Future

There had been a rapid development in field of web. It has its impact in almost every area such as education, research, technology, commerce, marketing etc. So the future of web is almost unpredictable.

Apart from huge development in field of WWW, there are also some technical issues that W3 consortium has to cope up with.

User Interface

Work on higher quality presentation of 3-D information is under deveopment. The W3 Consortium is also looking forward to enhance the web to full fill requirements of global communities which would include all regional languages and writing systems.

Technology

Work on privacy and security is under way. This would include hiding information, accounting, access control, integrity and risk management.

Architecture

There has been huge growth in field of web which may lead to overload the internet and degrade its performance. Hence more better protocol are required to be developed.

Q24. What is web browsing ?

Ans :

One of the most common problems all Internet users face is the fact that it can be quite difficult to find what you want on the Internet. There is no central "main menu" that users can access to navigate through the Internet. Although there might not be an official menu, there are several resources available – both on-line and off-line – that can make "surfing the net" easier. The Internet is a terrific resource. It contains hundreds of web sites dedicated to thousands of topics. There are some web sites, which are used to search information on the web. This searching on the web, moving from page to page, website to website in search of information is known as web browsing. There is one main software/application which is mainly used for the web browsing, called web browser . There are different types of web browser.

Search services on the Internet come in two main flavours:

1. 'search engine' that index words or terms in Internet documents; and
2. 'directories' that classify Web documents or locations into an arbitrary subject classification scheme or taxonomy.

Most search engines take one or more words entered by the user, search the contents of every Web page stored in their databases and display the result. Search engines tend to "index" (record by word) all of the terms on a given Web document. Internet directories are on-line Web sites that place Web page into one or more categories. Web pages are usually listed with a brief description and their URL.Directories operate on a different principle. They require people to view the individual Web site and determine its placement into a subject classification scheme or taxonomy. Once done, certain keywords associated with those sites can be used for searching the directory's data banks to find Web sites of interest some popular search engineers are:-

- Google - http://www.google.com
- Infoseek - http://guide.infoseek.com
- Alta Vista - http://www.altavista.digital.com
- Lycos - http://www.lycos.com
- Yahoo! - http://www.yahoo.com

2.4.1 Search Engine

Q25. Draw and explain the architecture of search engine.

Ans :

Search Engine refers to a huge database of internet resources such as web pages, newsgroups, programs, images etc. It helps to locate information on World Wide Web.

User can search for any information by passing query in form of keywords or phrase. It then searches for relevant information in its database and return to the user.

Search Engine Components

Generally there are three basic components of a search engine as listed below:

1. Web Crawler
2. Database
3. Search Interfaces

Web crawler

It is also known as **spider** or **bots.** It is a software component that traverses the web to gather information.

Database

All the information on the web is stored in database. It consists of huge web resources.

Search Interfaces

This component is an interface between user and the database. It helps the user to search through the database.

Search Engine Working

Web crawler, database and the search interface are the major component of a search engine that actually makes search engine to work. Search engines make use of Boolean expression AND, OR, NOT to restrict and widen the results of a search. Following are the steps that are performed by the search engine:

- The search engine looks for the keyword in the index for predefined database instead of going directly to the web to search for the keyword.
- It then uses software to search for the information in the database. This software component is known as web crawler.
- Once web crawler finds the pages, the search engine then shows the relevant web pages as a result. These retrieved web pages generally include title of page, size of text portion, first several sentences etc.

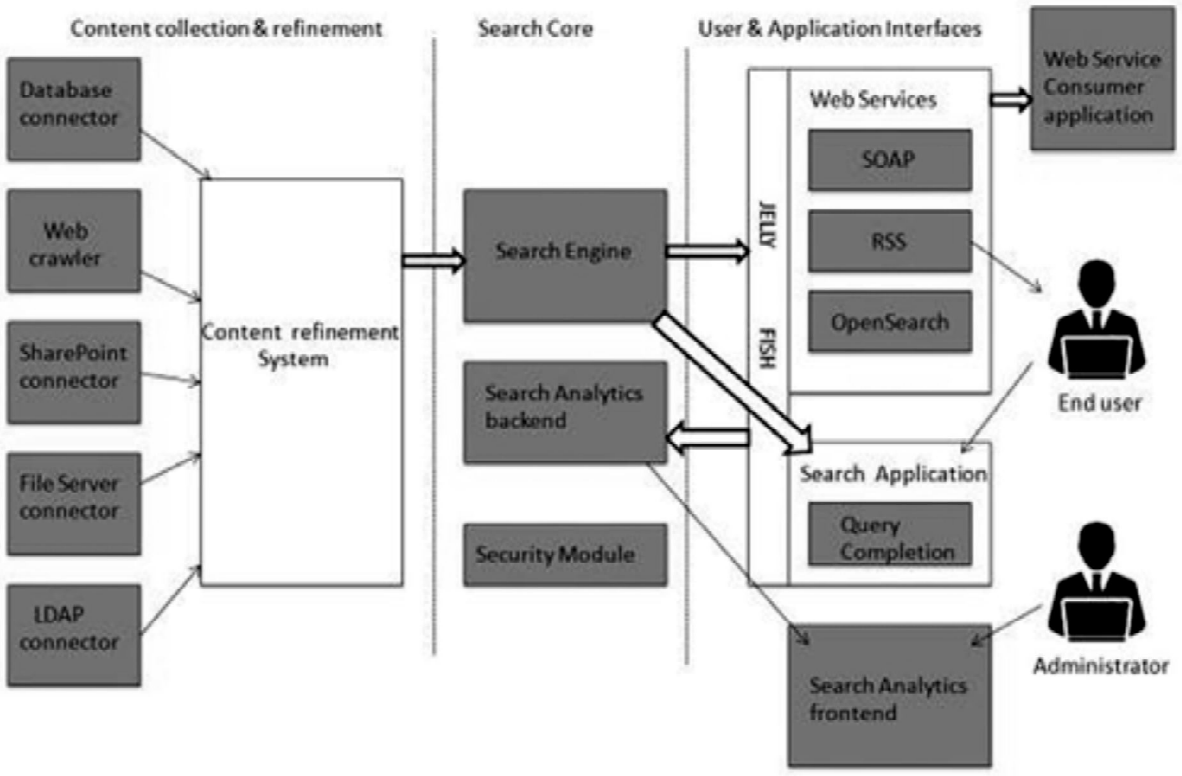
These search criteria may vary from one search engine to the other. The retrieved information is ranked according to various factors such as frequency of keywords, relevancy of information, links etc.

- User can click on any of the search results to open it.

Architecture

The search engine architecture comprises of the three basic layers listed below:

- Content collection and refinement.
- Search core
- User and application interfaces



Q27. List out some search engines.

Ans :

Following are the several search engines available today:

Search Engine	Description
Google	It was originally called **BackRub.** It is the most popular search engine globally.
Bing	It was launched in 2009 by **Microsoft.** It is the latest web-based search engine that also delivers Yahoo's results.
Ask	It was launched in 1996 and was originally known as **Ask Jeeves.** It includes support for match, dictionary, and conversation question.
AltaVista	It was launched by **Digital Equipment Corporation** in 1995. Since 2003, it is powered by Yahoo technology.
AOL.Search	It is powered by Google.
LYCOS	It is top 5 internet portal and 13th largest online property according to Media Matrix.
Alexa	It is subsidiary of Amazon and used for providing website traffic information.

2.4.2 Understanding URL

Q26. Discribe briefly about URL.

Ans :

Every document on the Web has a unique address. This address is known as **U**niform **R**esource **L**ocator (URL).

Several HTML/XHTML tags include a URL attribute value, including hyperlinks, inline images, and forms. All of them use the same syntax to specify the location of a web resource, regardless of the type or content of that resource. That's why it is known a Uniform Resource Locator.

URL Elements

A URL is made of up several parts, each of which offers information to the web browser to help find the page. It is easier to learn the parts of a URL, if you look at the example URL given below, there are three key parts: the scheme, the host address, and the file path. The following section will discuss each of them:

http://www.osmania.com/index.htm

The Scheme

The scheme identifies the type of protocol and URL you are linking to and therefore, how the resource should be retrieved. For example, most web browsers use Hypertext Transfer Protocol (HTTP) to pass information to communicate with the web servers and this is the reason a URL starts with http://.

There are other schemes available and you can use either of them based on your requirement:

Sr. No.	Scheme & Description
1.	**http://**Hypertext Transfer Protocol (HTTP) is used to request pages from Web servers and send them back from Web servers to browsers.
2.	**https://**Secure Hypertext Transfer Protocol (HTTPS) encrypts the data sent between the browser and the Web server using a digital certificate.
3.	**ftp://**File Transfer Protocol is another method for transferring files on the Web. While HTTP is a lot more popular for viewing Web sites because of its integration with browsers, FTP is still commonly used protocol to transfer large files across the Web and to upload source files to your Web server.
4.	**file://**Used to indicate that a file is on the local hard disk or a shared directory on a LAN.

The Host Address

The host address is where a website can be found, either the IP address (four sets of numbers between 0 and 255, for example 68.178.157.132) or more commonly the domain name for a site such as www.tutorialspoint.com. Note that "www" is not actually part of the domain name although it is often used in the host address.

The File Path

The filepath always begins with a forward slash character, and may consist of one or more directory or folder names. Each directory name is separated by forward slash characters and the filepath may end with a filename at the end. Here index.htm is the filename which is available in html directory:

https://www.osmania.com/html/index.htm

Q27. Explain the types of URL

Ans :

Uniform Resource Locator (URL) refers to a web address which uniquely identifies a document over the internet.

This document can be a web page, image, audio, video or anything else present on the web.

For example, **www.tutorialspoint.com/internet_technology/index.html** is an URL to the index.html which is stored on tutorialspoint web server under internet_technology directory.

URL Types

There are two forms of URL as listed below:

a) Absolute URL

b) Relative URL

a) Absolute URL

Absolute URL is a complete address of a resource on the web. This completed address comprises of protocol used, server name, path name and file name.

For example http:// www.tutorialspoint.com / internet_technology /index.htm. where:

- **http** is the protocol.
- **tutorialspoint.com** is the server name.
- **index.htm** is the file name.

The protocol part tells the web browser how to handle the file. Similarly we have some other protocols also that can be used to create URL are:

- FTP
- https
- Gopher
- mailto
- news

b) Relative URL

Relative URL is a partial address of a webpage. Unlike absolute URL, the protocol and server part are omitted from relative URL.

Relative URLs are used for internal links i.e. to create links to file that are part of same website as the WebPages on which you are placing the link.

For example, to link an image on tutorialspoint.com/internet_technology/internet_referemce_models, we can use the relative URL which can take the form like **/internet_technologies/internet-osi_model.jpg.**

Difference between Absolute and Relative URL

Absolute URL	Relative URL
Used to link web pages on different websites Difficult to manage.	Used to link web pages within the same website. Easy to Manage
Changes when the server name or directory name changes	Remains same even of we change the server name or directory name.
Take time to access	Comparatively faster to access.

2.4.3 Domain name

Q28. Explain Domain name System (DNS) Architecture

Ans :

Domain Name System Architecture

The domain name system comprises of **Domain Names, Domain Name Space, Name Server** that have been described below:

Domain Names

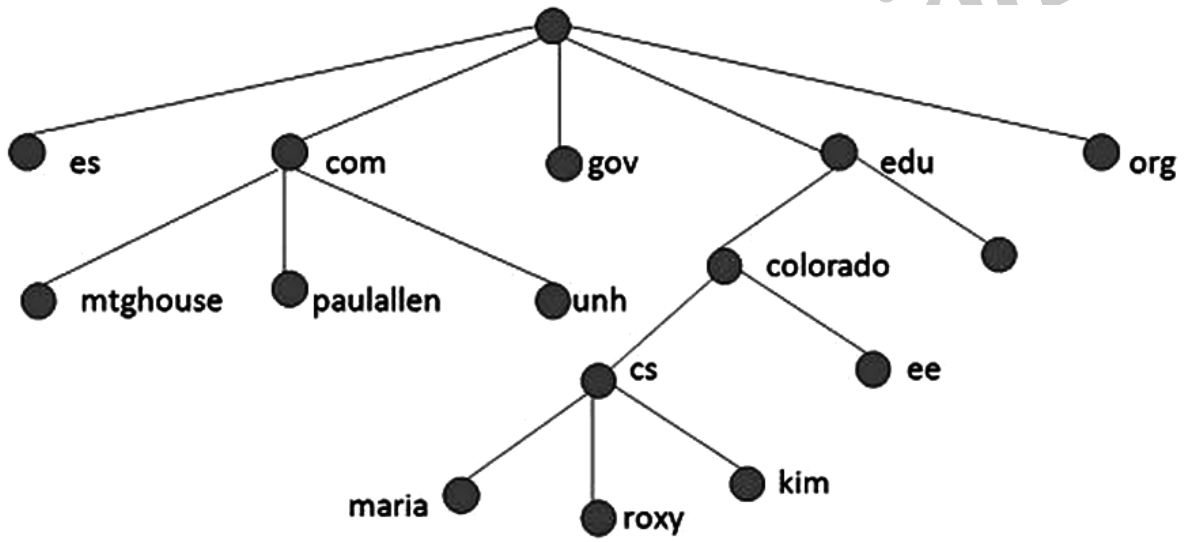
Domain Name is a symbolic string associated with an IP address. There are several domain names available; some of them are generic such as **com, edu, gov, net** etc, while some country level domain names such as **au, in, za, us** etc.

The following table shows the **Generic** Top-Level Domain names:

Domain Name	Meaning
Com	Commercial business
Edu	Education
Gov	U.S. government agency
Int	International entity
Mil	U.S. military
Net	Networking organization
Org	Non profit organization

Domain Name Space

The domain name space refers a hierarchy in the internet naming structure. This hierarchy has multiple levels (from 0 to 127), with a root at the top. The following diagram shows the domain name space hierarchy:



In the above diagram each subtree represents a domain. Each domain can be partitioned into sub domains and these can be further partitioned and so on.

Name Server

Name server contains the DNS database. This database comprises of various names and their corresponding IP addresses. Since it is not possible for a single server to maintain entire DNS database, therefore, the information is distributed among many DNS servers.

- Hierarchy of server is same as hierarchy of names.
- The entire name space is divided into the zones

DNS Working

DNS translates the domain name into IP address automatically. Following steps will take you through the steps included in domain resolution process:

- When we type **www. Osmania University. com** into the browser, it asks the local DNS Server for its IP address.

Here the local DNS is at ISP end.

- When the local DNS does not find the IP address of requested domain name, it forwards the request to the root DNS server and again enquires about IP address of it.
- The root DNS server replies with delegation that I do not know the IP address of www.tutorialspoint.com but know the IP address of DNS Server.
- The local DNS server then asks the com DNS Server the same question.
- The **com** DNS Server replies the same that it does not know the IP address of www.tutorialspont.com but knows the address of tutorialspoint.com.
- Then the local DNS asks the tutorialspoint.com DNS server the same question.
- Then tutorialspoint.com DNS server replies with IP address of www.tutorialspoint.com.
- Now, the local DNS sends the IP address of www.tutorialspoint.com to the computer that sends the request.

2.4.4 IP Address

Q29. What is the use of IP Address

Ans :

IP Address

IP address is a unique logical address assigned to a machine over the network. An IP address exhibits the following properties:

- IP address is the unique address assigned to each host present on Internet.
- IP address is 32 bits (4 bytes) long.
- IP address consists of two components: **network component** and **host component**.
- Each of the 4 bytes is represented by a number from 0 to 255, separated with dots. For example 137.170.4.124.

2.4.5 E- Governance

Q30. What is E- Governance? list the types of E –Governance.

Ans :

E-Governance is the implementation of ICT. The ICT stands for Information and Communication Technology in the government department. Likewise, the central E-Governance is to make government services efficient, accessible and convenient. The use of E-governance is to overcome the boundaries. That is of a traditional paper-based system. It is the enhancement of current government. And it also helps to provide better government services to the citizen. Hence, E-governance delivers SMART government.

E-Governance is of 4 types depending on the specific types of services.

1. Government-to-Citizen(G2C)

The Government-to-citizen refers to the government services that are accessed by the familiar people. And Most of the government services fall under G2C. Likewise, the primary goal of Government-to-citizen is to provide facilities to the citizen. It helps the ordinary people to reduce the time and cost to conduct a transaction. A citizen can have access to the services anytime from anywhere.

Furthermore, Many services like license renewals, and paying tax are essential in G2C. Likewise, spending the administrative fee online is also possible due to G2C. The facility of Government-to-Citizen enables the ordinary citizen to overcome time limitation. It also focuses on geographic land barriers.

2. Government-to-business (G2B)

The Government to business is the exchange of services between Government and Business organizations. It is efficient for both government and business organizations. G2B provides access to relevant forms needed to comply. The G2B also consists of many services exchanged between business sectors and government.

Similarly, the Government to business provides Timely business information. And A business organization can have easy and convenient

online access to government agencies. G2B plays a crucial role in business development. It enhances the efficiency and quality of communication and transparency of government projects.

3. Government-to-Government (G2G)

The Government-to-Government refers to the interaction between different government department, organizations, and agencies. This increases the efficiency of government processes. In G2G, government agencies can share the same database using online communication. The government departments can work together. This service can increase international diplomacy and relations.

In conclusion, G2G services can be at the local level or the international level. It can communicate with global government and local government as well. Likewise, it provides safe and secure inter-relationship between domestic or foreign government. G2G constructs a universal database for all member states to enhance service.

4. Government-to-Employee (G2E)

The Government-to-Employee is the internal part of G2G sector. Furthermore, G2E aims to bring employees together and improvise knowledge sharing.

Similarly, G2E provides online facilities to the employees. Likewise, applying for leave, reviewing salary payment record. And checking the balance of holiday. The G2E sector provides human resource training and development. So, G2E is also the relationship between employees, government institutions, and their management.

2.5 WEB BROWSING

2.5.1 Software

Q31. Define software.

Ans :

Software is a set of programs, which is designed to perform a well-defined function. A program is a sequence of instructions written to solve a particular problem.

There are two types of software:

- System Software
- Application Software

1. System Software

The system software is a collection of programs designed to operate, control, and extend the processing capabilities of the computer itself. System software is generally prepared by the computer manufacturers. These software products comprise of programs written in low-level languages, which interact with the hardware at a very basic level. System software serves as the interface between the hardware and the end users

2. Application Software

Application software products are designed to satisfy a particular need of a particular environment. All software applications prepared in the computer lab can come under the category of Application software.

Application software may consist of a single program, such as Microsoft's notepad for writing and editing a simple text. It may also consist of a collection of programs, often called a software package, which work together to accomplish a task, such as a spreadsheet package.

2.5.2 Communications and collaborations , Basics of E-mail

Q32. What is communication ? how email helps for communication.

(Or)

Explain about Email.

Ans :

Communication refers to exchange of information between persons through internet. Internet provides a basis for communication and collaboration which can be done using mail, chat, skype, etc. When dealing with official matters, electronic mail helps in the exchange of messages text documents, web pages, audio, video, etc.

In this topic, we are going to discuss in detail about basics of email, email addressing, configuring email client, using emails, opening email client, mailbox, creating and sending a new email, replying to an email message, forwarding an email message, sorting and searching emails, advance email features, sending documents by email, activating

spell check, using address book, sending softcopy as attachment, handling spam, instant messaging and collaboration, using emoticons and some of the internet etiquettes.

Basics of E-mail

Electronic mail is an application that supports interchange of information between two or more persons. Usually text messages are transmitted through email. Audio and video transfer through email depends on the browser in use. This provides a faster way of communication in an affordable cost.

Advantages of E-mail

Functionalities like attachment of documents, data files, program files, etc., can be enabled. This is a faster way of communication at an affordable cost.

Disadvantages of E-mail

If the connection to the ISP is lost, then you can't access email. Once you send an mail to a recipient, you have to wait until she/he reads and replies to your mail.

Email Addressing

Email address is a unique address given to the user that helps to identify the user while sending and receiving messages or mails.

Username: Name that identifies any user's mailbox

Domain name: Represents the Internet Service Provider (ISP).

@ Symbol: Helps to concatenate username and domain name.

For example: user_name@domain_name

Username: user, **Domain name** d gmail.com

Sr. No.	Communication and Collaboration Concepts and Description
1.	Configuring Email Client Configuring email client is setting up a client which includes the various steps.
2.	Using E-mails The main purpose of using email is to exchange information between persons. The process starts with opening of client email and ends with sending and verifying mail to recipients.
3.	Mailbox: Inbox and Outbox Inbox is an area where you can see all the received mails. Outbox is an area where the outgoing messages or messages which are in process of sending or which are failed to send are stored.
4.	Advance Email Features: Email provides many advanced features which includes sending attachments like documents, videos, images, audio, etc.
5.	Instant Messaging and Collaboration Instant messaging is real time mutual communication between persons via internet. This is a private chat. Once the recipient is online, you can start sending messages to him/her.
6.	Internet etiquettes Internet etiquettes are also called as "Netiquette".Netiquettes are basic rules or techniques which are accepted worldwide.

2.5.3 Getting an email account, sending, Receiving, accessing email

Q33. Explain the process of creating an email.

(OR)

Explain the basic operations of email.

Ans :

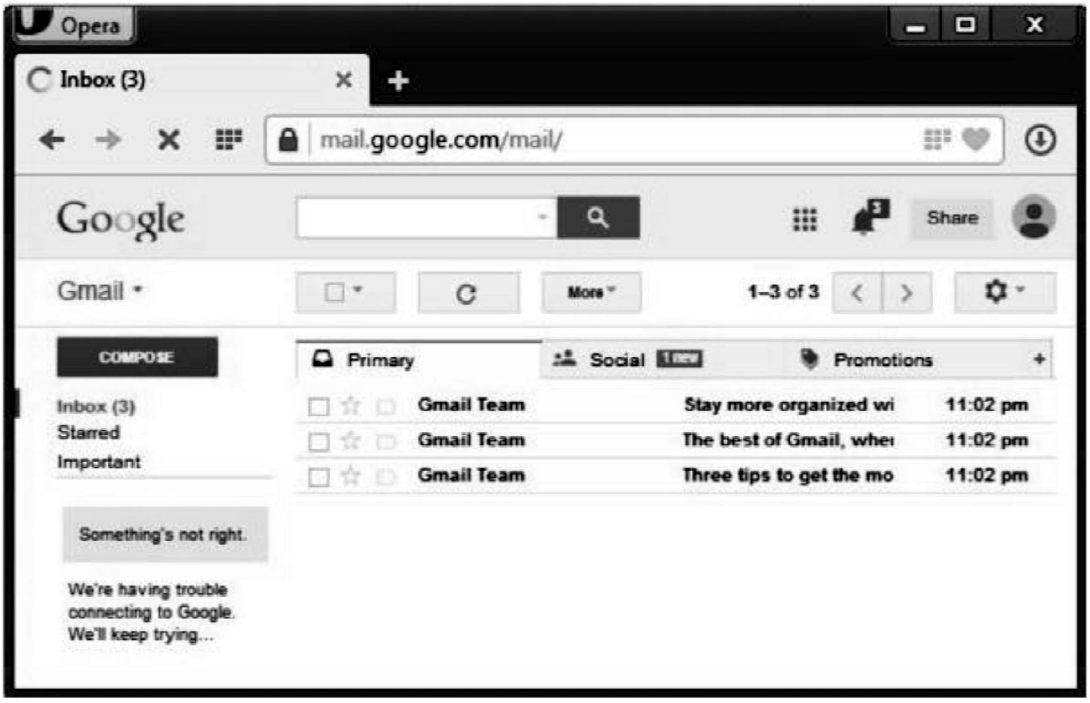
a) Creating Email Account

There are various email service provider available such as **Gmail, hotmail, ymail, rediff mail** etc. Here we will learn how to create an account using Gmail.

- Open gmail.com and click **create an account.**
- Now a form will appear. Fill your details here and click **Next Step.**

- This step allows you to add your picture. If you don't want to upload now, you can do it later. Click **Next Step.**
- Now a welcome window appears. Click **Continue to Gmail.**

- Wow!! You are done with creating your email account with Gmail. It's that easy. Isn't it?
- Now you will see your Gmail account as shown in the following image:



Key Points

- Gmail manages the mail into three categories namely **Primary, Social** and **Promotions.**
- **Compose** option is given at the right to compose an email message.
- **Inbox, Starred, Sent mail, Drafts** options are available on the left pane which allows you to keep track of your emails.

b) Composing and Sending Email

Before sending an email, we need to compose a message. When we are composing an email message, we specify the following things:

- Sender's address in To field
- Cc (if required)
- Bcc (if required)
- Subject of email message
- Text
- Signature

You should specify the correct email address; otherwise it will send an error back to the sender.

Once you have specified all the above parameters, It's time to send the email. The mailer program provides a Send button to send email, when you click Send, it is sent to the mail server and a message **mail sent successfully** is shown at the above.

c) Reading Email

Every email program offers you an interface to access email messages. Like in Gmail, emails are stored under different tabs such as primary, social, and promotion. When you click one of tab, it displays a list of emails under that tab.

In order to read an email, you just have to click on that email. Once you click a particular email, it gets opened.

The opened email may have some file attached with it. The attachments are shown at the bottom of the opened email with an option called **download attachment.**

d) Replying Email

After reading an email, you may have to reply that email. To reply an email, click **Reply** option shown at the bottom of the opened email.

Once you click on Reply, it will automatically copy the sender's address in to the To field. Below the To field, there is a text box where you can type the message.

Once you are done with entering message, click Send button. It's that easy. Your email is sent.

e) Forwarding Email

It is also possible to send a copy of the message that you have received along with your own comments if you want. This can be done using **forward** button available in mail client software.

The difference between replying and forwarding an email is that when you reply a message to a person who has send the mail but while forwarding you can send it to anyone.

When you receive a forwarded message, the message is marked with a > character in front of each line and **Subject:** field is prefixed with **Fw.**

f) Deleting Email

If you don't want to keep email into your inbox, you can delete it by simply selecting the message from the message list and clicking **delete** or pressing the appropriate command.

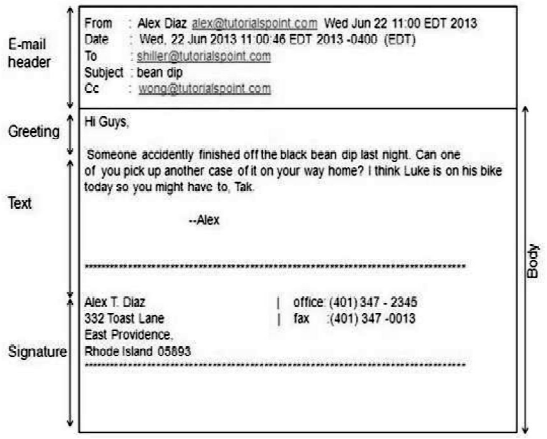
Some mail clients offers the deleted mails to be stored in a folder called deleted items or trash from where you can recover a deleted email.

Q34. Explain the structure of Email Message?

Ans :

E-mail Message Components

E-mail message comprises of different components: E-mail Header, Greeting, Text, and Signature. These components are described in the following diagram:



E-mail Header

The first five lines of an E-mail message is called E-mail header. The header part comprises of following fields:

- From
- Date
- To
- Subject
- CC
- BCC

From

The **From** field indicates the sender's address i.e. who sent the e-mail.

Date

The **Date** field indicates the date when the e-mail was sent.

To

The **To** field indicates the recipient's address i.e. to whom the e-mail is sent.

Subject

The **Subject** field indicates the purpose of e-mail. It should be precise and to the point.

CC

CC stands for Carbon copy. It includes those recipient addresses whom we want to keep informed but not exactly the intended recipient.

BCC

BCC stands for Black Carbon Copy. It is used when we do not want one or more of the recipients to know that someone else was copied on the message.

Greeting

Greeting is the opening of the actual message. Eg. Hi Sir or Hi Guys etc.

Text

It represents the actual content of the message.

Signature

This is the final part of an e-mail message. It includes Name of Sender, Address, and Contact Number.

Q35. List and explain the advantages and disadvantages of E-mail?

Ans :

Advantages

E-mail has prooved to be powerful and reliable medium of commmunication. Here are the benefits of **E-mail:**

- Reliable
- Convenience
- Speed
- Inexpensive
- Printable
- Global
- Generality

Reliable

Many of the mail systems notify the sender if e-mail message was undeliverable.

Convenience

There is no requirement of stationary and stamps. One does not have to go to post office. But all these things are not required for sending or receiving an mail.

Speed

E-mail is very fast. However, the speed also depends upon the underlying network.

Inexpensive

The cost of sending e-mail is very low.

Printable

It is easy to obtain a hardcopy of an e-mail. Also an electronic copy of an e-mail can also be saved for records.

Global

E-mail can be sent and received by a person sitting across the globe.

Generality

It is also possible to send graphics, programs and sounds with an e-mail.

Disadvantages

Apart from several benefits of E-mail, there also exists some disadvantages as discussed below:

- Forgery
- Overload
- Misdirection
- Junk
- No response

Forgery

E-mail doesn't prevent from forgery, that is, someone impersonating the sender, since sender is usually not authenticated in any way.

Overload

Convenience of E-mail may result in a flood of mail.

Misdirection

It is possible that you may send e-mail to an unintended recipient.

Junk

Junk emails are undesirable and inappro-priate emails. Junk emails are sometimes referred to as spam.

No Response

It may be frustrating when the recipient does not read the e-mail and respond on a regular basis.

2.5.4 Document Collaboration

Q36. How can we attach files with email ?

Ans :

Now a day, the mail client comes with enhanced features such as attachment, address book, and MIME support. Here in this chapter we will discuss all of these features which will give you a better understanding of added feature of a mail client program.

Attachment

Ability to attach file(s) along with the message is one of the most useful features of email. The attachment may be a word document, PowerPoint presentation, audio/video files, or images.

- In order to attach file(s) to an email, click the attach button. As a result, a dialog box appears asking for specifying the name and location of the file you want to attach.
- Once you have selected the appropriate file, it is attached to the mail.
- Usually a paper clip icon appears in the email which indicates that it has an attachment.
- When adding an attachment it is better to compress the attached files so as to reduce the file size and save transmission time as sending and downloading large files consumes a lot of space and time.

Address Book

Address book feature of a mail program allows the users to store information about the people whom they communicate regularly by sending emails. Here are some of the key features of an Address book:

- Address book includes the nick names, email addresses, phone number etc. of the people.
- Using address book allows us not to memorize email of address of a person, you just have to select recipient name from the list.
- When you select a particular name from the list, the corresponding email address link automatically get inserted in to the **To:** field.
- Address book also allows creating a group so that you can send a email to very member of the group at once instead of giving each person email address one by one.

MIME Types

MIME is acronym of **Multipurpose Inter-net Mail Extensions.** MIME compliant mailer allows us to send files other than simple text i.e. It allows us to send audio, video, images, document, and pdf files as an attachment to an email.

Suppose if you want to send a word processor document that has a group of tabular columns with complex formatting. If we transfer the file as text, all the formatting may be lost. MIME compliant mailer takes care of messy details and the message arrives as desired.

The following table describes commonly used MIME Types:

1.	Type	Subtype	Description	File extension(s)
2.	Application	postscript tex troff	Printable postscript document TEX document Printable troff document	.eps, .ps .tex .t, .tr, .roff
3.	Audio	aiff au midi real audio	Apple sound Sun Microsystems sound Musical Instrument Digital Interface Progressive Network sound	.aif, .aiff,.aifc .au, .snd .midi, .mid .ra, .ram
4.	image	gif jpeg png triff	Graphics Interchange Format Joint Photographic Experts Group Portable Network Graphics Tagged Image Modeling Language	.gif .jpeg, .jpg, .jpe .png .tiff, .tif
5.	Model	vrml	Virual reality Modelling Language	.wrl
6.	Text plain sgml	html	Hyper Text Markup Language Unformatted text Standard Generalized Markup language	.html, .htm .txt .sgml
7.	Video	avi mpeg quicktime sgi-movie	Microsoft Audio Video Interleaved Moving Pictures Expert Group Apple QuickTime movie silicon graphic movie	.avi .mpeg, .mpg .qt, .mov .movie

2.5.5 Instant messaging

Q37. Write the steps to do instant messaging via email.

Ans :

Your Gmail screen displays information for your contacts at the bottom of the left pane. Here's how to send instant messages from Gmail using this contact list.

1. Log onto your Gmail account and open Hangouts.
2. In the contact list, hover over the name of the person you want to message. A box appears, with four icons: **Send email**, **Schedule event**, **Send message**, and **Start video call**.
3. Select **Send message**.
4. A chat box with the person's name at the top appears. If you've chatted with them before you'll see your previous conversations.
5. In the **Send a message** text box, enter a message.
6. When the other person types a message in return, you'll see an **ellipsis** icon next to their name. When they send a return message, you'll see it in the chat box.
7. Message back and forth as you would with any other messaging application.
8. When you're done, in the upper-right corner of the chat box, select **X**.

2.5.6 E-mail Etiquettes

Q38. What are the rules to be followed while using E-mail?

Ans :

The term **etiquette** refers to conventional rules of personal behavior. But while communicating via email, we cannot know about the body language and tone of voice etc. Therefore a set of guidelines for acceptable behavior on email that have been evolved is known as **Email Netiquette.**

Here are set of guidelines that should be followed while working with email:

- Try to make your message as short as possible. It will make your message easy to read and understood.
- Be careful about spelling and grammar while typing a message.
- Use emoticons, smiles when required.
- Email address entered must be correct.
- The subject heading of a message should be clear and descriptive.
- Follow the same rules as if you are writing a letter or a memo.
- Sending a message that has already been forwarded or replied many times may contain many angled brackets. It is better to remove the angled brackets from the message.
- While sending mails to multiple persons, specify their email addresses in the BCC: field so that the spammers cannot come to know about addresses of other recipients to whom you have sent a copy.
- Keep size of attachment as small as possible.
- Always add your signature at the end of email.

Before you send, make it sure everything is fine because you cannot call back a sent mail.

Short Question and Answers

1. What are the features of spreadsheets?

Ans :

There are a number of features that are available in Excel to make your task easier. Some of the main features are:

1. **AutoSum:** Helps you to add the contents of a cluster of adjacent cells.
2. **List AutoFill:** Automatically extends cell formatting when a new item is added to the end of a list.
3. **AutoFill:** Allows you to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text. AutoFill can also be used to copy functions. You can also alter text and numbers with this feature.
4. **AutoShapes:** Toolbar will allow you to draw a number of geometrical shapes, arrows, flowchart elements, stars and more. With these shapes you can draw your own graphs.
5. **Wizard:** Guides you to work effectively while you work by displaying various helpful tips and techniques based on what you are doing.
6. **Drag and Drop:** It will help you to reposition the data and text by simply dragging the data with the help of mouse.
7. **Charts:** It will help you in presenting a graphical representation of your data in the form of Pie, Bar, Line charts and more..
8. **PivotTable**: It flips and sums data in seconds and allows you to perform data analysis and generating reports like periodic financial statements, statistical reports, etc. You can also analyse complex data relationships graphically.
9. **Shortcut Menus:** The commands that are appropriate to the task that you are doing will appear by clicking the right mouse button.

2. Discuss the operations with Rows, Columns in excel sheet.

Ans :

Following are the operations with Rows and Columns

- **Cut /copy / paste rows or columns**: Use this if you would like to duplicate rows or columns, or if you would like to rearrange their order.
- **Insert new rows or columns:** This will insert new rows above - or new columns to the left of - the row or column you have selected.
- **Delete rows or columns**: This will delete the rows or columns in question entirely and collapse the remainder of the sheet in to take the place of the removed row or column.
- **Format rows or columns**: Use this option to apply formatting to each cell within a row or column. Potential formatting options include text colors, background colors, and borders.
- **Hide and unhide rows or columns**: Use this option to temporarily hide or unhide rows or columns. This makes it easier to manage large spreadsheets by hiding non-critical data.

3. Define cell reference.

Ans :

Most formulas you create include references to cells or ranges. These references enable your formulas to work dynamically with the data contained in those cells or ranges. For example, if your formula refers to cell C2 and you change the value contained in C2, the formula result reflects new value automatically. If you didn't use references in your formulas, you would need to edit the formulas themselves in order to change the values used in the formulas.

When you use a cell (or range) reference in a formula, you can use three types of references - relative, absolute, and mixed references.

4. List out various text functions in excel.

Ans :

Text Functions

LOWER: Converts all characters in a supplied text string to lower case

UPPER: Converts all characters in a supplied text string to upper case

TRIM: Removes duplicate spaces, and spaces at the start and end of a text string

CONCATENATE: Joins together two or more text strings.

LEFT: Returns a specified number of characters from the start of a supplied text string.

MID: Returns a specified number of characters from the middle of a supplied text string

RIGHT: Returns a specified number of characters from the end of a supplied text string.

LEN: Returns the length of a supplied text string

FIND: Returns the position of a supplied character or text string from within a supplied text string (case-sensitive).

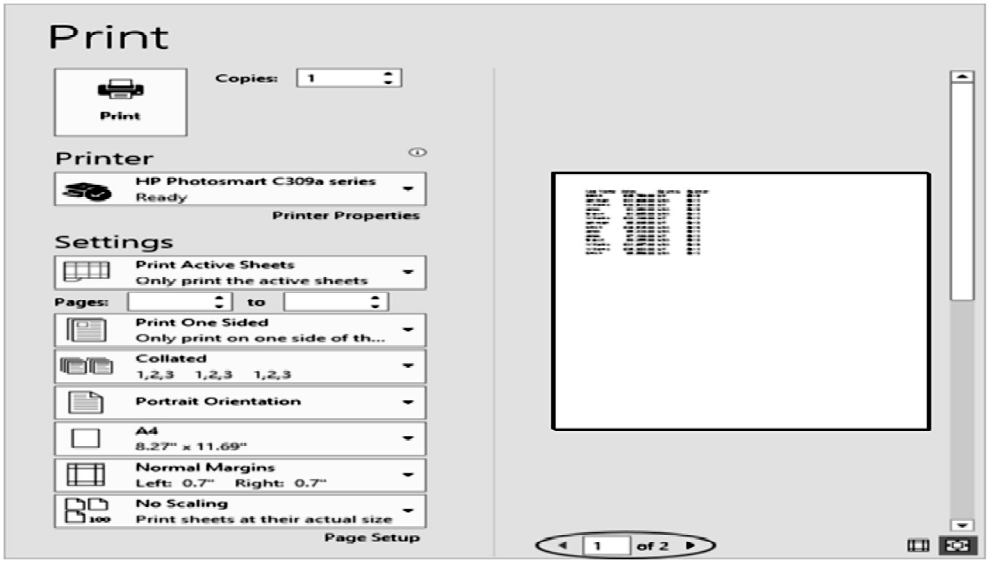
5. Explain the steps to print a work sheet

Ans :

Print a Worksheet

To print a worksheet in **Excel**, execute the following steps.

1. On the File tab, click Print.
2. To preview the other pages that will be printed, click 'Next Page' or 'Previous Page' at the bottom of the window.



3. To print the worksheet, click the big Print button.

6. Explain the steps to create an effective presentation using MS Powerpoint.

Ans :

Creating a PowerPoint Slide

Step 1

Open Microsoft PowerPoint.

Step 2

Go to File at the top of the screen and click New. A box that says "New Presentation" should appear on the right side of your screen.

Step 3

In the "New Presentation" dialog box, click on "From Design Template." You may then scan through design templates and choose one that you like.

Step 4

Slide Design Select a design template by clicking on the template you like. You may choose a different color for your template by clicking on "Color Schemes" in the "New Presentation" dialog box. 1

Step 5

Slide Layout Change the Slide Layout. You may change the slide layout (how information is presented in the slide) by going to the top of the screen and clicking on "Format" – "Slide Layout." A box will appear on the right side of your screen (where "New Presentation" appeared) labeled "Slide Layout." You may select a design by clicking on it.

Step 6

Adding Text Enter your text by clicking and then typing in the box titled "Click to Add Text" or "Click to Add Title."

Step 7

Adding Pictures You may add pictures by clicking on the box that says "Click to add content." Inside that box, there will be a smaller box with six icons. Click on the icon that looks like a photograph of a mountain. A new window will open, allowing you to browse for a picture on your computer or a CD. Once you find your picture, click on it and then click "Insert." 2

Step 8

Resizing Pictures You may change the size of your picture by clicking on the picture. The picture will then have black lines around it with small bubbles or boxes in the corners. Place your mouse over the bubbles or boxes and click. Holding the mouse pointer down, drag the picture to the size you want.

Step 9

You're Done! Now you can do it again to make more.

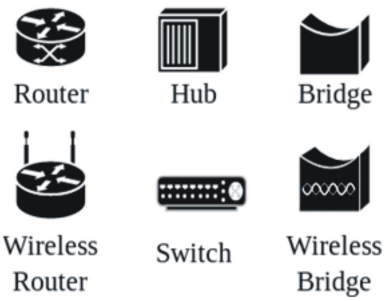
7. What is Network?

Ans :

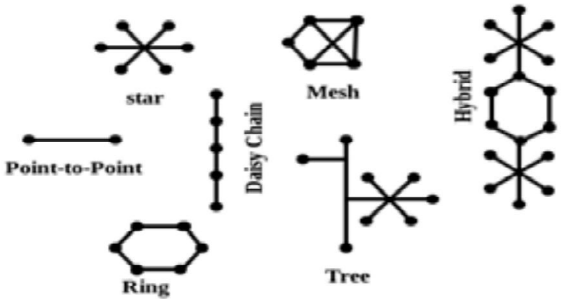
Computer Network

It is the interconnection of multiple devices, generally termed as Hosts connected using multiple paths for the purpose of sending/receiving data or media.

There are also multiple devices or mediums which helps in the communication between two different devices which are known as **Network devices**. Ex: Router, Switch, Hub, Bridge.



The layout pattern using which devices are interconnected is called as network topology. Such as Bus, Star, Mesh, Ring, Daisy chain.



8. What are the Features of Internet.

Ans :

Features of Internet

Let us now discuss the features of Internet. The features are described below:

i. Accessibility

An Internet is a global service and accessible to all. Today, people located in a remote part of an island or interior of Africa can also use Internet.

ii. Easy to Use

The software, which is used to access the Internet (web browser), is designed very simple; therefore, it can be easily learned and used. It is easy to develop.

iii. Interaction with Other Media

Internet service has a high degree of interaction with other media. For example, News and other magazine, publishing houses have extended their business with the help of Internet services.

iv. Low Cost

The development and maintenance cost of Internet service are comparatively low.

v. Extension of Existing IT Technology

This facilitates the sharing of IT technology by multiple users in organizations and even facilitates other trading partners to use.

vi. Flexibility of Communication

Communication through Internet is flexible enough. It facilitates communication through text, voice, and video too. These services can be availed at both organizational and individual levels.

Security

Last but not the least, Internet facility has to a certain extent helped the security system both at the individual and national level with components such as CCTV camera, etc.

9. List out the basic applications of Internet.

Ans :

The internet is treated as one of the biggest invention. It has a large number of applications.

1. Communication
2. Job searches
3. Finding books and study material
4. Health and medicine
5. Travel
6. Entertainment
7. Shopping
8. Stock market updates
9. Research
10. Business use of internet: different ways by which intenet can be used for business are:

- Information about the product can be provided can be provided online to the the customer.
- Provide market information to the business
- It help business to recruit talented people
- Help in locating suppliers of the product .
- Fast information regarding customers view about companies product
- Eliminate middle men and have a direct contact with contact with customer .
- Providing information to the investor by providing companies back ground and financial information on web site.

10. Discuss WWW?

Ans :

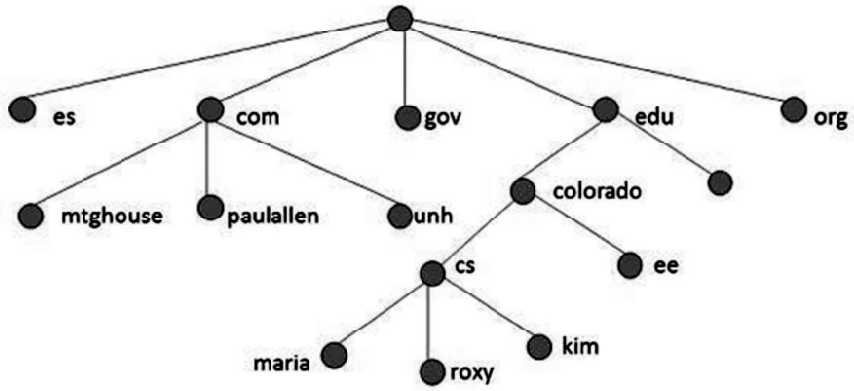
WWW stands for **World Wide Web.** A technical definition of the World Wide Web is : all the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP).

A broader definition comes from the organization that Web inventor **Tim Berners-Lee** helped found, the **World Wide Web Consortium (W3C).**

The World Wide Web is the universe of network-accessible information, an embodiment of human knowledge.

In simple terms, The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.

Internet and **Web** is not the same thing: Web uses internet to pass over the information.



11. What is web browsing ?

Ans :

One of the most common problems all Internet users face is the fact that it can be quite difficult to find what you want on the Internet. There is no central "main menu" that users can access to navigate through the Internet. Although there might not be an official menu, there are several resources available – both on-line and off-line – that can make "surfing the net" easier. The Internet is a terrific resource. It contains hundreds of web sites dedicated to thousands of topics. There are some web sites, which are used to search information on the web. This searching on the web, moving from page to page, website to website in search of information is known as web browsing. There is one main software/application which is mainly used for the web browsing, called web browser . There are different types of web browser.

Search services on the Internet come in two main flavours:

1. 'search engine' that index words or terms in Internet documents; and
2. 'directories' that classify Web documents or locations into an arbitrary subject classification scheme or taxonomy.

12. Define URL.

Ans :

Every document on the Web has a unique address. This address is known as **U**niform **R**esource **L**ocator (URL).

Several HTML/XHTML tags include a URL attribute value, including hyperlinks, inline images, and forms. All of them use the same syntax to specify the location of a web resource, regardless of the type or content of that resource. That's why it is known a Uniform Resource Locator.

13. Difference between Absolute and Relative URL.

Ans :

Absolute URL	Relative URL
Used to link web pages on different websites	Used to link web pages within the same website.
Difficult to manage.	Easy to Manage
Changes when the server name or directory name changes	Remains same even of we change the server name or directory name.
Take time to access	Comparatively faster to access.

14. IP Address.

Ans :

IP address is a unique logical address assigned to a machine over the network. An IP address exhibits the following properties:

- IP address is the unique address assigned to each host present on Internet.
- IP address is 32 bits (4 bytes) long.
- IP address consists of two components: **network component** and **host component**.
- Each of the 4 bytes is represented by a number from 0 to 255, separated with dots. For example 137.170.4.124.

15. Define software.

Ans :

Software is a set of programs, which is designed to perform a well-defined function. A program is a sequence of instructions written to solve a particular problem.

There are two types of software:

- System Software
- Application Software

16. Explain about Email.

Ans :

Communication refers to exchange of information between persons through internet. Internet provides a basis for communication and collaboration which can be done using mail, chat, skype, etc. When dealing with official matters, electronic mail helps in the exchange of messages text documents, web pages, audio, video, etc.

In this topic, we are going to discuss in detail about basics of email, email addressing, configuring email client, using emails, opening email client, mailbox, creating and sending a new email, replying to an email message, forwarding an email message, sorting and searching emails, advance email features, sending documents by email, activating spell check, using address book, sending softcopy as attachment, handling spam, instant messaging and collaboration, using emoticons and some of the internet etiquettes.

Basics of E-mail

Electronic mail is an application that supports interchange of information between two or more persons. Usually text messages are transmitted through email. Audio and video transfer through email depends on the browser in use. This provides a faster way of communication in an affordable cost.

Advantages of E-mail

Functionalities like attachment of documents, data files, program files, etc., can be enabled. This is a faster way of communication at an affordable cost.

Disadvantages of E-mail

If the connection to the ISP is lost, then you can't access email. Once you send an mail to a recipient, you have to wait until she/he reads and replies to your mail.

17. List and explain the advantages and disadvantages of E-mail?

Ans :

Advantages

E-mail has prooved to be powerful and reliable medium of commmunication. Here are the benefits of **E-mail:**

- Reliable
- Convenience
- Speed
- Inexpensive
- Printable
- Global
- Generality

Reliable

Many of the mail systems notify the sender if e-mail message was undeliverable.

Convenience

There is no requirement of stationary and stamps. One does not have to go to post office. But all these things are not required for sending or receiving an mail.

Speed

E-mail is very fast. However, the speed also depends upon the underlying network.

Inexpensive

The cost of sending e-mail is very low.

Printable

It is easy to obtain a hardcopy of an e-mail. Also an electronic copy of an e-mail can also be saved for records.

Global

E-mail can be sent and received by a person sitting across the globe.

Generality

It is also possible to send graphics, programs and sounds with an e-mail.

Disadvantages

Apart from several benefits of E-mail, there also exists some disadvantages as discussed below:

- Forgery
- Overload
- Misdirection
- Junk
- No response

Forgery

E-mail doesn't prevent from forgery, that is, someone impersonating the sender, since sender is usually not authenticated in any way.

Overload

Convenience of E-mail may result in a flood of mail.

Misdirection

It is possible that you may send e-mail to an unintended recipient.

Junk

Junk emails are undesirable and inappropriate emails. Junk emails are sometimes referred to as spam.

No Response

It may be frustrating when the recipient does not read the e-mail and respond on a regular basis.

18. Write the steps to do instant messaging via email.

Ans :

Your Gmail screen displays information for your contacts at the bottom of the left pane. Here's how to send instant messages from Gmail using this contact list.

1. Log onto your Gmail account and open Hangouts.
2. In the contact list, hover over the name of the person you want to message. A box appears, with four icons: **Send email**, **Schedule event**, **Send message**, and **Start video call**.
3. Select **Send message**.
4. A chat box with the person's name at the top appears. If you've chatted with them before you'll see your previous conversations.
5. In the **Send a message** text box, enter a message.
6. When the other person types a message in return, you'll see an **ellipsis** icon next to their name. When they send a return message, you'll see it in the chat box.
7. Message back and forth as you would with any other messaging application.
8. When you're done, in the upper-right corner of the chat box, select **X**.

19. What are the rules to be followed while using E-mail?

Ans :

The term **etiquette** refers to conventional rules of personal behavior. But while communicating via email, we cannot know about the body language and tone of voice etc. Therefore a set of guidelines for acceptable behavior on email that have been evolved is known as **Email**

Netiquette.

Here are set of guidelines that should be followed while working with email:

- Try to make your message as short as possible. It will make your message easy to read and understood.
- Be careful about spelling and grammar while typing a message.
- Use emoticons, smiles when required.
- Email address entered must be correct.
- The subject heading of a message should be clear and descriptive.
- Follow the same rules as if you are writing a letter or a memo.
- Sending a message that has already been forwarded or replied many times may contain many angled brackets. It is better to remove the angled brackets from the message.
- While sending mails to multiple persons, specify their email addresses in the BCC: field so that the spammers cannot come to know about addresses of other recipients to whom you have sent a copy.
- Keep size of attachment as small as possible.
- Always add your signature at the end of email.

Before you send, make it sure everything is fine because you cannot call back a sent mail.

Choose the Currect Answers

1. To join the internet, the computer has to be connected to a [c]
   (a) Internet architecture board (b) Internet society
   (c) Internet service provider (d) None of the mentioned
2. What is a web browser? [d]
   (a) A program that can display a web page
   (b) A program used to view html documents
   (c) It enables user to access the resources of internet
   (d) All of the mentioned
3. Which of these is the easiest way of communication? [a]
   (a) E-mail (b) Telephone
   (c) Fax (d) Letter
4. Search engines are used to [d]
   (a) Search video (b) Search documents
   (c) Download softwares (d) All of these
5. Search engines maintain heavy database of [d]
   (a) Keywords (b) URLs
   (c) Web pages (d) All of these
6. An unauthorized access to computer systems of another person is called [a]
   (a) Hacking (b) Burglary
   (c) Fraud (d) Arson
7. How to Open a presentation in PowerPoint? [b]
   (a) Ctrl + K (b) Ctrl + O
   (c) Ctrl+ A (d) None of these
8. How to create a new presentation in PowerPoint? [a]
   (a) Ctrl + N (b) Ctrl + M
   (c) Ctrl+ S (d) None of these
9. What type of chart is useful for comparing values over categories ? [b]
   (a) Pie Chart (b) Column Chart
   (d) Line Chart (d) Dot Graph
10. Which functionin Excel tells how many numeric entries are there ? [b]
   (a) NUM (d) COUNT
   (c) SUM (d) CHKNUM

Fill in the blanks

1. The intersection of rows and columns are called _____
2. All formulas in ms excel start with _____ symblol.
3. In Power point short cut key is insert new slide is _____.
4. _____ is a program that helps to create slide presentations quickly
5. Ctrl + S is the shortcut key for _____.
6. The _____ features helps you to avoid making typing mistakes and speed up your typing.
7. ISP denotes _____.
8. A network of networks is known as _____.
9. The site which stores web pages is called _____.
10. A _____ is a computer that performs actions for another computer.

ANSWERS

1. Cell
2. =
3. Ctrl + M
4. Power Point
5. Save
6. Spelling and grammar
7. Internet service provider
8. Internet
9. Web sites
10. Server

FACULTY OF COMMERCE

B.Com. I Year II Semester Examination

(Common for General / Computer Applications / Advertising & Sales Management / Foreign Trade / Tax Procedure & Honours Courses)

Model Paper - I

BASIC COMPUTER SKILLS

Time: $1^1/_2$ Hours | Max. Marks : 40

PART - A (2 × 5 = 10 Marks)

[Short Answer Type]

Note: Answer any two of the following questions.

ANSWERS

1. What is data? How is differ from information. **(Unit - I, SQA. 11)**
2. What is user interface? **(Unit - I, SQA. 14)**
3. List and explain Advantages & Disadvantages of E-mail **(Unit - II, SQA. 17)**
4. Explain the steps to print a worksheet **(Unit - II, SQA. 5)**

PART - B (2 × 15 = 30 Marks)

[Essay Answer Type]

Note: Answer all the questions in not exceeding 4 pages each.

5. (a) Explain the features of workd processing **(Unit - I, Q.No. 42)**

(OR)

(b) Define memory and explain the types of memory. **(Unit - I, Q.No. 12)**

6. (a) Explain the procedure of creating a new presentation and also explain how new slides added **(Unit - II, Q.No. 11)**

(OR)

(b) Give an overview of _____ draw and explain the architecture **(Unit - II, Q.No. 23)**

FACULTY OF COMMERCE

B.Com. I Year II Semester Examination

(Common for General / Computer Applications / Advertising & Sales Management / Foreign Trade / Tax Procedure & Honours Courses)

Model Paper - II

BASIC COMPUTER SKILLS

Time: $1^1/_2$ Hours Max. Marks : 40

PART - A (2 × 5 = 10 Marks)

[Short Answer Type]

Note: Answer any two of the following questions.

ANSWERS

1. Define computer? **(Unit - I, SQA.1)**
2. Discuss about RAM? **(Unit - I, SQA. 8)**
3. What is Network? **(Unit - II, SQA. 7)**
4. List out various applications of Internet **(Unit - II, SQA. 9)**

PART - B (2 × 15 = 30 Marks)

[Essay Answer Type]

Note: Answer all the questions in not exceeding 4 pages each.

5. (a) Define operating system and discuss about types of operating system **(Unit - I, Q.No.21, 24)**

(OR)

(b) List and explain various types of input and output devices of a computer system. **(Unit-I, Q.No.6, 11)**

6. (a) How e-mail helps for communication? Explain basic operations of E-mail. **(Unit - II, Q.No.32, 33)**

(OR)

(b) How can we create, Rename, dlete and more a worksheet **(Unit - II, Q.No.4)**

FACULTIES OF COMMERCE

B.Com. II – Semester (CBCS) Examination

November / December - 2019

BASIC COMPUTER SKILLS

Paper Code - AECC – 1

Time : 2 Hours] **[Max. Marks : 40**

PART - A (2 × 5 = 10 Marks)

[Short Answer Type]

Note: Answer any two of the following questions.

1. Application of IECT **(Unit - I, SQA. 12)**
2. LAN and WAN **(Unit - I, Q.No.17)**
3. e-Mail **(Unit - II, SQA. 16)**
4. Desktop **(Unit - I, SQA. 15)**

PART - B (2 × 15 = 30 Marks)

[Essay Answer Type]

Note: Answer all the questions in not exceeding 4 pages each.

5. (a) Explain about the components of a computer and its application. **(Unit - I, Q.No. 2,3)**

(OR)

(b) Write about word processing features. **(Unit - I, Q.No. 42)**

6. (a) Write about types of views in Power Point presentation. **(Unit - II, Q.No. 13)**

(OR)

(b) What is web browsing? Write about World Wide Web. **(Unit - II, Q.No. 23,24)**