Working with Tables and Mail Merge in MS-Word

OBJECTIVES OF THIS CHAPTER :

INTRODUCTION

MS Word offers a flexible feature of presenting information in tabular form. It is very useful in organizing and representing the data in an effective way. A table consists of a number of columns and rows. In this chapter we will learn about Table and various methods of Inserting and formatting a table in our document.

1.1 What is a Table?

Table is a method of writing data in rows and columns. It is related to rectangular or square cells.

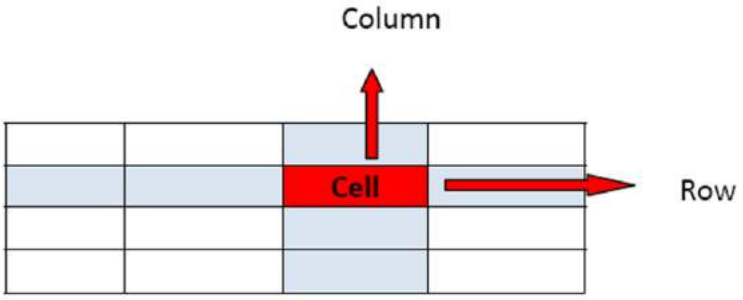

Fig 1.1 Construction of a Table

Horizontal lines of the table are called **Rows** and vertical lines are called **Columns**

And intersection of rows and column is called **Cell.**

1.2 Creating a Table

Word provides a variety of ways to create a table. The simplest way to create a table is to click on **TABLE** button in the **Tables group** on the Insert **tab.**

Fig 1.2 Creating a Table

1.2.1 Using Table Button

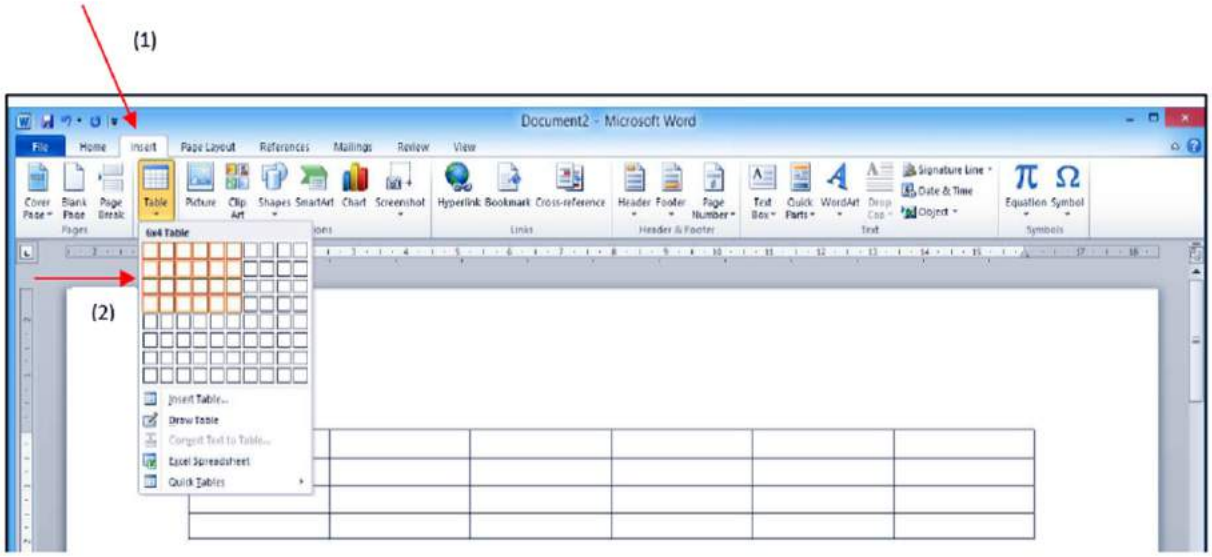

Fig 1.3 Using Table Button

1. Click where we want to insert a Table.
2. Click on the **Table button** in the **Tables group** on the **Insert tab.**
3. Move the mouse pointer over the grid and cover the number of rows and columns you want in the table.
4. The table will be inserted on the working area (As shown in Fig.1.4).

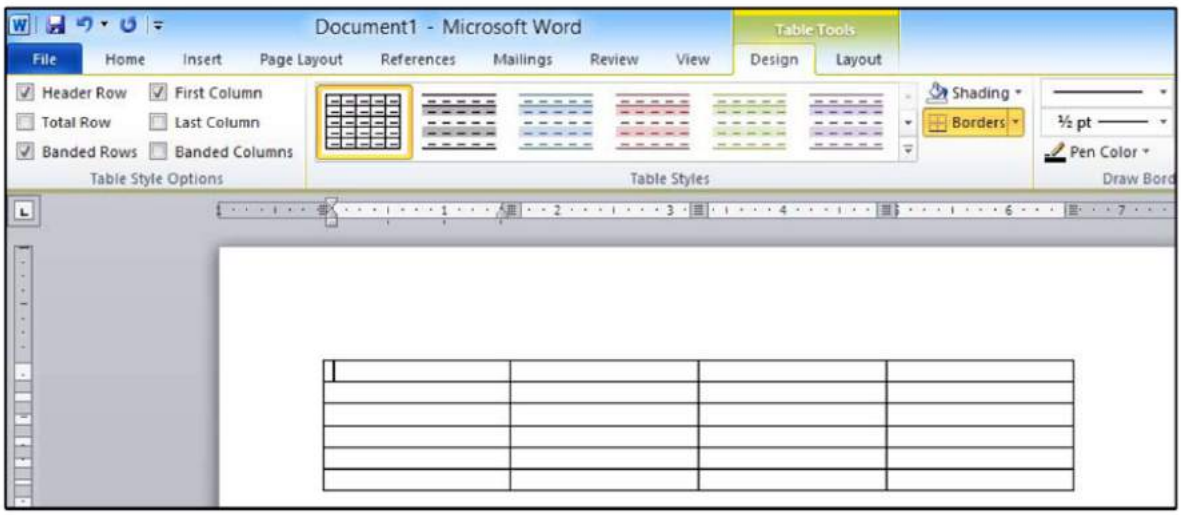

Fig 1.4 Inserted Table on Working Area

1.2.2 Using Insert Table Option

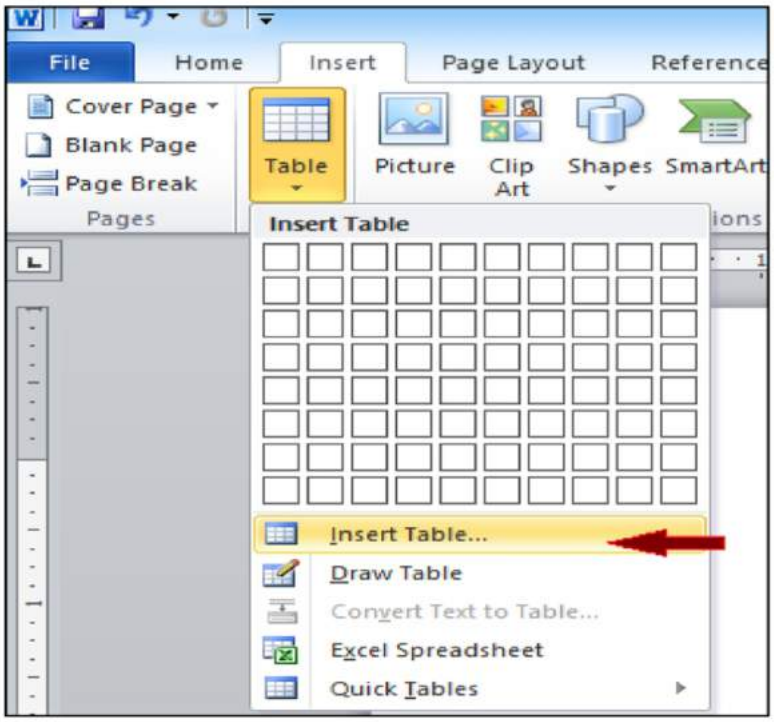

Fig 1.5 Using Insert Table Option

1. Click on the **Table button** in the **Tables group** on the **Insert tab .**
2. Click on Insert Table option.
3. The Insert Table dialog box appears (As shown in Fig 1.6).

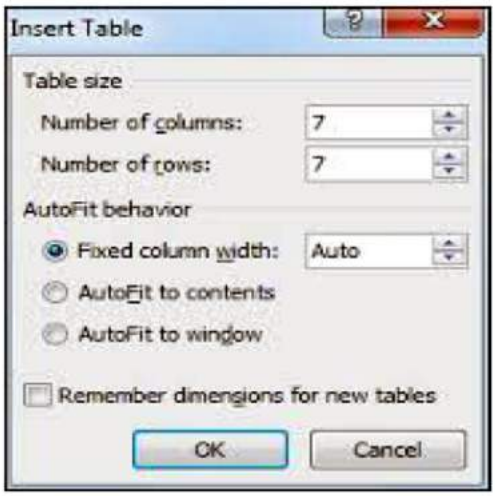

Fig 1.6 Insert Table Dialog Box

4. Specify the number of columns and rows in the dialog box and click on OK. The table will be inserted in our document.
5. When you insert a table, two new tabs (Design and Layout) also appear on the Ribbon, displaying various Table Tools (As shown in Fig 1.7). By using these tabs, we can format design and layout of our table.

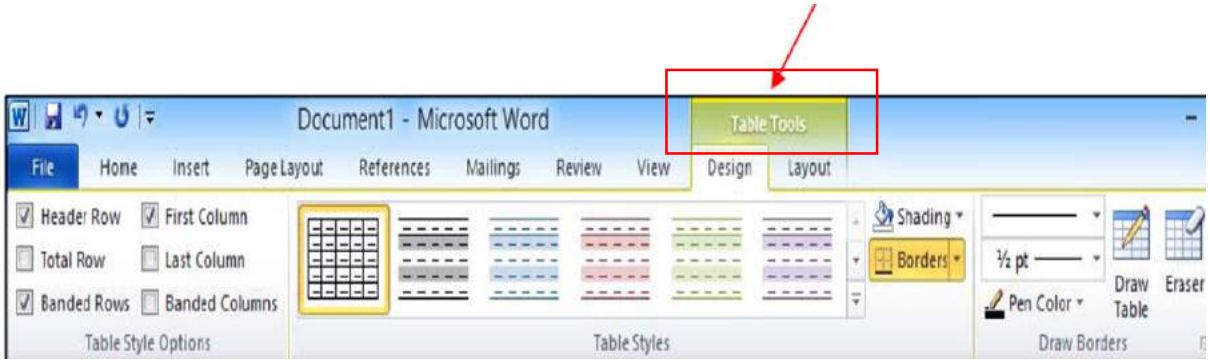

Fig 1.7 Showing Design and Layout Tab

1.2.3 By Draw Table.

We can draw a complex table- for example, one that contains cells of different heights or a varying number of columns per row.

1. Click where we want to create the Table.

On the Insert Tab, in the Tables group, click Table, and then click Draw Table. The pointer changes to a pencil.

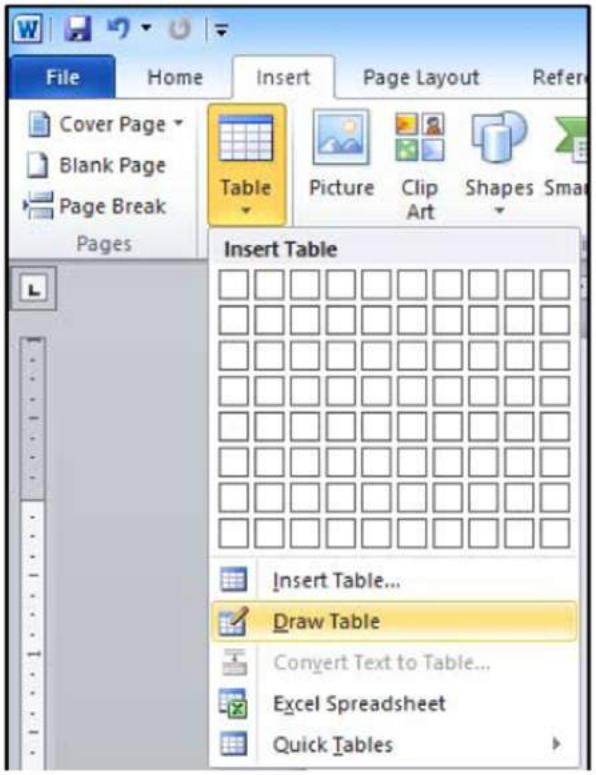

Fig 1.8 Draw Table Option

2. To define the outer table boundaries, draw a rectangle. Then draw the column lines and row lines inside the rectangle. Remember that while doing this process we should not leave the mouse (left) button.In the end leave the mouse button. To attach a new column , click on the top right corner of the previous column and then drag to the downwards.

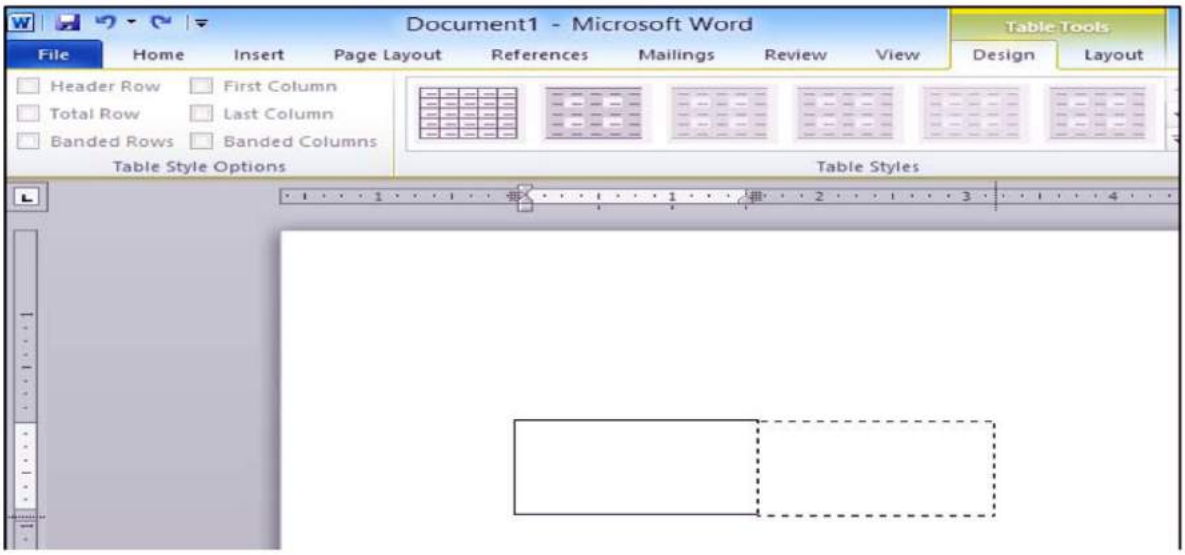

Fig 1.9 Drawing with the help of pencil

1.3 Entering Data

Place the insertion point in a table cell and type the text. To move to the next adjoining cell, either press the tab key or press the Right arrow key. To go back to the previous cell, either press the Shift+Tab key or the Left arrow key. Try to enter the data as given in the following Table.

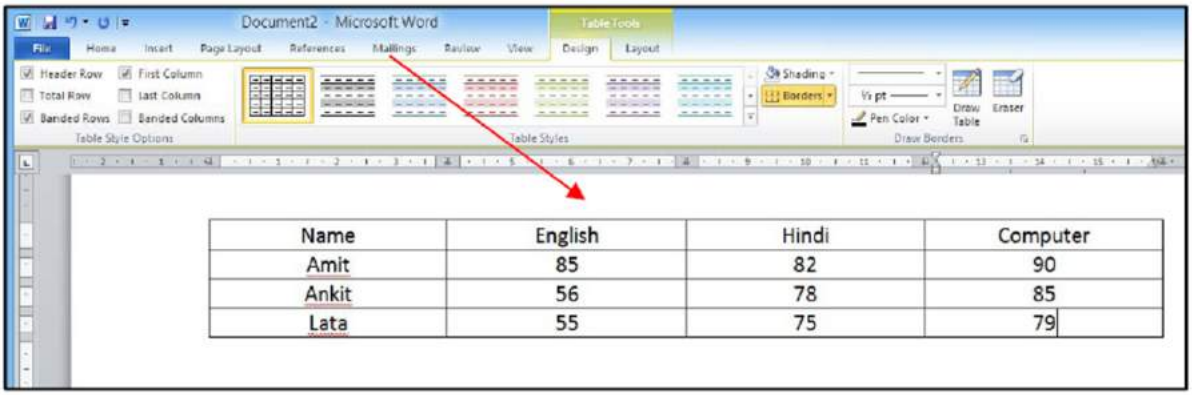

Fig 1.10 Entering Data

1.4 Modifying a Table

After entering data in a table we can make changes in the data as needed. We can insert rows, columns or cells in a table to accommodate new text . Similarly, we can delete unwanted columns or cells from a table.

1.4.1 Inserting Columns in a Table

1.4.1.1 Word provides the facility to add columns to right or left of the existing column.

1. To add a new column, select the column adjacent to which we want to insert a new column.
2. Click on the top border of the column to select it.
3. Under **Rows and Columns Group,** on the **Layout Tab,** do one of the following;
   a. To add a column to the left of the selected Column, click **Insert Left** in the **Rows and Columns Group.**
   b. To add a column to the right of the selected Column, click **Insert Right** in the **Rows and Columns Group.**

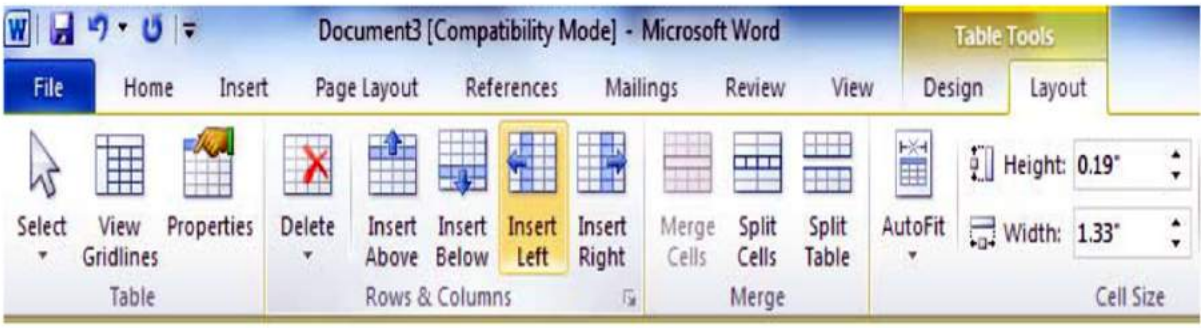

Fig1.11 Inserting Column(Left or Right)

1.4.1.2 We can also Insert columns by Right-click on the selected cell adjacent to which we want to insert a new column then click the Insert option.

1. To add a column to the left of the cell, click Insert Columns to the Left.
2. To add a column to the right of the cell, click Insert Columns to the Right.

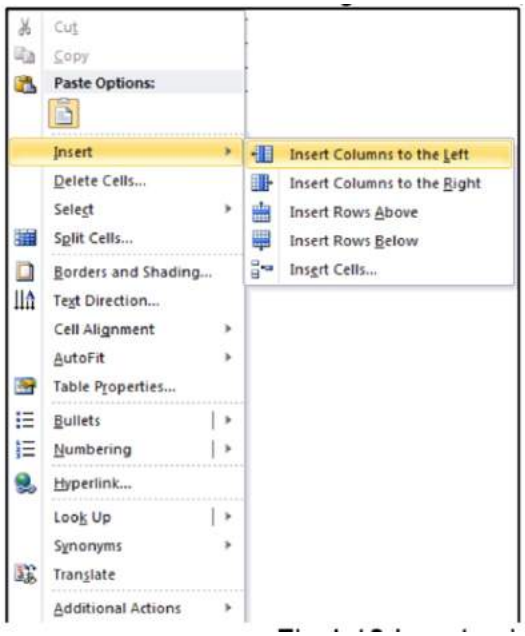

Fig 1.12 Insert columns by Right Clicking

1.4.2 Inserting Rows In a Table

1.4.2.1 Word provides the facility to Insert Rows above or below the selected row. To add a new Row, select the Row above or below to which we want to insert a new Row.

1. Click on the cell of the row to select it.
2. Under Rows and Columns Group, on the Layout Tab, do one of the following;
   a. To add a Row to the above of the selected cell, click Insert Above in the Rows and Columns Group.
   b. To add a Row to the below of the selected cell, click Insert Below in the Rows and Columns Group.

(2)

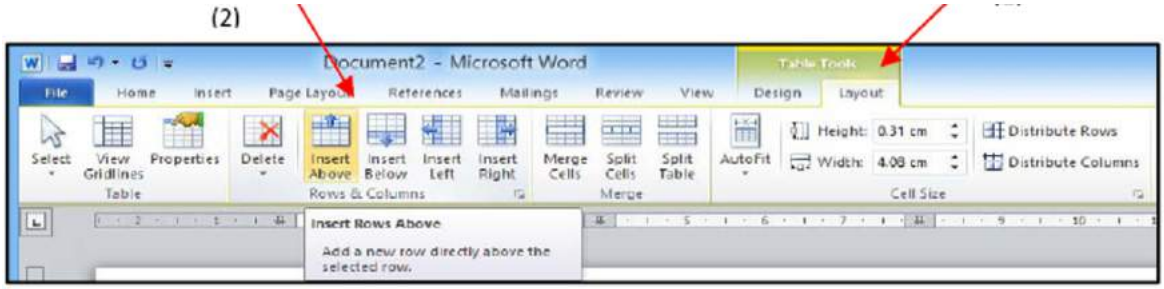

Fig 1.13 Inserting Row (Above or Below)

1.4.2.2 We can also Insert Row by Right-click on the selected cell above or below to which we want to insert a new Row then click the Insert option.

1. To add a Row to the above of the cell, click **Insert Rows Above.**
2. To add a row to the right of the cell, click **Insert Rows Below.**

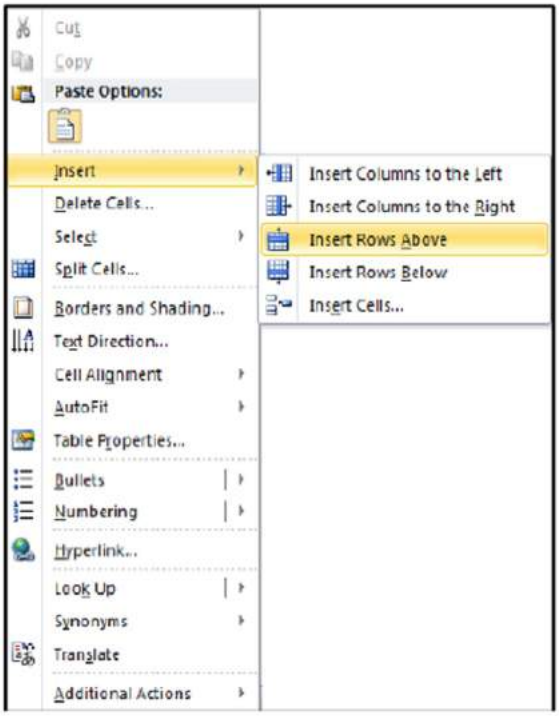

Fig 1.14 Insert Rows by Right Clicking

1.4.3 Insert a cell in a Table

By Right Clicking on a particular cell we can insert a cell in a Table.

1. To Insert a cell, click on **Insert Cells** option

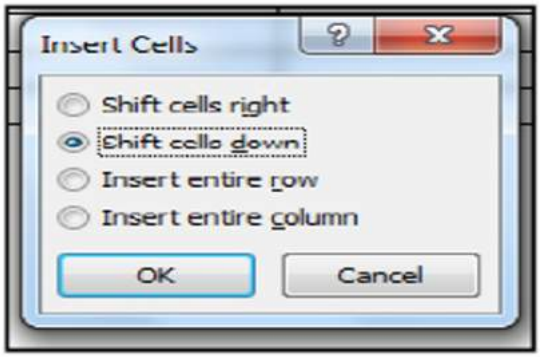

Fig 1.15 Insert Cell

2. Select shift cells right or shift cells down option
3. Click Ok Button.

1.4.4 Deleting Columns in a Table

1. Select the column which we want to delete
2. Click on **Delete > Delete Columns** option in the **Rows and Columns group** from layout Tab in Table Tools.

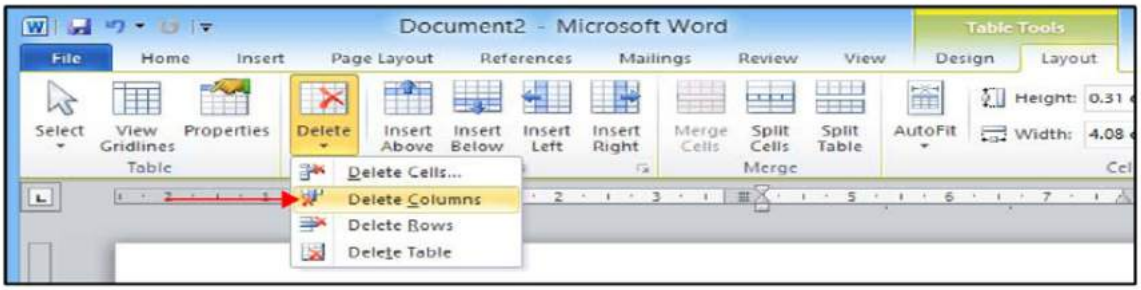

Fig 1.16 Delete Columns

our column will delete from the selected table.

1.4.4.1 We can also delete columns by **Right - Click** on the selected column

1. Right-click on the selected column.
2. Select the **Delete Cells** option.
3. Select **Delete entire column** option.
4. Click on Ok button.

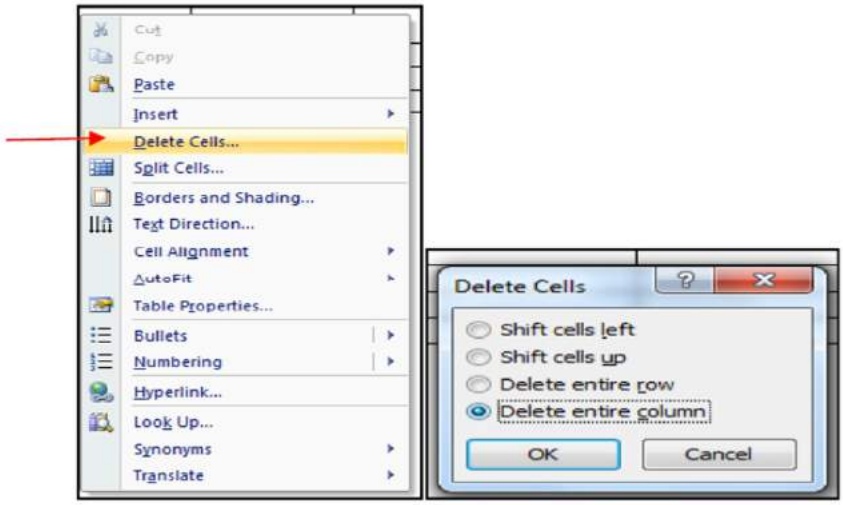

Fig 1.17 Delete Columns By Right Click option

1.4.5 Deleting Rows in a Table

1. Select the Row which we want to delete
2. Click on **Delete >Delete Rows** option in the **Rows and Columns group** from layout Tab in Tables Tabs.

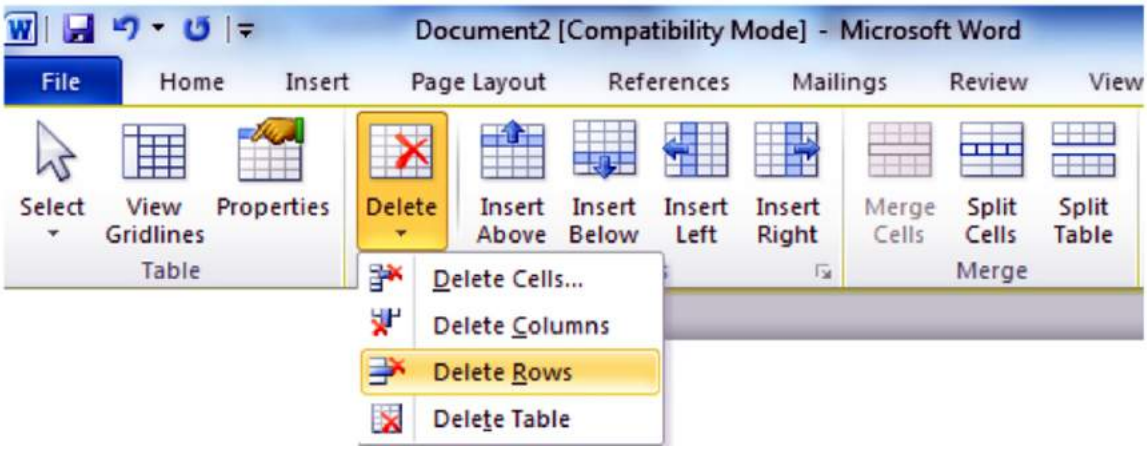

Fig 1.18 Delete Rows

1.4.5.1 We can also delete Rows by **Right - Click** on the selected Row

1. Right-click on the selected row.
2. Select the **Delete Cells** option.
3. Select **Delete entire Rows** option.
4. Click on Ok Button.

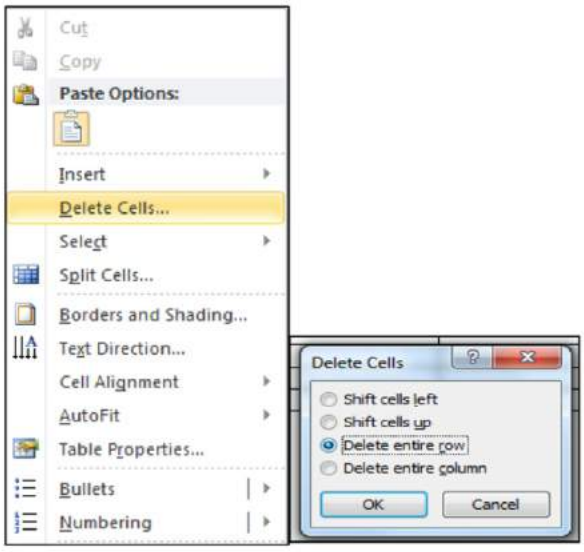

Fig 1.19 Delete Rows By Right Click option

1.4.6 Deleting Cells in a Table

1. Select the cell which we want to delete
2. Click on **Delete>Delete Cells** option in the Rows and Columns group.

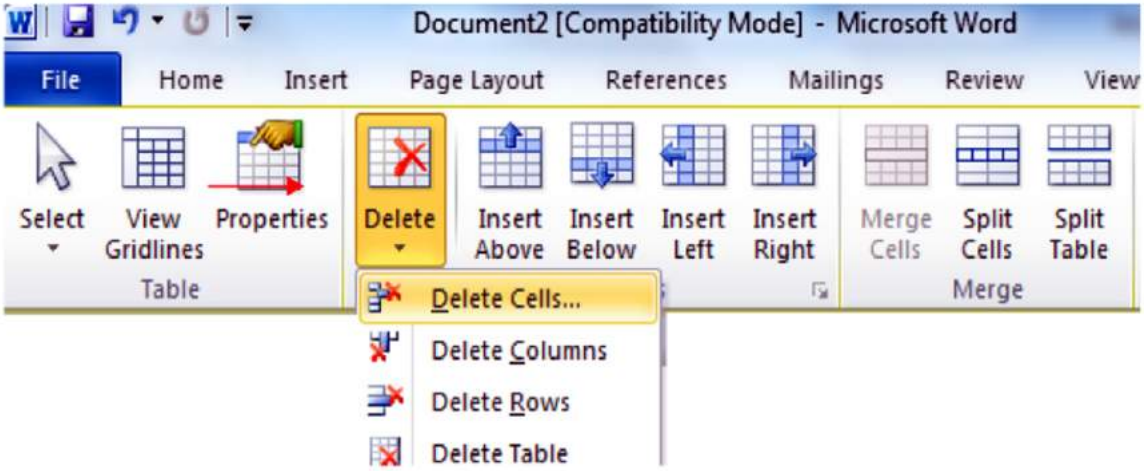

Fig 1.20 Delete Cell

1. A dialog box as shown in following figure will appear

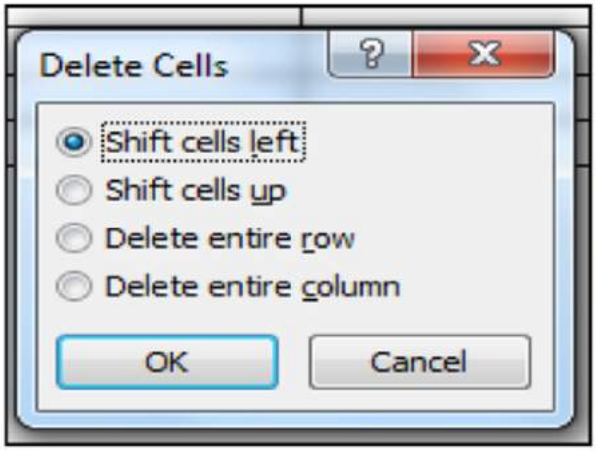

Fig 1.21 Delete Cells(1)

2. Select shift cells left or shift cells up option
3. Click OK button

1.4.6.1 We can also delete Row by Right -Click on the selected cell. To which we want to delete then click the **Delete Cells>> Shift cells left** or **Shift Cells up.** Then click on Ok.

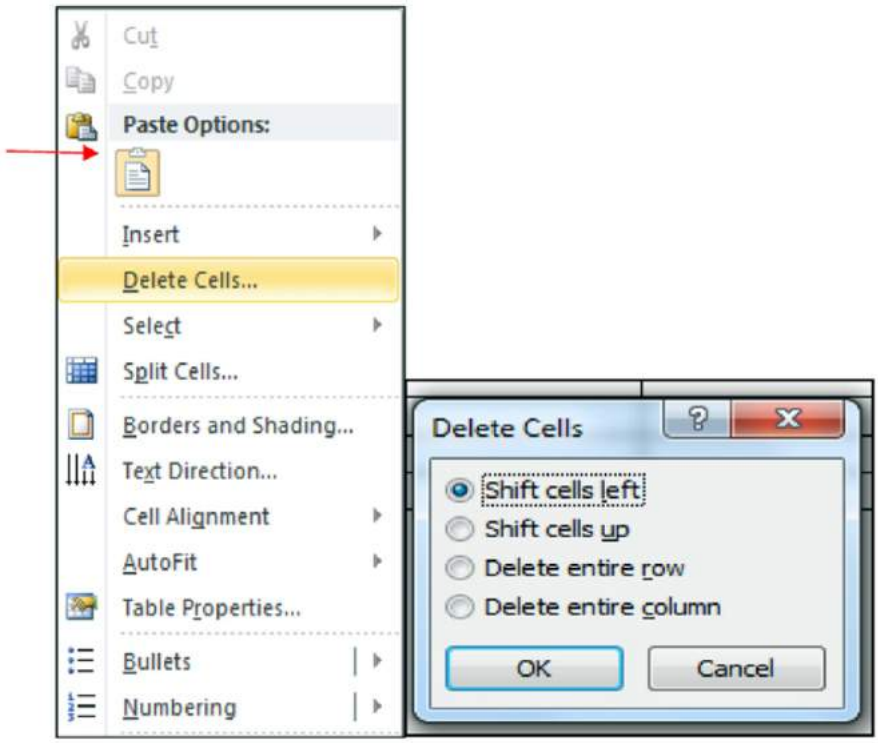

Fig 1.22 Delete cell by Right Click Option

1.4.7 Deleting Table

1. Take a cursor at any place on the Table
2. Click on **Delete >>> Delete Table** option in the **Rows and Columns group.**

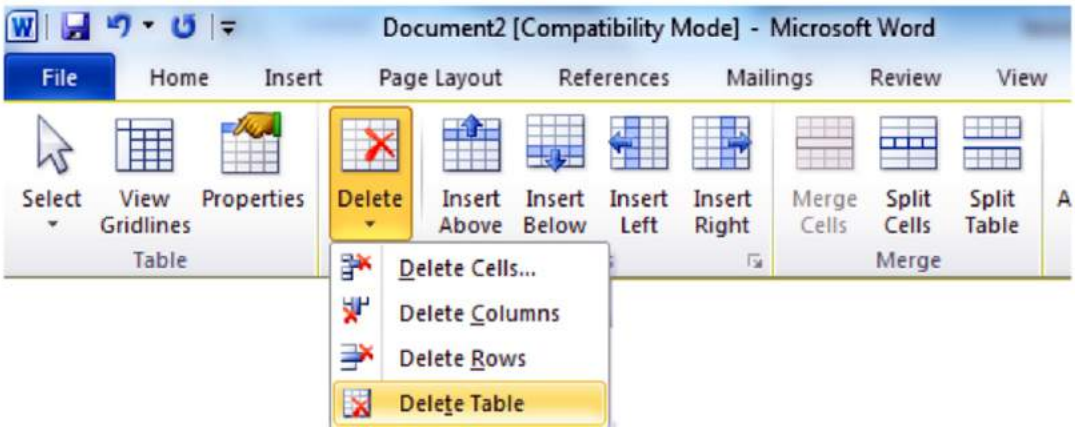

Fig 1.23 Delete Table

1.5 Properties of a Table

In any Table we can align our text left, right, center and justified. We can align our Table left, right, center. We can also change the size of rows, columns and cells. All these can be done with the help of Table Properties option. Let us know how it happens:

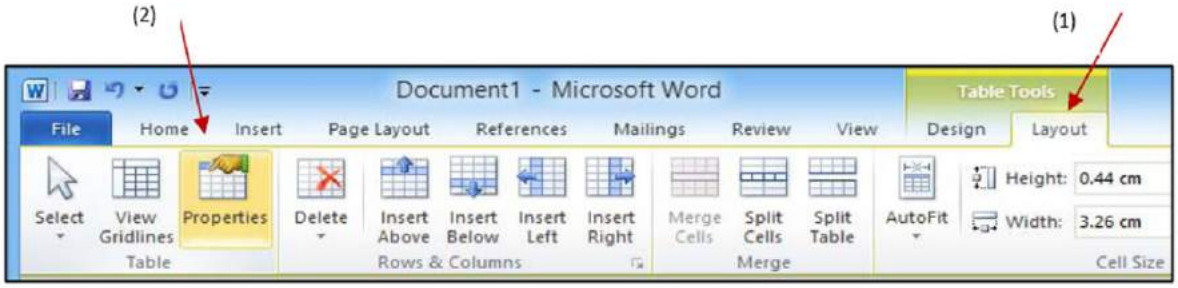

Fig 1.24 Properties of a Table

1.5.1 Alignment of Table

1. Place your cursor anywhere in the Table.
2. Click the Layout Tab
3. Click the Properties button in the Table group. The Table Properties dialog box is displayed.
4. Select the Table Tab.
5. As per your choice select right, left and center
6. Click on OK button

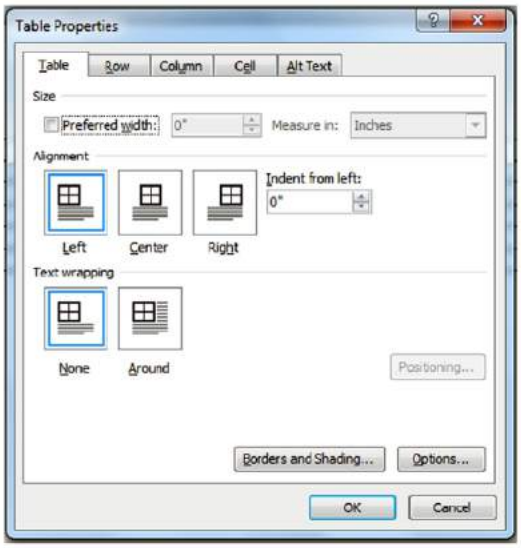

Fig1.25 Alignment of a Table

Note : we can also align the table by using the Right Click on the Cell then by clicking the Table Properties

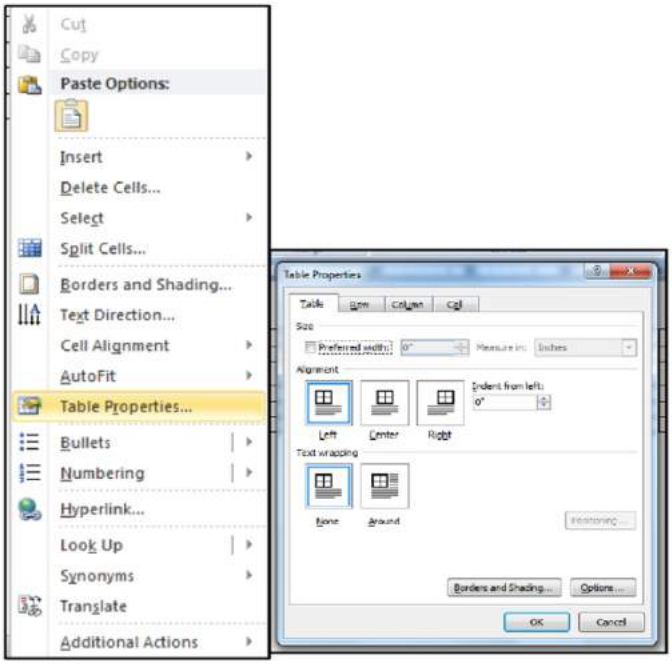

Fig 1.26 Alignment by Right-Click option

1.5.2 Changing the size of Row, Column or Cell

1. Place the cursor in that row, column or cell whose size we want to change.
2. Click the Layout Tab
3. Click the Properties button in the Table group. The Table Properties dialog box is displayed. (as shown in fig 1.27)

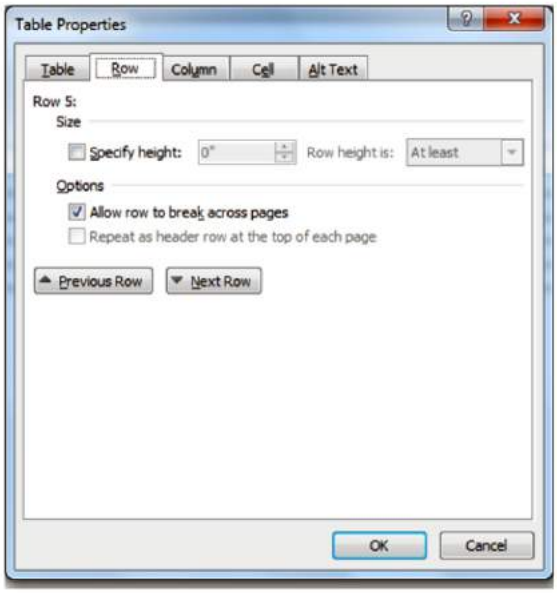

Fig 1.27 Changing the size of Row, column or cell

4. If we want to change the size of selected row then select row tab. It will tell the size of selected row ,we can approach the other rows with help of previous row and next row button. No of row will appear on specify height check button.
5. Click specify height check in order to change the Height of the row.
6. Determine the height of the row.
7. To determine the width of column or cell repeat the step 5 and 6 for column and cell tab.
8. Click on OK button

Note : We can also change the size of row, column or cell by Right Clicking on the cell then by clicking the **Table Properties.**

1.6 Splitting Cells

To divide a cell into many cells, we use the Split Cells option.

1. Select the cell you want to split.
2. Click the Layout tab.
3. Click on Split Cells button in the Merge group. (as shown in fig 1.28)

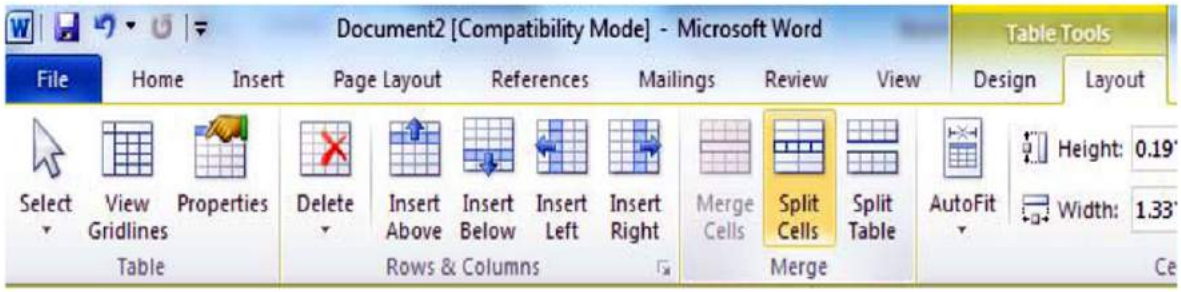

Fig1.28 Splitting Cells

4. The Split Cells dialog box appears. (as shown in fig 1.29)
5. Enter the number of rows and columns into which we want to split the selected cells. Click on OK.

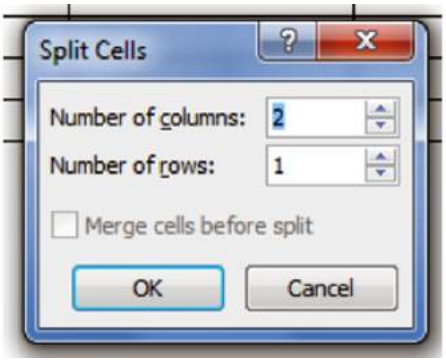

Fig 1.29 Splitting Cells(1)

1.7 Merging Cells

Sometimes, data is split in numerous segments of a cell and we want to combine it in a single cell, to give it a better look.

1. Select the cells we want to merge. Click the Layout tab.
2. Click on Merge Cells button in the Merge group.
3. The data gets combined in one cell

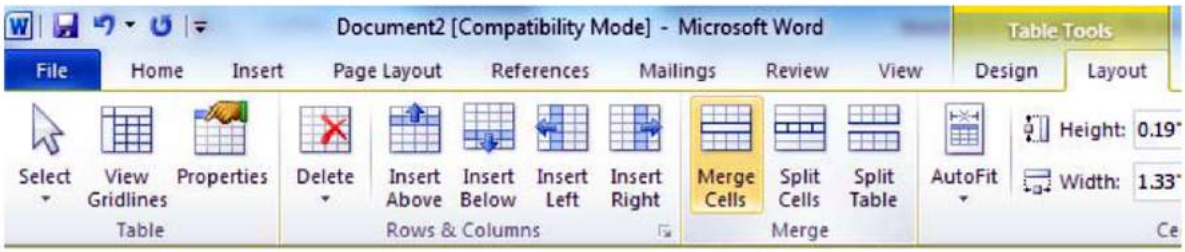

Fig1.30 Merging Cells

1.8 Splitting Table

If our table is too large then it can be divided in more than one table. A Large table is divided into more than one table by using following steps

1. Take the cursor to that call where we want to divide the table
2. Click the Layout tab.

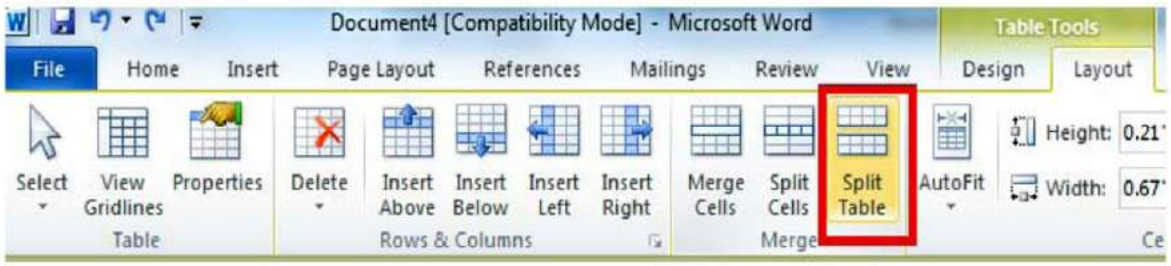

Fig1.31 Splitting Table

3. Click on Split Table button in the Merge group. Rows above the selected Row will be appear in a new table.

Note : Table can be divided only horizontally. If there is only one row in table and we want to divide it then a line will appear (not row) above.

1.9 Mail Merge

It is often required to send letters with similar information to different people. The letters require the name and address of each recipient to be printed

on the top. So, changing the address each time would be a very long process and a big wastage of time and effort.

Mail Merge feature is used to combine a data source with the main document.

1.9.1 Data Source : Data Source consists of mailing list, for example, name, address, city, pin, telephone number etc. The data is organized in tabular form along with the field names. The data source is associated with the main document, so its field names can be used in the main document and it becomes easy to merge addresses along with the main document.

1.9.2 Main Document : It contains the text that we wish to send to all the recipients.

It saves our time and energy to send letters at multiple addresses. First open the document which you have to send to different people and then perform the following steps:

1. Click on the Mailing tab.
2. Click on the Start Mail Merge button
3. Click on the Step by Step Mail Merge Wizard

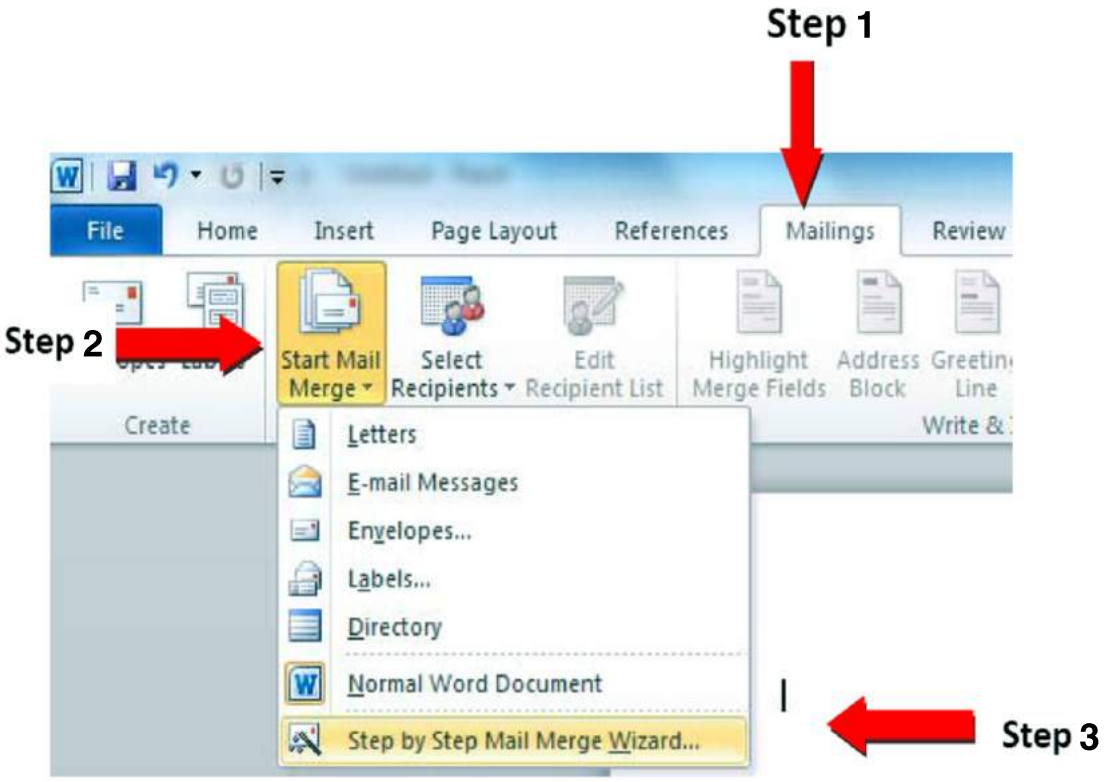

Fig 1.32 Mail merge

4. The **Mail Merge** task pane appears on the right side of the screen.
5. Since we are going to create **letters,** select Letters option under the **'Selected Document type'** section

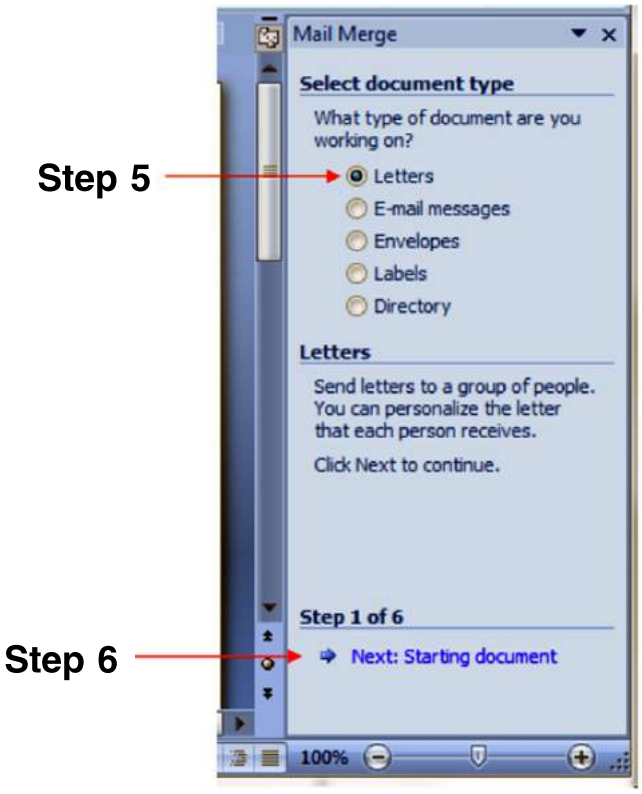

Fig 1.33Mail merge

6. Click on the **use the current document.**
7. Click on the option **''use the current document''.**
8. Click on **Next : select recipients option**

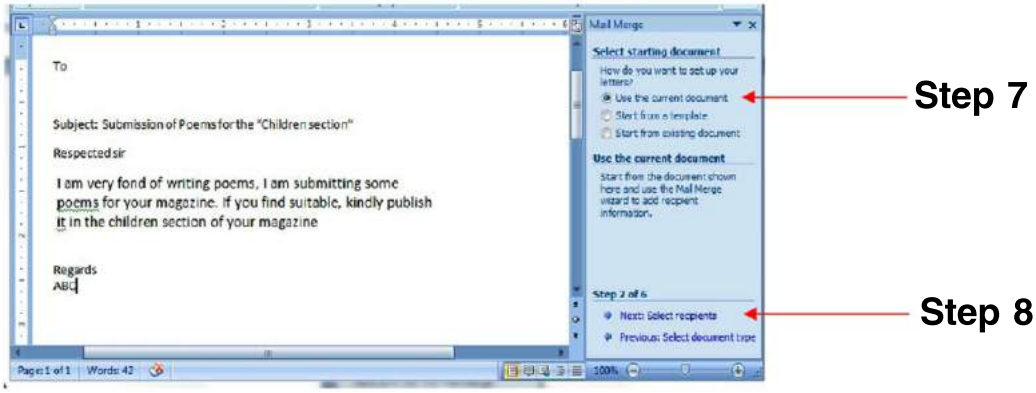

Fig 1.34 Mail merge

Note : We can use the existing list by selecting the option "use an existing list". Here we are creating a new list of recipients.

9. Click on **Type a New list** option.
10. Click on the **Create** option.

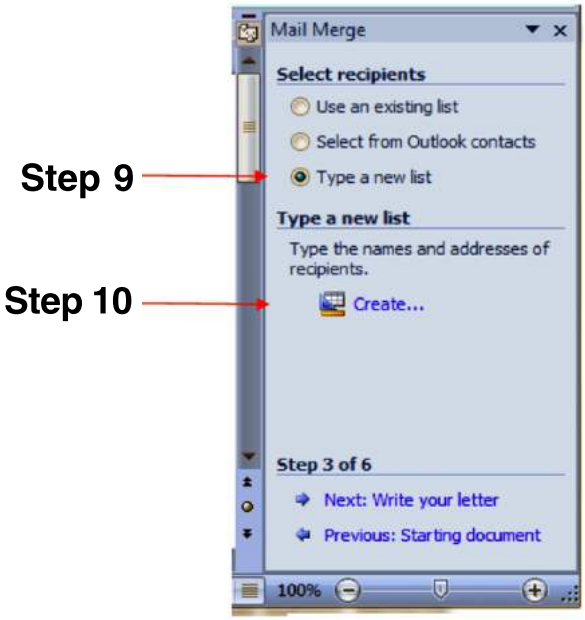

Fig 1.35Mail merge

11. The **New Address List** dialog box appears. (as shown in fig 1.35)
12. Click on the **Customize columns** button. The **Customize Address List** dialog box opens. Add the new columns by clicking on the Add button. Remove the not required column by clicking on the Delete button. Click on the OK button when done.

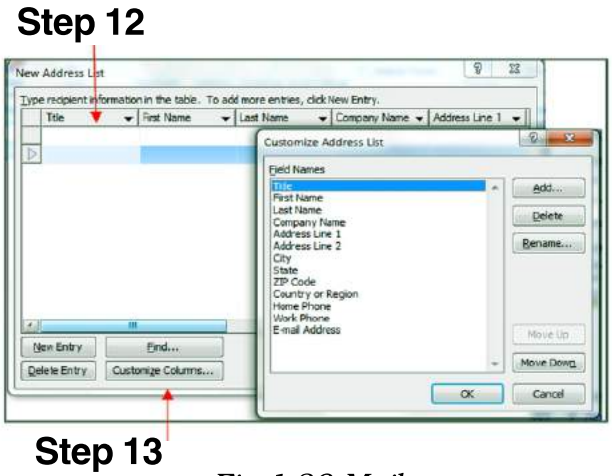

Fig 1.36 Mail merge

13. In the **New Address list** box, enter the data in respective fields.
14. Click on the **New Entry** button to enter the data in the new record.
15. By repeating the step 14 enter as many as records as required.
16. Click on the **OK** button

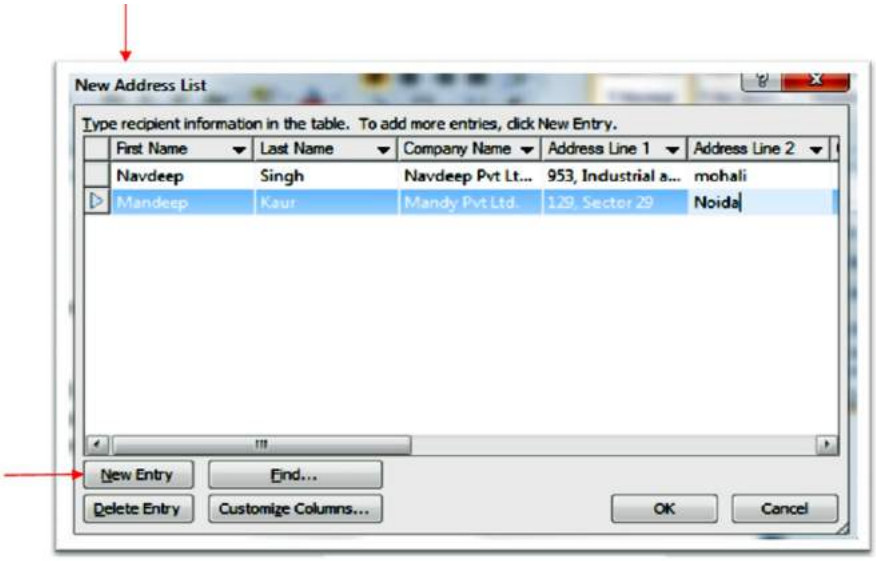

Fig 1.37Mail merge

17. The save Address list dialog box opens.
18. Specify a file name.
19. Click on the **Save** button.
20. The Mail Merge Recipients dialog box opens. You can see all the records here which you have entered. If you don't want to send the letters to a particular recipient, de-select the check box in front of that record.

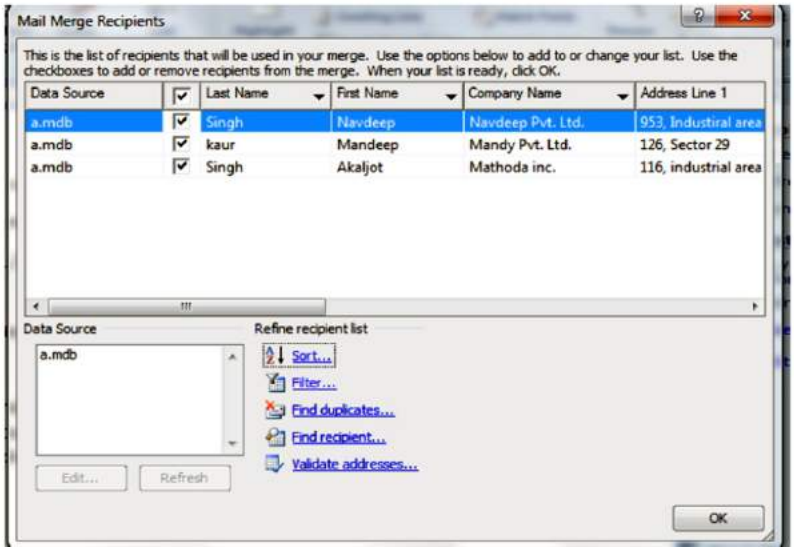

Fig 1.38Mail merge

21. Click on the **OK** button.
22. In the Task Pane, click on the **Next : Write your letter.**

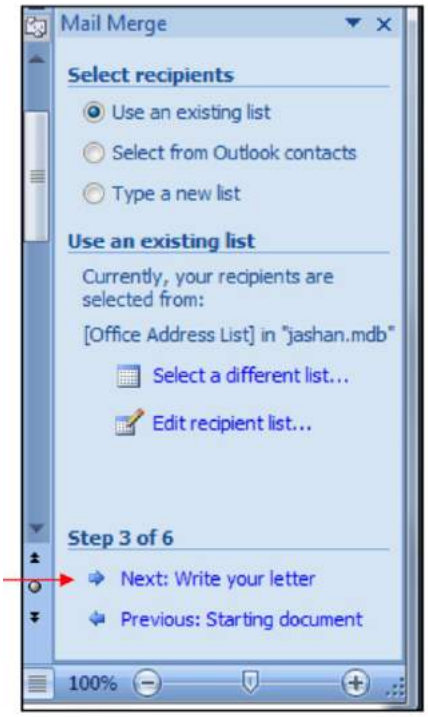

Fig 1.39 Mail merge

23. Position the cursor where you want to place the merge field.
24. Click on the Insert **Merge Field** button.
25. Click on the Field to insert.

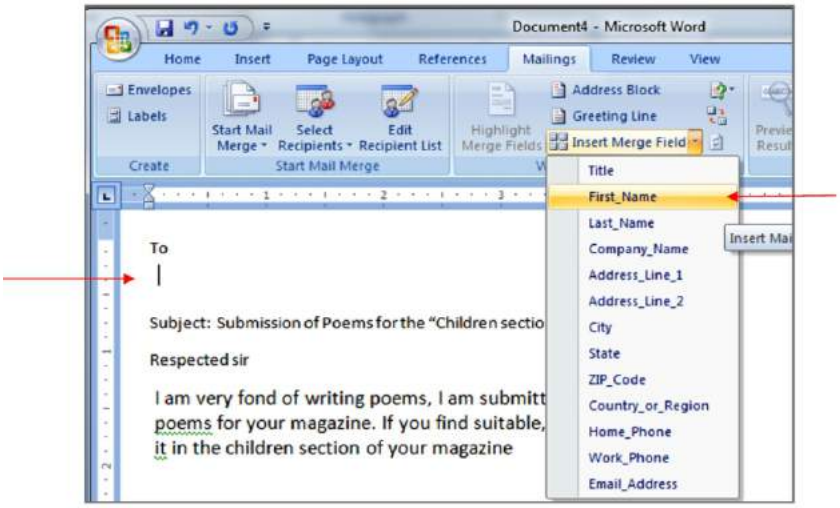

Fig 1.40 Mail merge

26. Repeat the steps 23, 24 and 25. Insert all fields at required places.

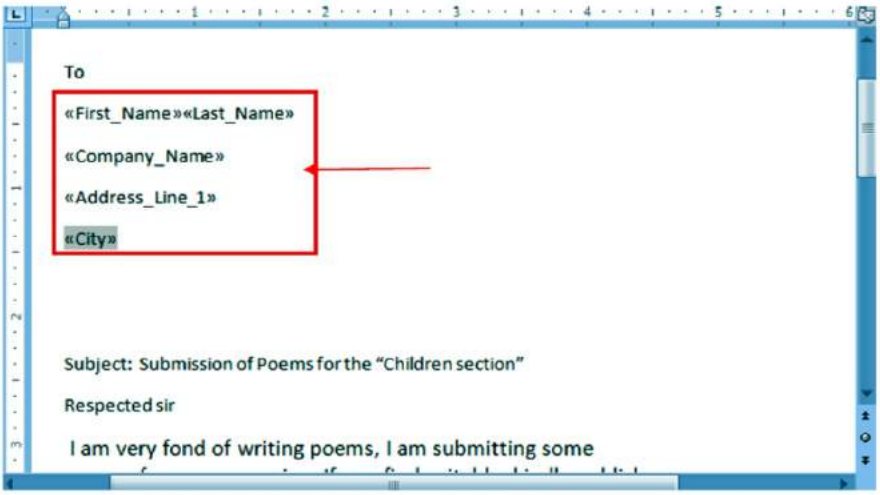

Fig 1.41 Mail merge

27. In the Task Pane Click on the **Next : Preview your letters.**

Fig 1.42

28. The first record will get display. Click on the Next (>>) button to preview the next record and on the previous (<<) button to preview the previous record

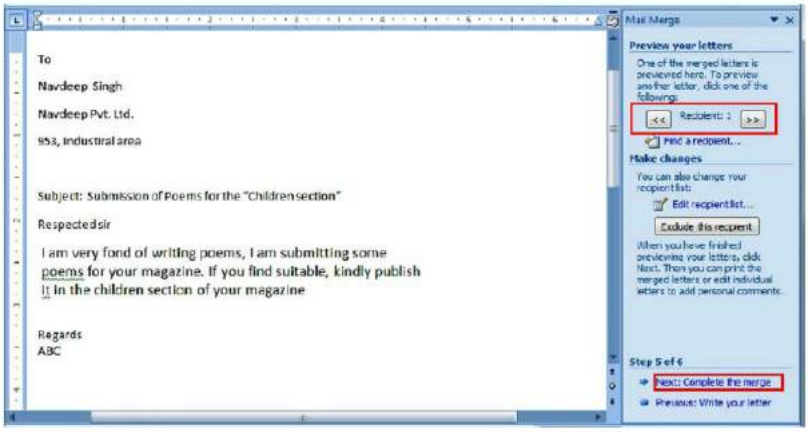

Fig 1.43 Mail merge

29. Click on the Next:Complete the Merge option.Now the mail merge is ready to produce your letters. You can either print the merged letters on the printer or edit each letter individually, to add some personal comments or a picture etc.
30. Click on the **Edit individual letters** option.

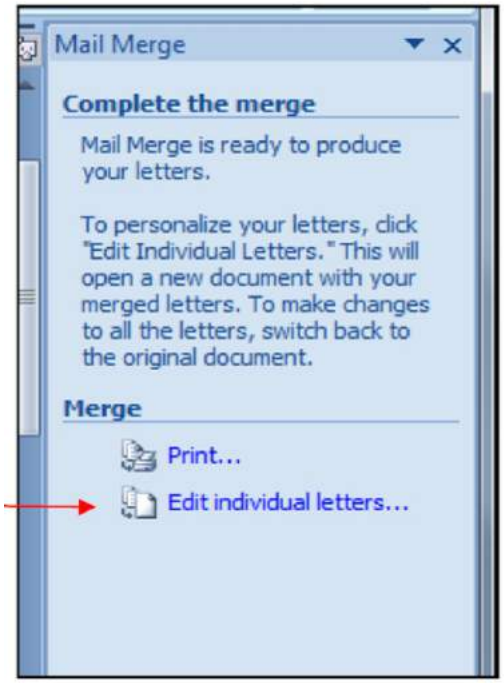

Fig 1.44 Mail merge

31. The Merge to New Document dialog box opens.
32. Click on "All" option.
33. Click on the OK button.

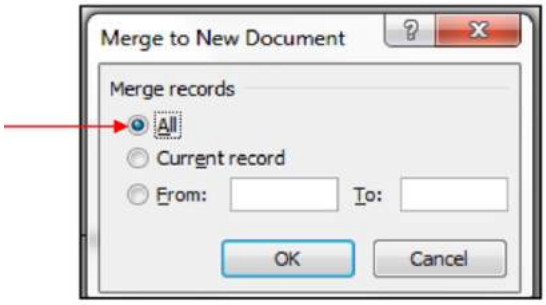

Fig 1.45

A new document will get created containing all the merged letters. This new document is known as merged document.

Points to Remember

- The intersection of column and row is called a cell.
- Table Styles is an inbuilt facility to change the appearance ,colour and borders of a table.
- Dividing a cell into multiple cells is called Splitting.
- Combining two or more cells into a single cell is called Merging.
- Mail merge feature combine two document, one is main document and the other is Data Source which is associated with the main document

Exercise?

Fill in the blanks

1. _____ key is used to move the cursor in the adjoining cell of a table.
   (a) Ctrl (b) Shift
   (c) Tab (d) Home
2. The table button is present on the _____ tab.
   (a) Home (b) Layout
   (c) Insert (b) View
3. We can change the width of a column by selecting the _____ button in the Table Group.
   (a) Select (b) View Gridlines,
   (c) Properties (d) None of these
4. _____ contains the text that we send to all the recipients.
   (a) Data Source (b) Merged Document,
   (c) All of these (d) None of these
5. _____consists of mailing list.
   (a) Data Source (b) Merged Document,
   (c) All of these (d) None of these)

True/False

1. Press Shift+Tab key to move to the next cell.
2. The intersection of a column and row is called a cell.
3. Data source contains the text that we wish to send to all the recipients.
4. Split cells option is present on the Table group.
5. Cells cannot be merged in a table.

Short Answer Type Questions:

1. Name the one method by which you can insert a table in a document.
2. What is the use of Split Cells option?
3. Name the option by which you can change the column width?
4. What is the use of Merged Cells option?
5. What is a data source?
6. What is a Main Document?

Long Answer Type Questions:

1. What do you understand by the term Mail Merge? Write steps to perform Mail-merge.
2. How do you insert a table in your document? Explain any one method.
3. Explain the process of Alignment of a Table.

Internet Fundamentals

OBJECTIVES OF THIS CHAPTER :

INTRODUCTION

Today the use of internet has increased tremendously. It has revolutionized the whole world and made computers the most effective communication tool. Internet gives us access to information on almost every subject. In this chapter we will learn about what is Internet and how it came in to existence. Also we will discuss some of the services and tools which are commonly used to access the Internet, and will learn about how to begin searching the Internet for information. A specific technology which is rapidly becoming one of the central mechanisms for providing information on the Internet, the World Wide Web, will also be explained in it.

2.1 What is Internet?

Internet is one of the best technologies gifted to mankind in the present scenario. It has brought the entire world at our fingertips.

The name 'Internet' itself suggests its meaning. It stands for International Network of computers. A network is an interconnection between two or more computers. The Internet is a "network of networks" that consists of millions of computers spread across the world. Internet allows us to share the information worldwide, with just a mouse click.

Figure 2.1 internet

2.1.1 History of Internet

In 1969 when man walked on the moon; the U.S. defence department set an Advanced Research project Agency(ARPA) for further research. They designed a network of four computers to exchange and share their data. This network was called ARPANET (Advanced Research Project Agency Network). Later, many universities were allowed to join this network and share the information. This was the beginning of 'Networking of computers' which grew bigger day by day and gave birth to INTERNET- the technology which has changed our life. Earlier, Internet was used by engineers, scientists and computer experts for research purpose. Gradually, the network was made accessible to private agencies and general public. People started using it for sending messages and files between the computers. The most interesting thing about Internet is that no single agency controls or maintains the Internet.

In India, internet services started on 15th August 1995 through government owned VSNL. Now many private internet service providers like Airtel, Reliance, Sify, Tata etc. have also been allowed to provide internet services

2.2 Requirements for Internet

Use of Internet needs following things

2.2.1 Hardware Requirements:

- A personal computer with a speed of 800 MHz or more
- RAM of about 128 MB
- Telephone line connection
- Modem to link Internet
- TCP/IP protocols(rule)

2.2.2 Software Requirements

- Windows XP, Windows 7, Windows 8, Linux etc any operating system
- Internet Explorer, Netscape Navigator or any other web browser

2.3 Tasks performed by Internet and Network:

Network is a group of two or more computers linked together. If two or more networks are joined together then they form inter-network. Internet is a

inter-network of whole world. Thousands of networks are joined with internet. We can perform many tasks with Internet as described below

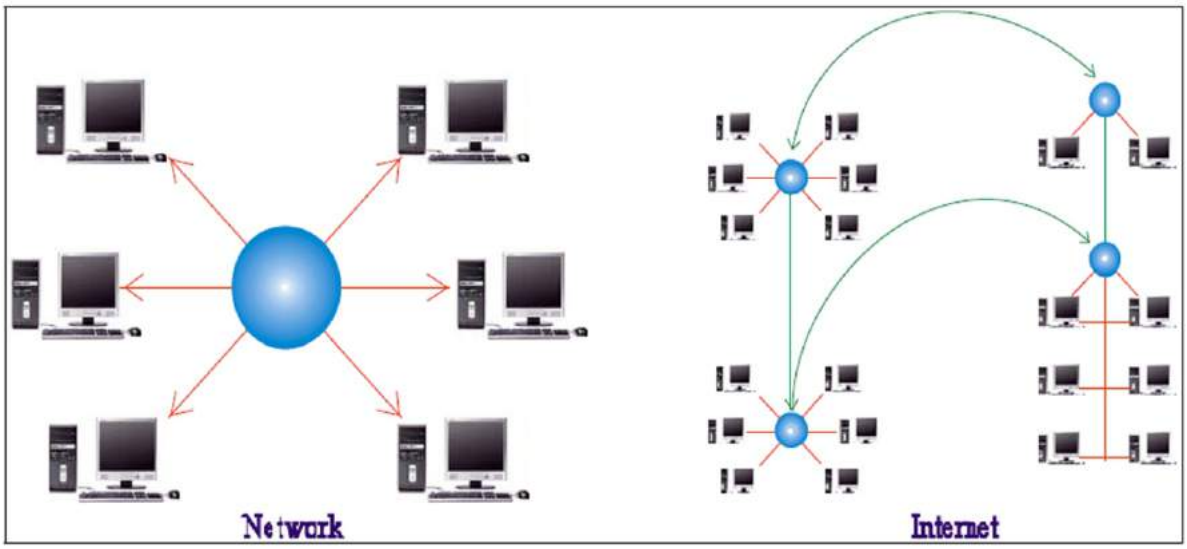

Fig 2.2 Network & Internet

- **NEWS AND INFORMATION:** Internet provides facility to read different newspapers online and get the information regarding various topics of our interest such as politics, sports, education etc. It also keeps us updated with current events.
- **ART AND ENTERTAINMENT:** Internet allows us to download and purchase various software for art and entertainment such as games, songs, movies, jokes, stories etc.
- **ON-LINE SHOPPING :** We can purchase various items like books, clothes, gift items etc. from different e-shops around the world without actually going there.
- **MAILING LETTERS :** Electronic mail is the most popular feature of the Internet. It allows us to send and receive messages. We can also attach pictures, videos, sounds to our email and send it to anyone.
- **HEALTH AND FITNESS :** we can have an all time doctor at our service to provide health and fitness information. We can also search for remedies and precautions for different diseases.
- **TOURISM AND TRAVEL :** Internet provides facility for online booking of hotels, railway tickets, air tickets etc. all over the world and round the clock.

- **CHATTING:** Internet allows us to exchange text messages with another person anywhere in the world.
- **BANKING OPERATIONS:** Now all Banking operations can be done right from our home using Internet / e-banking services.
- **VIDEO CONFERENCING:** Through video conferencing, we can communicate with the other person visually. To do video conferencing, both the persons need to have web cameras.

2.4 INTERNET CONNECTIONS

In today's age, there are numerous ways to connect laptops, desktops, mobile phones and tablets to the Internet. When determining which type of Internet connection is right for us, it's important to understand the distinction between each connection. Some of the most widely used Internet connections are listed below.

2.4.1 TYPES OF INTERNET CONNECTION

Any one of the following basic connections can be used for internet.

- Dial-up Connection
- Broadband
- Wireless
- DSL (Digital Subscriber Line)
- ISDN (Integrated Services Digital Network)

Broadband connection joins computer to the lines of telephone or transmission institute. It is always used with high speed. Maximum Business centers, Universities etc. have a permanent internet connection. Small businessmen or personal users have personal TV lines of DSL (Digital subscriber line) for permanent connection. This facility is costlier than dialup connection. Through dial up connections can be established with telephone line or cellular device. This connection is used by the users who use internet occasionally.

2.5 Modem

Full Form of MODEM is modulator-demodulator. A modem is a device or program that enables a computer to transmit data over telephone or cable lines. Computer information is stored digitally, whereas information transmitted over telephone lines is transmitted in the form of analog waves. A modem converts between these two forms i.e by converting the digital data used by your com-

puter into an analog signal used on phone lines and then converting it back once received on the other end.

Fig 2.3 Modem

2.5.1 Types of Modem

Modem is of two types : External and Internal

2.5.1.1 External modem is linked to computer externally with cables.

Fig 2.4 External Modem

2.5.1.2 Internal modems are fitted inside the computer. Cable or telephone wire goes to modem through plug.

Fig 2.5 Internal Modem

2.5.2 SPEED OF MODEM

Speed of modem is variable. Slow modem takes more time to send or receive message. It takes more time to copy files from Internet if both the computers of transmission have different speeds of modem then transmission will be according to the slow speed modem. So use only fast speed modem. Generally a modem with 28.8kbps speed is used. Surfing needs modem speed not less than 56 kbps.

2.6 INTERNET SERVICE PROVIDERS(ISP)

Internet Service Provider(ISP), it refers to a company that provides Internet services, . For a monthly rent, the service provider usually provides a software package, username, password and access phone number for eg Airtel, Vodafone, BSNL. For broadband access you typically receive the broadband modem hardware or pay a monthly rent for this equipment that is added to your ISP account billing. Equipped with a modem, you can then log on to the Internet and browse the World Wide Web and send and receive e-mails.

In addition to serving individuals, ISPs also serve large companies, providing a direct connection from the company's networks to the Internet. ISPs themselves are connected to one another through **Network Access Points (NAPs).**

ISPs may also be called **IAPs (Internet Access Providers).**

Fig 2.6 Internet Service Provider

2.7 BENEFITS OR SERVICES PROVIDED BY INTERNET

In today's technological world, there are plenty of services that are provided by the Internet. The list contains email, which enables us to keep in contact with friends, family, and employers. There are also search engines that allow us to search for information that is provided by professionals and individuals alike. Other services include sites like facebook and My Space that allow us to interact socially with people from all over the world. Most businesses today are connected to the Internet so we can also pay bills, do banking, and shop online. Some of the main services are described below.

2.7.1World Wide Web

The World Wide Web (WWW) and the Internet function together but are not the same thing. The World Wide Web is a large computer network where by using a browser such as Internet Explorer, we can surf and get information. It consists of all the public web sites connected to the Internet worldwide, including the client devices(such as computers and cell phones) that access web contents. The websites are identified by short, unique, global identifiers called **URLs (Uniform Resource Locator).** World Wide Web is also called website or site. It contains e-mail, newsgroup, mailing

list and sent files. We can get information through web. Website is formed by one of more pages. It contains facilities regarding to business, educational institutes, research facilities and for personal interest.

2.7.2 Electronic Mail

It is also called e-mail. You can send a desired message with the help of e-mail. Text, video, voice and other files can be sent through it.

2.7.2.1 Benefits of E-mail : E-mail has following benifits :

1 **Cost :** Cost given for use of internet is the only money given. User need not to give money for postal stamps. It is cheaper than fax. The e-mail does not need such costs. Cost of long massages is equal to that of short message. Also cost of sending message overseas i.e. to like that of paper, telephone charges etc. Very for off distances is same as that for sending to your own city.

2 **Speed :** Its speed is greater than postal transmission e-mail message can reach its destination within no time. We can correspond any times in a day.

3 C**onvenience :** Computer user can type the message in his computer and send e-mail at any time of his convenience. It saves paper, postal cost and any other problem.

More commonly known as email, electronic mail started as an afterthought to the Internet. Today, email holds the number one position as the most popular service offered on the Internet. A protocol for sending, receiving and storing electronic messages, email has become the preferred method of communication. The U.S. Postal Service handles around 200 billion pieces of mail each year. Email service on the Internet handles around 247 billion emails every day.

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Fig 2.7 E-Mail

2.7.3 E-Commerce

The ability to do business without the usual constraints of time or distance make e-commerce one of the most important services provided by the Internet. With the single click of a mouse, online customers can purchase almost anything day or night from the comfort of their own home.

Fig 2.8 E-Commerce

2.7.4 Social Networking Sites

The Social networking websites function like an online community of internet users. In social Networking websites, every user has a profile, which contains information about them. A user can also invite other people to join these websites, no matter what their hobbies, beliefs or interest are. Some of the popular social networking sites are: Facebook, Orkut, Twitter etc.

Fig 2.9 Social Networking Sites

2.7.5 Video Conferencing

It involves the use of video cameras connected to two or more computers. Images and sounds are then sent through the Internet where users not only hear each other but can also have a face to face conversation.

Fig 2.10 Video Conferencing

2.7.6 Chatting

A chat is an online conversation over the Internet in which we can instantly send text based messages back and forth to one another. There are various types of chats available on the Internet. Chatting means - word talk. It is similar to telephone conversation. Difference is only that in chatting only words are used. If you are linked through internet then you will type in computer or mobile Instead of speaking in telephone. Voice chatting is also possible now. In voice chat you can speak and listen.

2.7.7 Websites Search

Number of pages is not fixed on website. These are unlimited. These go on increasing. Big companies save their web pages in this data base.

Search engine is used to find information. It is a powerful program. Desired information can be found by typing it. It will show a list of many such websites related to that word.

2.7.7.1 Methods of searching

Let us learn about fundamentals of searching. First of all type a few a words in the text box of search engine. In advance search you have to set word match, complete phrase match or insert key-word match.

Following things should be kept in mind while searching in a right way :

- Use (+) sign for that word which should be present in search result.
- Use (-) sign for the word which should not be present in search result
- Use coat marks (' .')to show phrase

From the example given in following from, it is clear that you are finding cookie recipe site. The words written in text tells that this site is of North India and it contain rice.

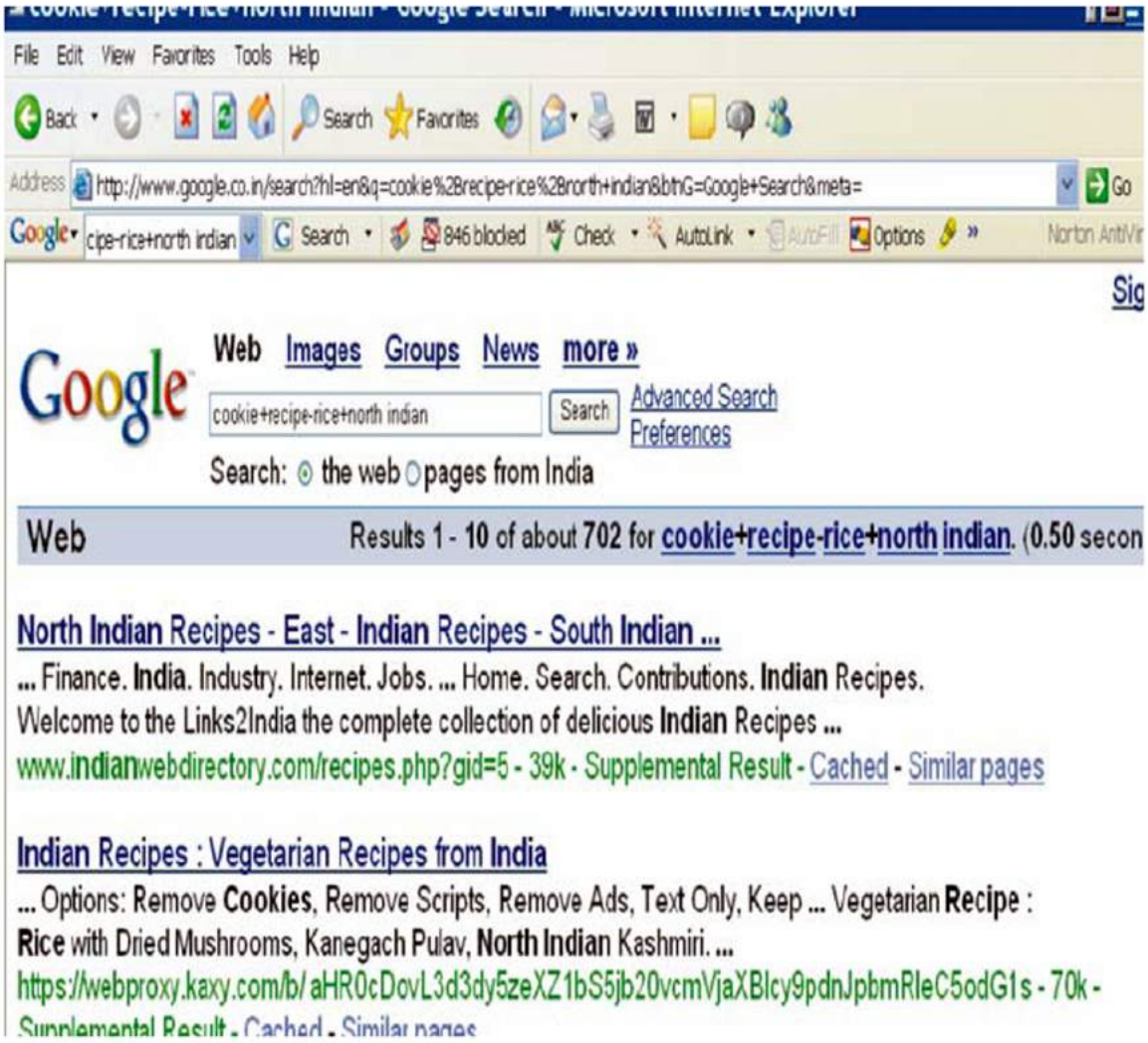


Fig 2.11 Web Searching

2.8 Software Tools:

We should have complete knowledge of computer in order to take full advantage of internet. Some ISP softwares are also provided. Different tools are used for different purposes. This tool depends on your requirement. It include following tools:

- E-mail program
- Browser
- News Reader
- FTP software

2.8.1 Internet Skills

Although softwares of internet has been greatly improved yet the internet user need skill of using it. User should know how to start, or close a program and copy a file. He should know something more than menu, icon, print, type and editing. Knowledge of all these things is called basic computer skills for using Internet.

2.9 Web Browsing

World Wide Web is an important facility of Internet. To Browse the information , we can take the help of any search engine such as Google, Bing etc. We can view required information with them.

Fig 2.12 Web Browsing

- Internet is a 'network of networks' that consists of millions of computers spreadsheet across the world.
- E-mail is a facility on Internet to send and receive messages to any part of the world.
- Internet explorer is one of the most popular and widely used web browser developed by Microsoft.
- Each Web page has a unique address called Uniform Resource Locator.
- The World Wide Web is a collection of pages stored on the Internet.

1. Fill in the blanks:

1. International Networks of Computer is known as_____
   (a) ARPANET (b) INTERNET
   (c) INTERANET (d) ETHERNET
2. www stands for_____.
   (a) World Wide Web (b) World Web Wide
   (c) Wide World Web (d) Web World Wide
3. A _____ is an online conversation over the Internet.
   (a) E-commerce (b) Chatting
   (c) WWW (d) None of these
4. _____ is the fastest way of sending mails.
   (a) Telegram (b) Letters
   (c)I ISP (d) E-mail
5. _____ is a device that connects a computer with telephone line.
   (a) Modem (b) Telephone Wire
   (c) Mouse (d) Mobile

2. True/False

1. A webpage is a collection of websites.
2. Internet Explorer is the name of an ISP.
3. Facebook is one of the popular Social Networking Website.
4. Internet computers communicate through network
5. The software that allows you to explore information on the web is called web site.

3. Short Answer Type Questions:

1. What is Internet?
2. Give some example of Internet Service providers.
3. What do you mean by the term E-commerce?
4. Define the term WWW.
5. Describe the types of Internet Connections.
6. Tell about E-mail
7. What is web searching?
8. List the Hardware requirements for Internet.

4. Long Answer Type Questions

1. What is MODEM ? Also Explain its type and speed.
2. Explain the tasks performed by network and Internet.
3. What are the main services provided by Internet? Explain briefly.

1. Make a group of 5 to 8 students. Go to the lab and find out different components being used for internet.
2. Search for any topic like car, mobile, computer, motorcycle etc. using internet
3. a) Click on www.google.com
   b) Search for "fonts of Punjabi"
   c) click on the appropriate link and copy fonts in your system
   Note the result.

Introduction to Information Technology

OBJECTIVES OF THIS CHAPTER :

INTRODUCTION

Now-a-days many companies are in this field of Information Technology. These companies are earning a lot because of good standards and their creative and competitive marketing policies. This is only possible if proper information is received at a proper time and these companies are working on basis of informations in these days. It is known as era of information technology.

Information technology is related to computer hardware and software. That technology which is used for processing, storing and exchange of information is called information technology. Information technology plays an important role in the progress of a country, towards development. It is changing the life style, learning, playing and working styles of people.

We are introducing new social programs, scientific discoveries and business devices due to development of computer information technology. New tools of communication to collect knowledge and information are being framed.

3.1 What is information Technology?

It includes all the technologies used to store changes or use information about business data, voices, discussions, photographs, movies, multimedia presentation etc.

Information technology is an advantageous field which includes both telephone and computer technology.

3.1.1 Need of Information Technology:

In our daily life all bills and payments of most of the Govt. and private firms are printed with the help of computer. ATM facility of banks is also very useful but it is possible only due to proper use of computer.

Information technology is used to perform many tasks as mentioned below :

3.1.1.1 For Business and Industry : Information technology is used in business and industry for following purposes :

- **Office Automation :** Information technology helps to perform routine office work and to increase productivity.
- **Management Information System :** Information technology helps the manager to take quick decision.

3.1.1.2 At home : Information technology is used to perform following task at home :

- **Communication :** Instead of sending letters, we communicate with email and chatting.
- **Education :** Student use internet for their study. There are various type of education software.
- **Entertainment :** The older means of entertainment are replaced by computer and internet. Traditional tapes and cassetts have been replaced by audio-video CD's.

3.1.1.3 For Training :In Schools information and technology is used to gain knowledge easily and effectively. Effective multimedia presentation material is greatly helpful to gain knowledge. Information technology is also helpful in science and medicine.

3.2 Web Sites

A collection of one or more web pages grouped under the same domain name is called Web Site.

The pages of a website can usually be accessed from a simple Uniform Resource Locator (URL) called the web address. Each website has its own unique web address which can be reached through an internet. The opening page of a website is usually called homepage which contains hyperlinks to other pages on the same or other site(s) A company or an individual tells us how to get to their Web site by giving us the address of their home page. From the home page, we can go to all the other pages on their site. For example unique web address of Punjab School Education Board is www.pseb.ac.in.

Fig 3.1 Web Site

3.3 Searching:

Search means : **" Try to find out"**

Web search is the act of looking for webpages. The system that collects similar webpages together at one place is called a web search engine.

When we ask a web search engine such as Google or Bing find webpages related to a topic, we will get back a list of hyperlinks to related webpages. This list may have a hundred or more links. They are often divided up into a number

of search engine results pages (SERPs). From a SERP, we decide which link we should try and see if its referenced page had what we're looking for.

Fig 3.2 Searching

3.4 Web surfing

Web surfing means to move from place to place (one website to another website) on the Internet , searching for topics of interest. The term also has another meaning -- spending time on the Internet.

Web surfing has become a favourite pastime for many Internet users. Just as in "TV channel surfing," where one clicks the remote to go from channel to channel, the hyperlinks on Web pages make it easy to go from one page to another.

3.5 Difference between Online and Offline

The terms "online" and "offline" (also styled as "on-line" and "off-line") have specific meanings in regard to computer technology and telecommunications. The general definition of "online" simply indicates a state of connectivity, while "offline" indicates a disconnected state. Working online means that we are working on files and/or programs that open from external source, like a server or website. Working offline means that we are working on something on our computer.

Fig 3.3 Online and Offline

Online = connected / having access to a network or Internet

Offline = not connected / not having access to a network or Internet

3.6 Downloading

Downloading means our computer is receiving data from the Internet.

Every time we use the Internet, we download data. For example, each time we visit a webpage, our computer must download the HTML, CSS (cascading style sheet), images, and any other relevant data in order to display the page in our web browser. When you click a "Download Now" link, our browser will start downloading a specific file that you can open.

Examples of downloading include opening a web page, receiving email, purchasing music files and watching online videos.

Fig 3.4 Downloading

3.7 Net Banking

A system of banking in which customers can view their account details, pay bills, and transfer money by means of the Internet is known as net banking.

Internet banking, sometimes called online banking. Internet banking uses the Internet to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings account balances etc. Internet banks are also known as virtual, cyber, net, interactive, or web banks. Following figure shows the login for SBI Account Holder.

Fig 3.5 Net Banking

3.8 On line shopping

Online shopping or online retailing is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser.

We can search for and purchase products from almost anywhere if the vendor makes his products available through the Internet. We can pay the bill of our purchases by using a credit card. Some vendors may allow us to make our payment by electronically transferring the money from our bank.

Fig 3.6 online Shopping

The good thing is that purchasing things online is very easy. The advantage for online shopping is we can start at home and the item comes to. Do we have plenty of time to go to the store and look up and down for the item like? Most people say NO, time is precious. So on line shopping is considered as a time saving activity.

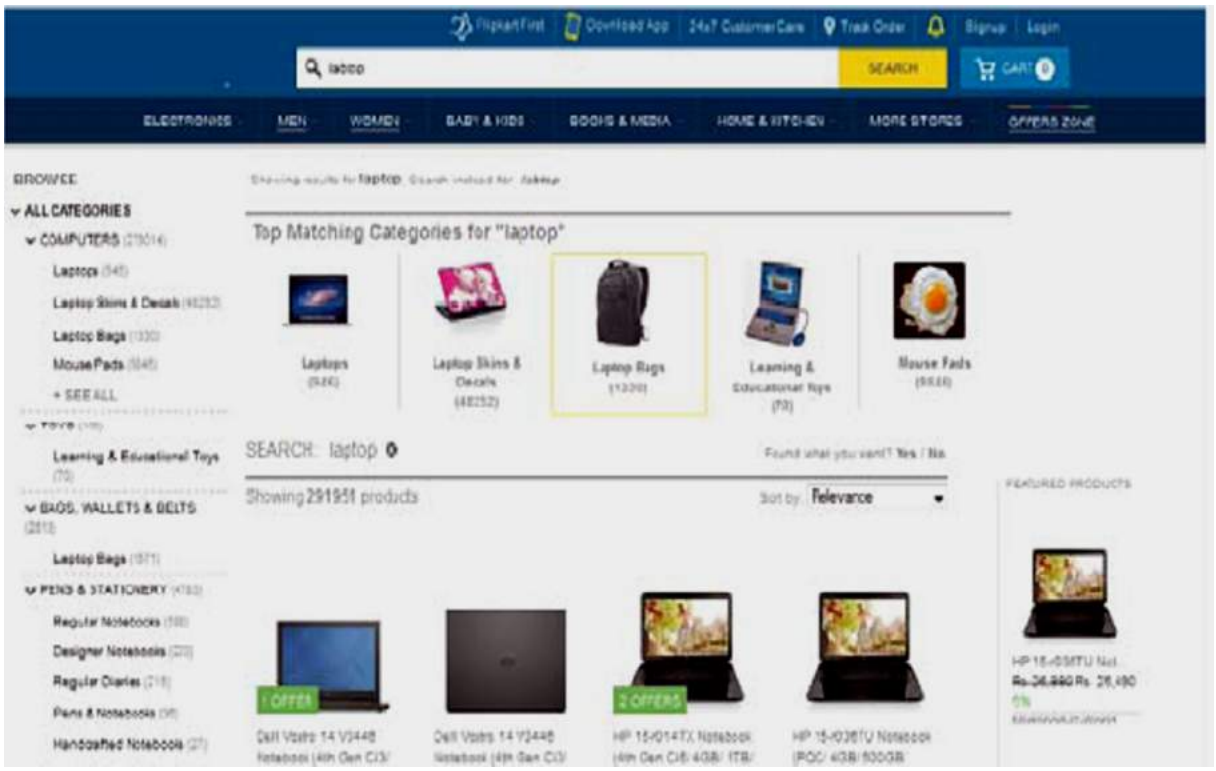


Fig 3.7 Online Shopping Website

3.9 How to view On-Line -Result?

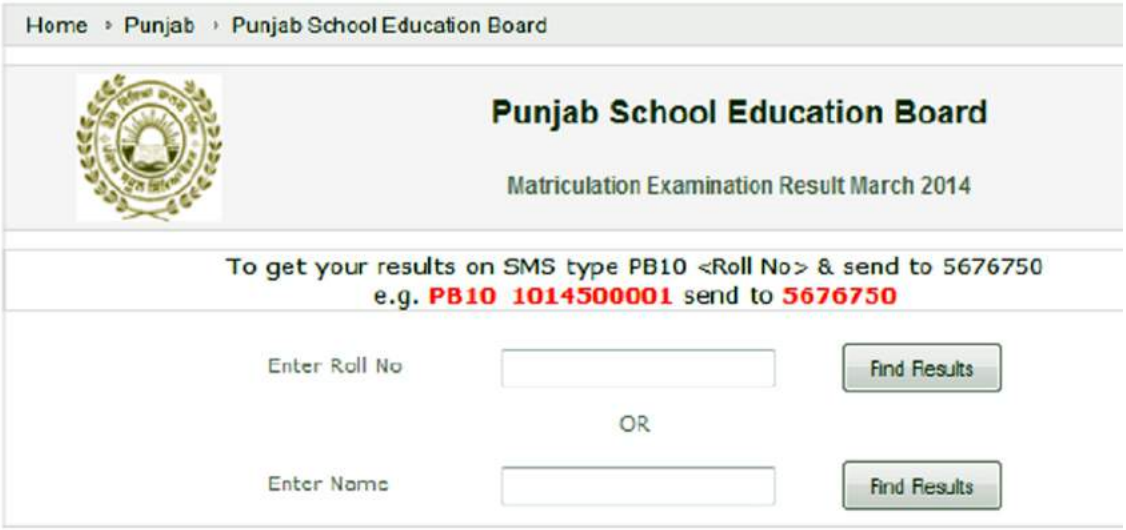
In earlier days we have to wait for the gadgets (Manual document of result published by board or universities) to see the board or university results

But with the help of Information Technology we can view the results online. For example if we want to see the 10th class result of Punjab school education board then we will do the following steps

- Open the web browser Internet Explorer or Mozilla Firefox (whatever is installed in our system)
- On the address bar type web address eg. www.pseb.ac.in & Press Enter ket
- Click on Result Option.

Fig 3.8 Viewing online result

- Click on Matriculation Examination Result.
- Select the year of examination.
- Enter Roll number or name.



- Click on Find Result.

Fig 3.9 Viewing online Result

Then result will be displayed on our screen. Also we can take the print of our result .

3.10 Mobile technology

Mobile technology is exactly what the name implies - technology that is portable.

Fig 3.10 mobile Technology

Mobile technology is rapidly changing the face of communication in the

most remote areas of the world. Today, out of the seven billion people in the world, approximately six billion are cell phone subscribers. In response, companies, governments, and NGOS alike have realized the potential of this tool in addressing today's most pressing global challenges. Here are some important uses of Mobile Technology.

1. Education
2. Surveys and Polling
3. Banking
4. Data Analysis

- Web site is a collection of one or more web pages grouped under the same domain name.
- Web search is the act of looking for webpages.
- A system of banking in which customers can view their account details, pay bills, and transfer money by means of the Internet is known as net banking.
- Downloading means our computer is receiving data from the Internet.
- "Online" simply indicates a state of connectivity, while "Offline" indicates a disc

1. Fill in the blanks:

1. _____ means our computer is receiving data from the Internet.
   (a) Uploading (b) Downloading
   (c) Surfing (d) None of these
2. The opening page of a website is usually called _____.
   (a) Home Page (b) Web Page

(c) Main Page (d) None of these

3. _____indicates a state of connectivity.
   (a) Offline (b) Online
   (c) Inline (d) All of these
4. _____ means to move from one website to another website on the Internet .
   (a) Searching (b) Downloading
   (c) Surfing (d) All of these
5. _____is a form of electronic commerce which allows consumers to directly buy goods from a seller over the Internet .
   (a) Modem (b) E-Mail
   (c) E-Commerce (d) Mobile

2. True/False

1. The result of any board or university can be seen online.
2. We can do Web surfing even when we are offline (not connected with the Internet).
3. A website has only a single page i.e. called web page.
4. Web search is the act of looking for webpages.
5. Each website has its own unique website address.

3. Short Answer type Questions

1. What is Information Technology?
2. What is Web site?
3. What is the meaning of Mobile Technology?
4. What is the advantage of on-line shopping?
5. What do you mean by Downloading?
6. What is Net Banking?
7. What is Web Surfing?

4. Long Answer Type Questions

1. Explain the process of viewing on line result.
2. What is the difference between surfing and searching?
3. What is difference between Online & Offline?
4. Explain the Need of Information Technology?

Introduction to Power Point

OBJECTIVES OF THIS CHAPTER :

4.1 Introduction to Powerpoint :

Powerpoint is an application software used to make effective presentation. There are many presentation software available in market e.g: Microsoft PowerPoint, OpenOffice.org Impress (open source),SlideRocket. We will discuss Microsoft PowerPoint in this chapter. It is a presentation software developed by Microsoft company. This presentation software uses slides to convey information rich in multimedia.

PowerPoint was first developed by Dennis Austin and Thomas Rudkin at Forethought Inc(sotware company). Firstly it was named Presenter and was renamed as PowerPoint in 1987.

4.1.1 Slide and Presentation

4.1.1.1 **Slide :** As film is made of many incidents the same way presentation is made of many slides.A slide is a single page of a presentation. It is just like 35mm film based slide. Slide may consist of text,graphic,Audio/video

4.1.1.2 **Presentation :** A presentation is composed of several slides. The aim of presentation is to make subject matter easy to understand by inserting pictures,text, graphs,charts,animation. The best presentations use approximately ten to twelves slides .We can insert animation effects audio and video clips in our slides to make our presentation effective.

4.1.2 Starting power point:

There are three ways to start powerpoint:

1. Through start button
2. Through search box
3. Through shortcut on desktop

1. Through start button:

Start->All Programs->Microsoft Office->Microsoft Office Powerpoint

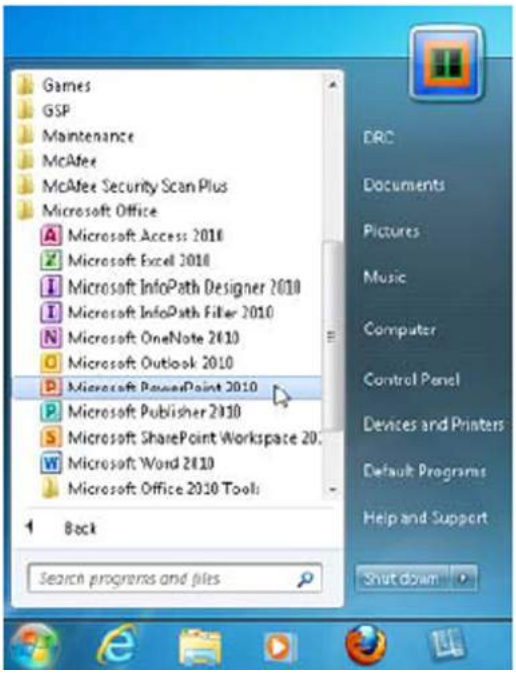


Fig 4.1(i) showing steps to open powerpoint through start button

2. Through Search Box

i) Click on Search box

ii) Type powerpoint or Power in Search box

iii) Press enter key from keyboard

Fig 4.1(ii) showing search box

3. Through shortcut on desktop:

If there is powerpoint shortcut on desktop then double click on the shortcut and the power point will open.

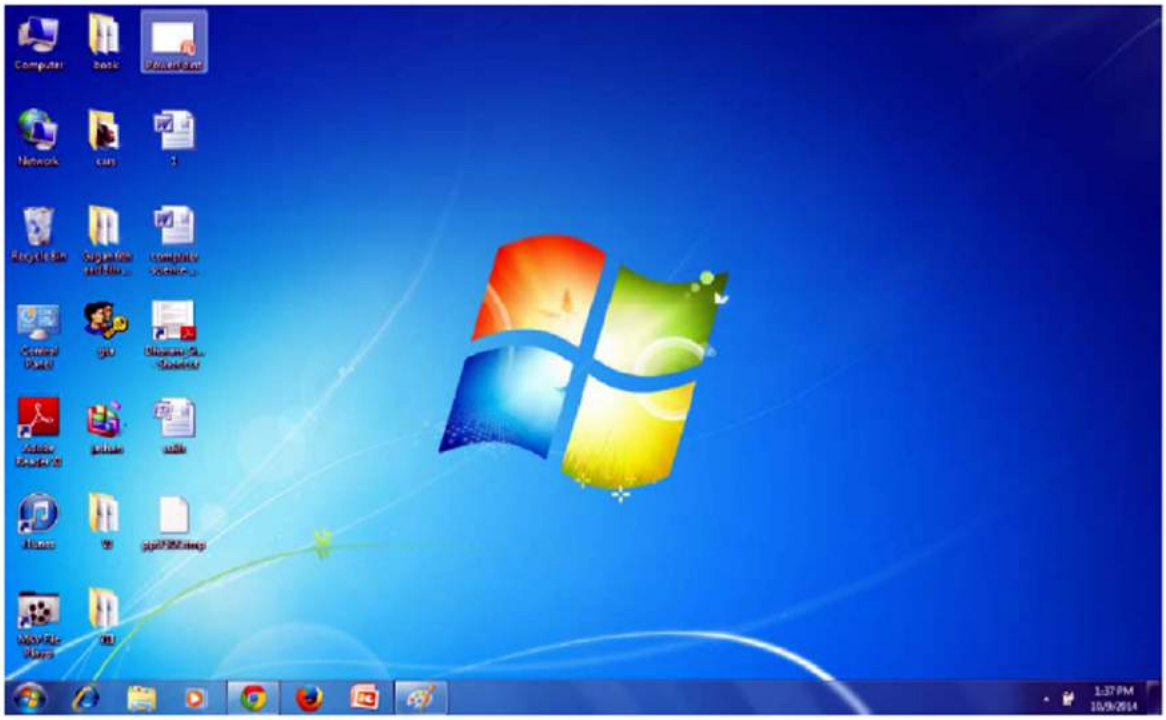


Fig:4.2 Steps for opening power point through icon on desktop

4.1.3 Save Presentation

Presentation is saved so that we can use it in future.There are many ways to save the presentation

1. Through File menu

   or

2. On Quick Access Toolbar, By Clicking Save Button.

   or

3. Press Ctrl + S to save presentation.

Save presentation through File menu :-

1. Click the File menu
2. Click Save and the save As dialog box will appear .
3. From Save in pull downlist select the desired location to save
4. In the File name box, enter a new name for the presentation.
5. In the Save as type list, select the file format that we want, and then click Save.

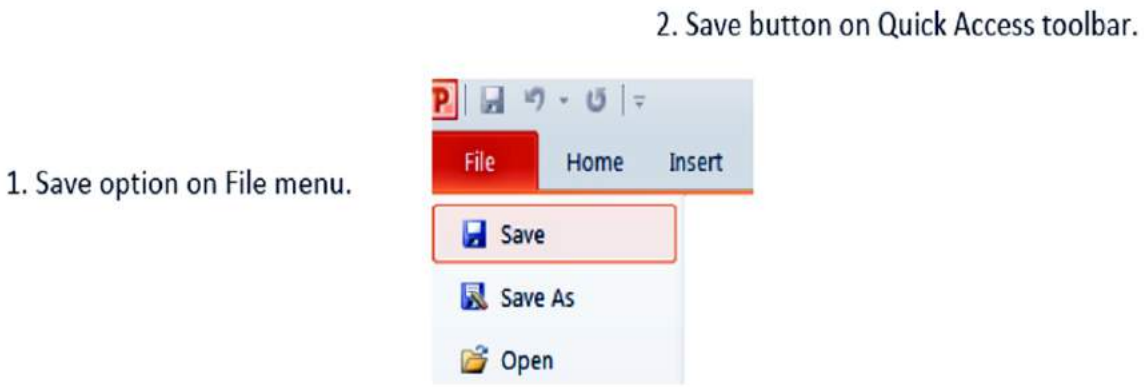


Fig:4.3 steps to save power point presentation

4.1.4 Open Existing Presentation

We can open the saved presentation by using the following steps :

1. Click the File menu
2. Click Open and open dialog box will appear.
3. Select the desired presentation and click open

   Or

   Press Ctrl +O from Keyboard

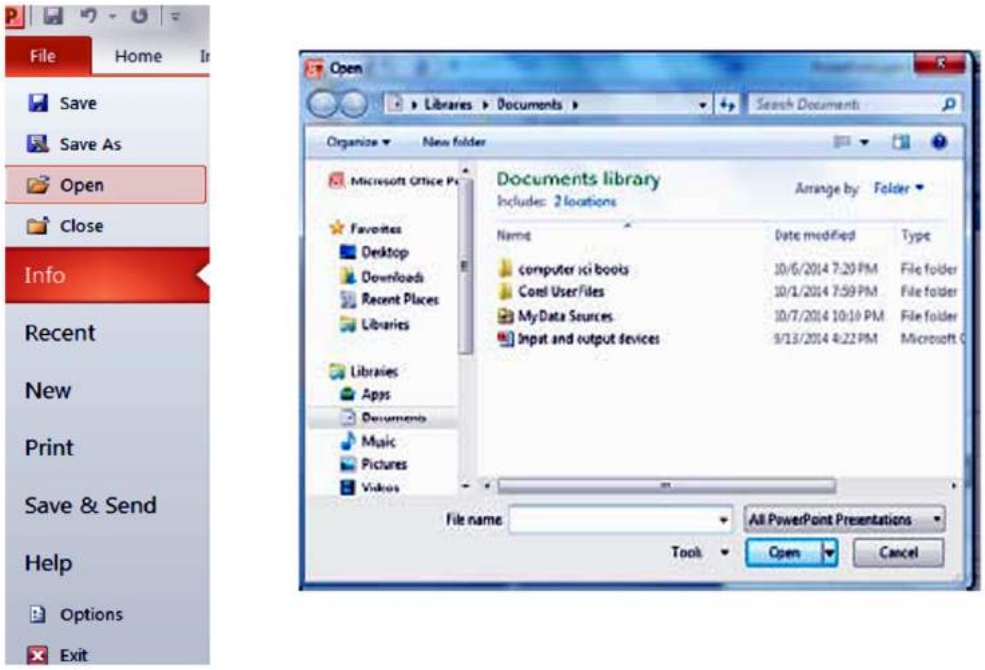


Fig:4.4 steps to open power point presentation through file menu

4.1.5 Parts of PowerPoint Window

Power Point window containsFile menu, Menu bar tab, Ribbons,Slide Pane, Note pane, Status Bar, Slide tab

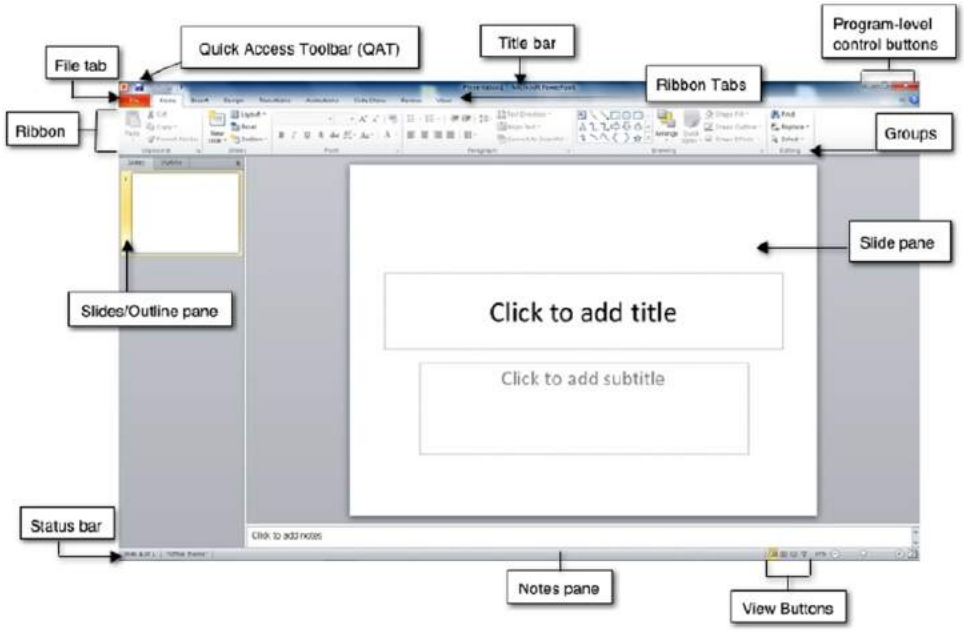


Fig:4.5 Showing Parts of power point Window

1. **File menu :** This menu is located at the left of home tab.It contains commands such as New, save, Save as, open, print, save & send, help, exit etc.

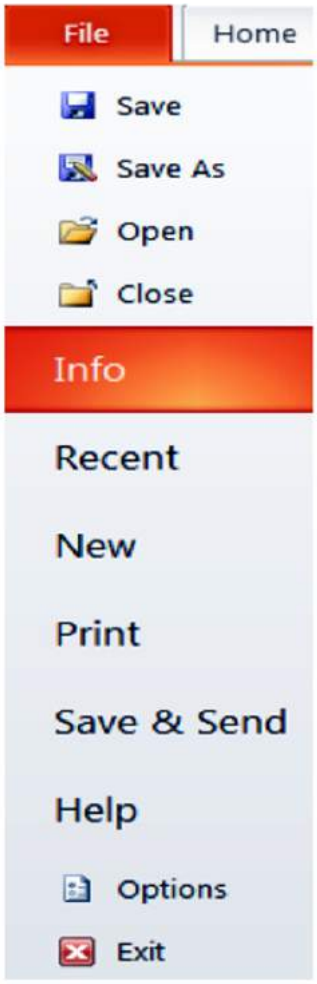


Fig 4.6 showing file menu

2. **Quick Access Toolbar :** it is located on the upper side of file menu . It mainly contain three buttons save as,undo,redo. We can customize this toolabar and can add any button that we require frequently to have an easy and faster access.
3. **Menu Bar tab :** Each menu bar tab is task oriented and opens the ribbon that is divided into subtasks

Fig 4.7 showing menu bar tab

4. **Ribbons :-** When we click on any tab then ribbon shows the tab tools and commands present on that ribbon.

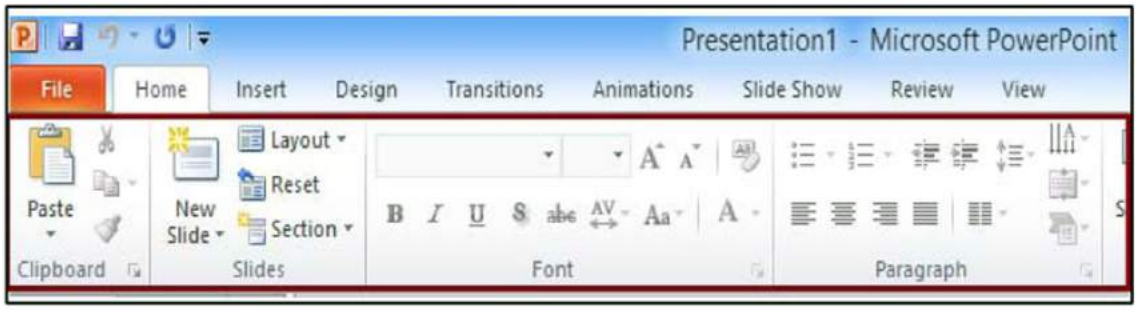


Fig 4.8 showing ribbon of Home menu

Ribbon	Working
Home	It contains all features of clip board, slide, font, paragraph, drawing and editing options
Insert	It contains inserting table, textbox, clipart, smart art, symbols, insert videos, charts, photo album, etc
Design	It contains change page layout, slide themes, colors, background styles and graphics
Transition	It contains all features of transition of slide, timing, sound effects
Animation	Animation,advanced animation and Timing
Slide Show	Slide show for entire presentation, rehearse timings, monitor setting for slide show
Review	Proofing techniques,comments, language and compare
View	Presentation views, master view, ruler, gridlines and guides, zoom, color, window and macro

NOTE : When we write any text then a new tab named "format" is shown which contains clipboard, slides, font, paragraph, drawing and editing options.

5. **Slide pane :** it is the area in which slide can be created and edited

6. **Note-pane :-** it is present above the status bar.it is used to enter speaker notes

7. **Status bar :** it contains view option,allow us to zoom in and zoom out and use different viewing formats
8. **Slide tab/Pane :** it shows the miniature version (thumbnails) of the slides .it also shows the order of slides in the entire presentation

4.1.6 How to make presentation

There are many ways of creating presentation in power point. These are as follow

1. Blank presentation
2. Recent templates
3. Sample templates
4. Themes
5. My templates
6. New from existing

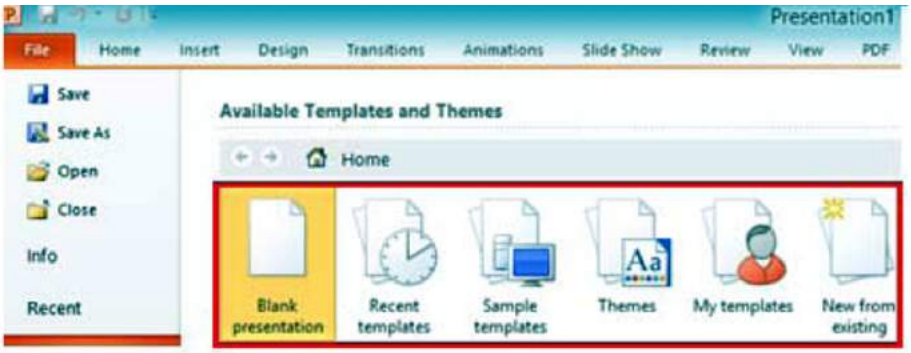


Fig : 4.9 Showing different ways to create power point Presentation

4.1.6.1 Blank Presentation: it is a slide with blank background. In the blank presentation we can insert text,background ,pictures and other things in slides to create customized slide.

To create presentation through blank presentation:-

1. Click the **File menu**
2. Click on new
3. Under **Available templates and themes,** we see blank presentation
4. Press enter

   Or

   Press ctrl+N

4.1.6.2 **Recent Template :** It contains the recently used template by the user.We can create presentation by using any of these files.

To create presentation through Recent templates:

1. Click the **File menu,** and then click **New.**
2. Under **Available template and themes,** we can select Recent template
3. Select template and Press enter.

4.1.6.3 **Sample Templates :** We can create presentation by using any of these files. We can also download more templates from internet.with this we can also create contemporary album etc.

To create presentation through Sample template

1. Click the **File menu,** and then click **New.**
2. Under **Available template and themes,** we can select sample template
3. Select any sample template of our choice e.g: contemporary photo album,classic photo album etc and Press enter.

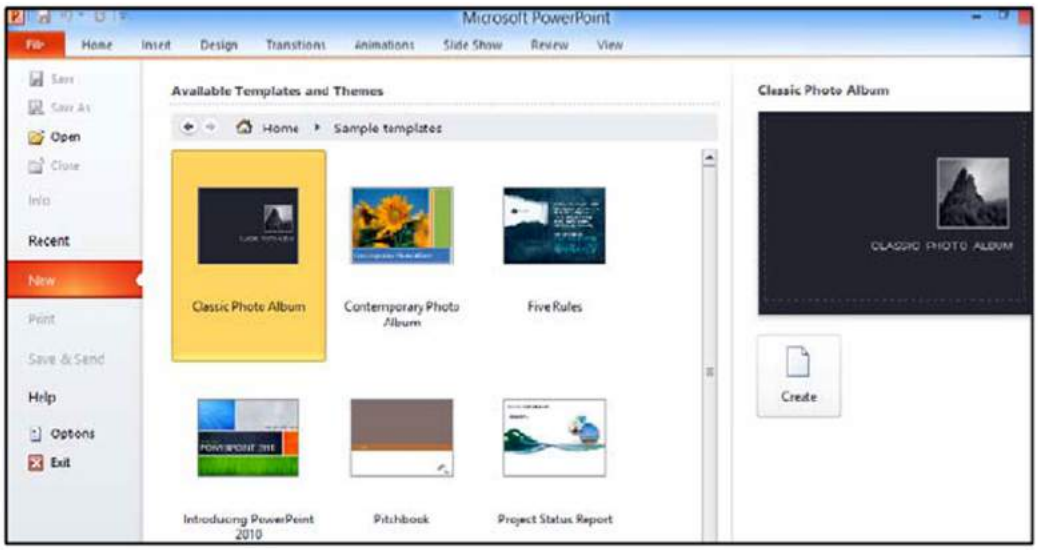


Fig:4.10Showing different sample templates

4.1.6.4 **Themes :** Theme are predefined colors, fonts, and effects. these are used to make professionally designed presentation

To create presentation through Themes:

1. Click the **File menu,** and then click **New.**
2. Under **Available template and themes,** we select themes option
3. Select any theme of our choice and Press enter:

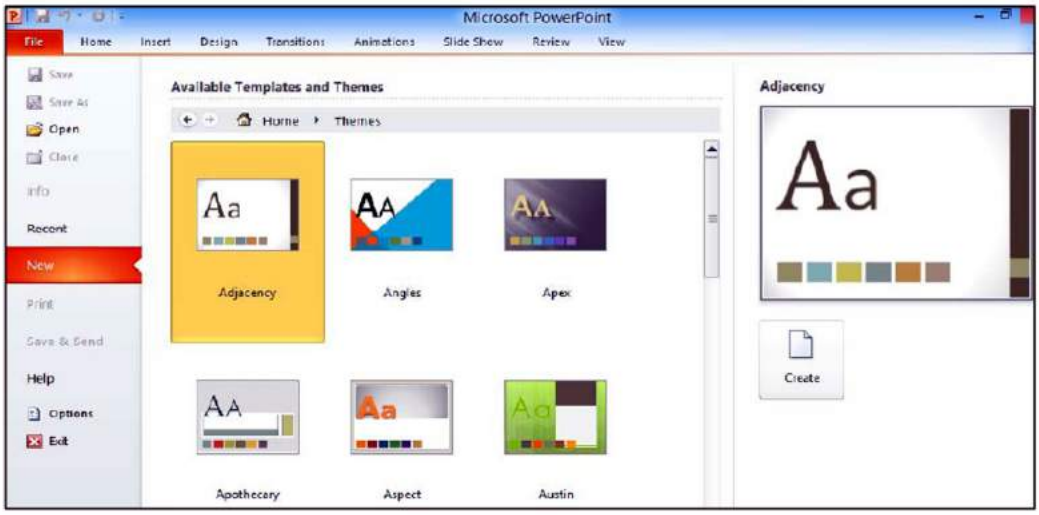


Fig:4.11 Showing different themes

4.1.6.5 **My templates :** it contains the collection of templates that we have created earlier according to our choice.

To create presentation through My templates

1. Click the **File menu,** and then click **New.**
2. Under **Available template and themes,** we can select my template
3. Select any personal template and Press enter.

Fig:4.12 Steps to create power point Presentation through My templates

4.1.6.6 To create presentation through New from existing

1. Click the **File menu,** and then click **New.**
2. Under **Available template and themes,** we can select **New from existing**
3. Select any existing template of our choice and and Press enter

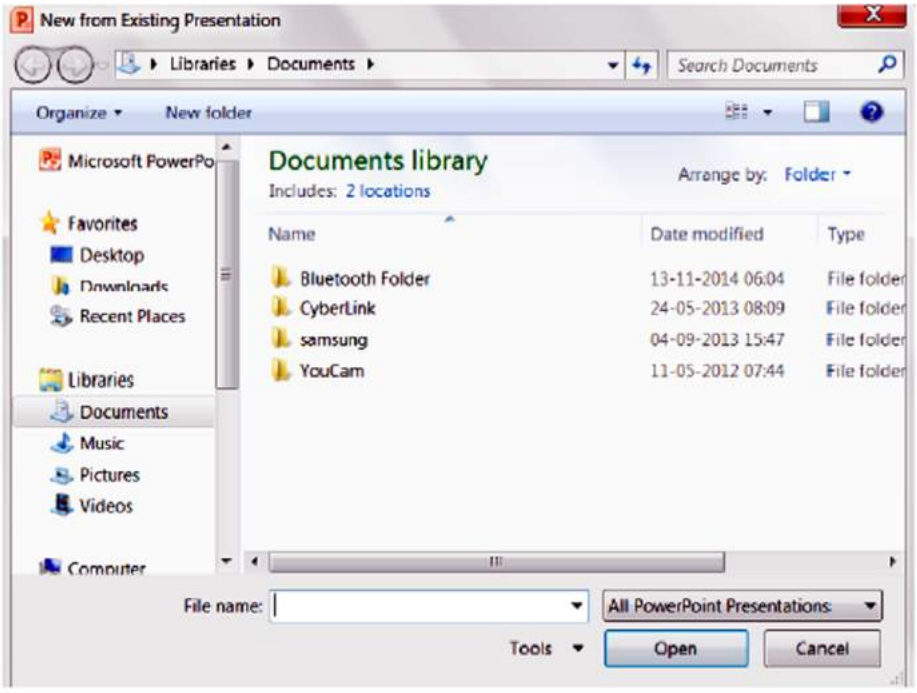


Fig : 4.13 showing New from existing dialog box

4.2 To insert new slide : Add a new slide

1. On the Home tab, in the Slides group, click New Slide.
2. Select a slide thumbnail from the layout gallery.

   Or

   Press ctrl+M to insert new slide

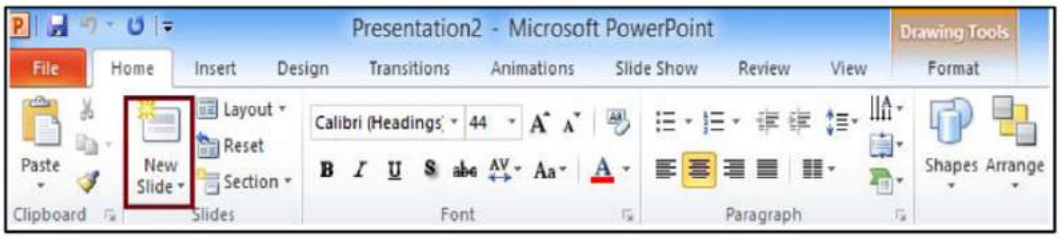


Fig:4.14 Steps to insert new slide in presentation

4.3 Use of Layout and Autoshapes

4.3.1 Layout :

it is a simple design .it shows the position of an object on the slide. It contains different types of the layouts. If we want to draw a chart on a slide, we have to select slide layout related to the charts from slide layout pane. Slide layout pane may contain following types of slides For example: we use title and content option from office theme. In which following objects are used.

1) Tables
2) chart
3) Clip Art
4) Media clip
5) Smart Art
6) Picture

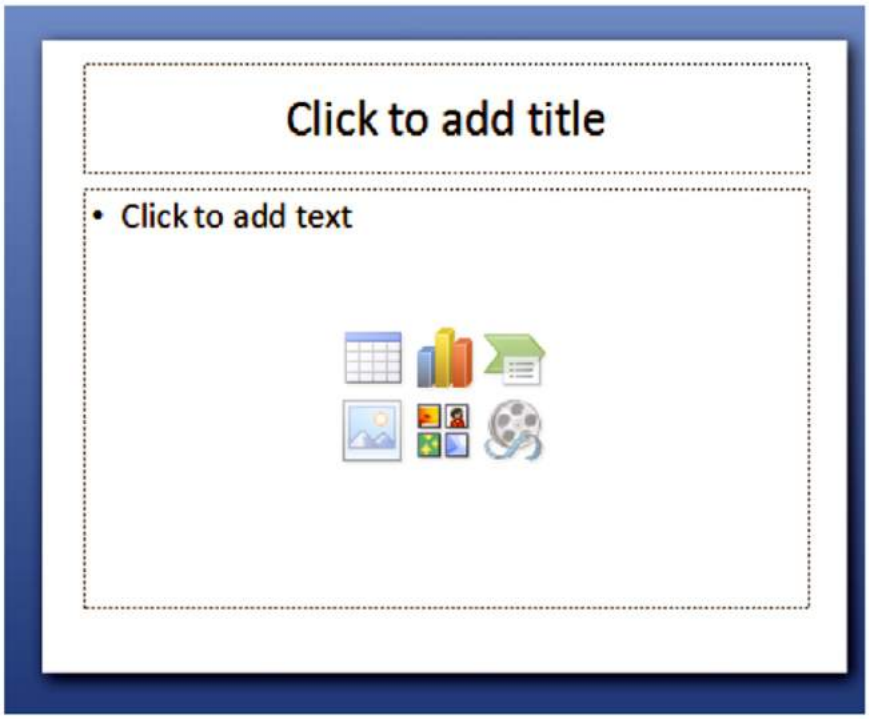


Fig 4.15 showing title and content Layout

Generally if we open any new slide the slide layout will open automatically.we have to select the type of layout according to the slide, we want to prepare

Steps to apply slide layout are given below :

1. Click on Home Ribbon
2. Select layout tool a pull down list will appear
3. Select the desired layout and press enter

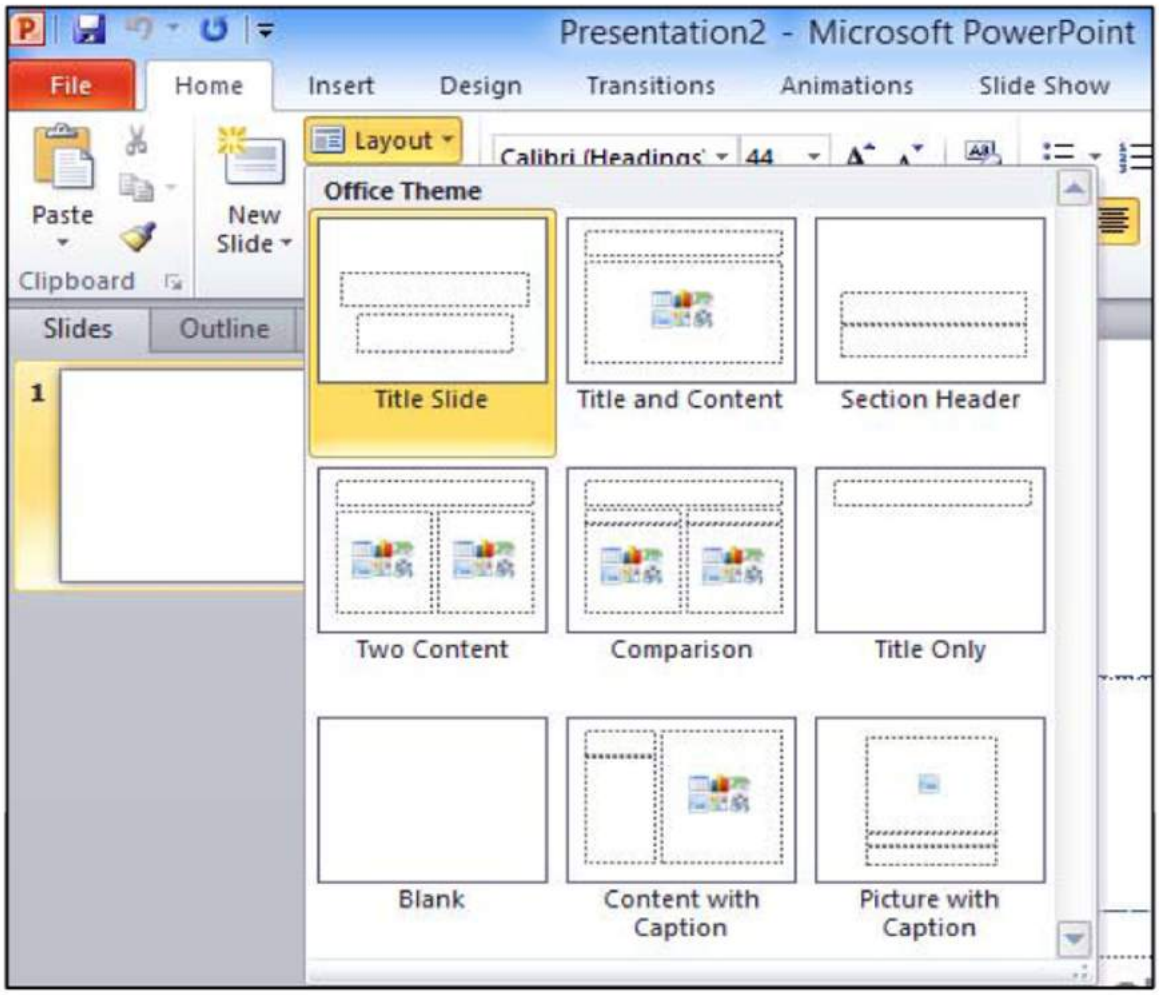


Fig : 4.16 Steps to apply slide layout

4.3.2 Clip Art and Smart Art

4.3.2.1 Clip Art:

It is a Picture gallery which contains clips related to different category e.g: school,computer,bus,etc. The method to insert clip Art is as follow:

1. Click **Insert** ribbon and Select the clip Art option

2. Now a pane related to clip art will appear on right hand.A search box will appear now type the keyword for which we are looking the image
3. Press enter

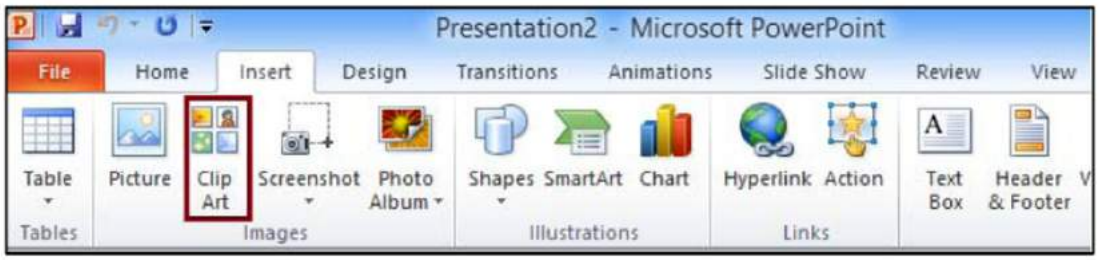


Fig 4.17 showing clip Art option

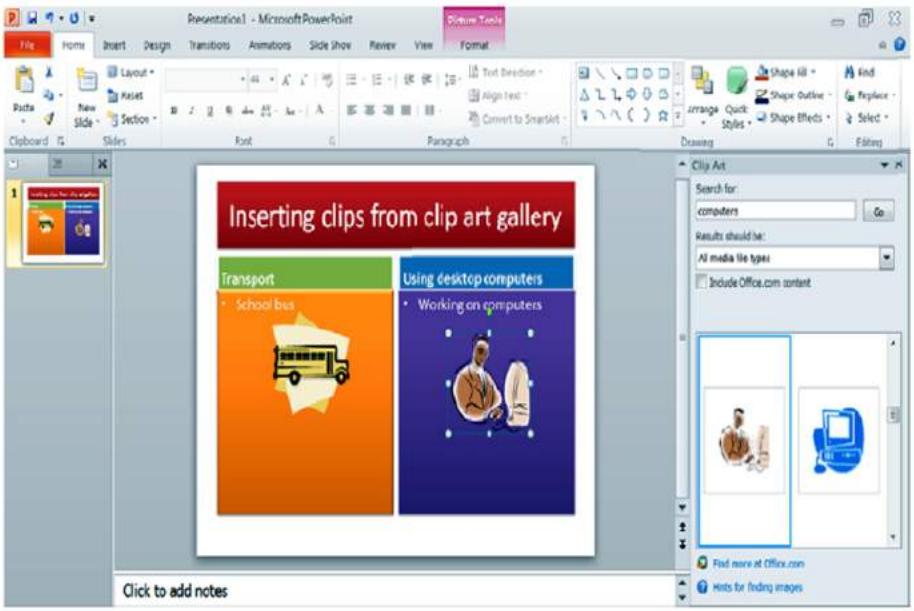


Fig 4.18 showing steps to insert clip Art

4.3.2.2 Smart Art:

it is a graphical way of representing our textual data e.g organization charts, flow charts, Venn diagrams, pyramids, etc. This tool also have their own custom animation built in.it also improve the aesthetic look of presentation .

Types of Smart Art

There are eight categories of Smart Art. Each category has numerous designs to choose from.

1. List
2. Process
3. Cycle
4. Hierarchy
5. Relationship
6. Matrix
7. Pyramid
8. picture

Fig:4.19 Showing smart Art

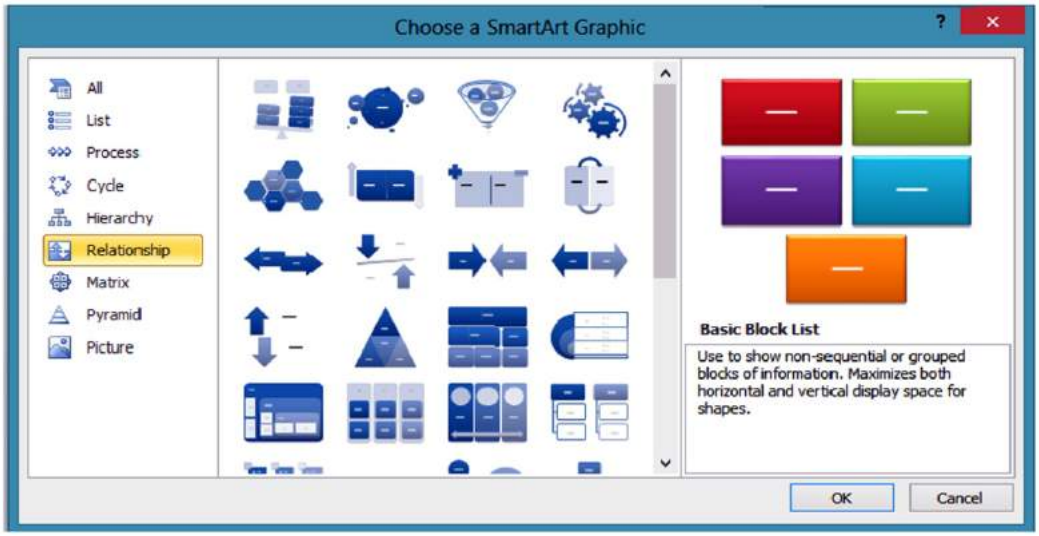


Fig : 4.20 Showing smart Art relationship Category

4.3.2.3 Word Art :-

it is used to show text in different forms.it is a word art gallery which contains different styles of writing words. Steps of writing word art are as follow:

1. Click on insert ribbon select word Art
2. Select the desirable style and click ok
3. Now type text

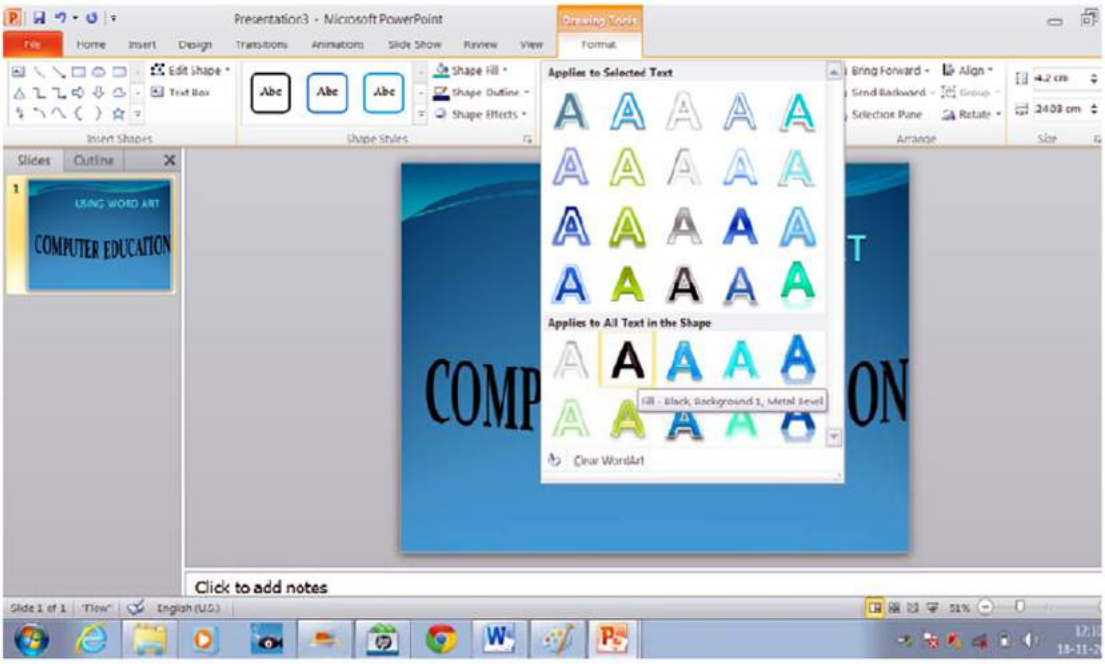


Fig:4.21 Steps to write text using word art

4.4 Views of PowerPoint:

Slides in powerpoint can be seen in different ways. This is called view. We can select the views according to our requirement. The different types of views are:-

1. Normal View
2. Slide sorter view
3. Notes Page view
4. Reading view
5. Master views: Slide, Handout, and Notes

NOTE : After completing our presentation we can see our presentation in slide show view which is present in slide show tab or we can press F5 function key from keyboard to see our slide in slide show view. Slide Show view is used to deliver our presentation to the audience. it takes up the full computer screen, like an actual presentation. In this view, we can see how our graphics, timings, movies, animated effects, and transition effects will look during the actual presentation.To exit Slide Show view, press ESC

1. **Normal View:-** it is the default and main view where we can edit ,write and design our presentation.Typically, Normal view includes the Slides / Outline pane on the left. By default the Slides pane (rather than the Outline pane) is active, and We can use this pane to select slides.
2. **Slide sorter view :-** it is a view that provides us a view of our slides in thumbnail form. This view makes it easy for us to sort and organize the sequence of our slides .This view does not allow editing of the material present on the slide
3. **Notes Page :-** The slide selected in this view appears on the top corner and the information related to slide can be written at the bottom portion. This information is called notes . We can also print notes to hand out to our audience or include the notes in a presentation that we send to the audience .
4. **Reading view :** This shows the slide with in the window and this view is used to do proof reading. This view is used to deliver our presentation not to an audience (via a large screen, for example), but instead to someone viewing our presentation on the computer.
5. **Master views :** Slide, Handout, and Notes:-it include, Slide, Handout, and Notes view. These are the main slides that store information about the presentation, including background, color, fonts, effects, placeholder sizes and positions. In this we can make universal style changes to every slide, notes page, or handout associated with our presentation.

4.5 Animation scheme, Transition

4.5.1 Animation scheme :

It is the ability to move objects in a slide.Special effects can be inserted on photographs and voices with the help of animation . Animation schemes is used to add present visual effects to charts,titles,paragraphs and bulleted items .Animation scheme can be implemented by following method :-

1. Click on Animation Ribbon
2. Select the object on which animation has to be applied.
3. Click on Animation, choose the type of animation

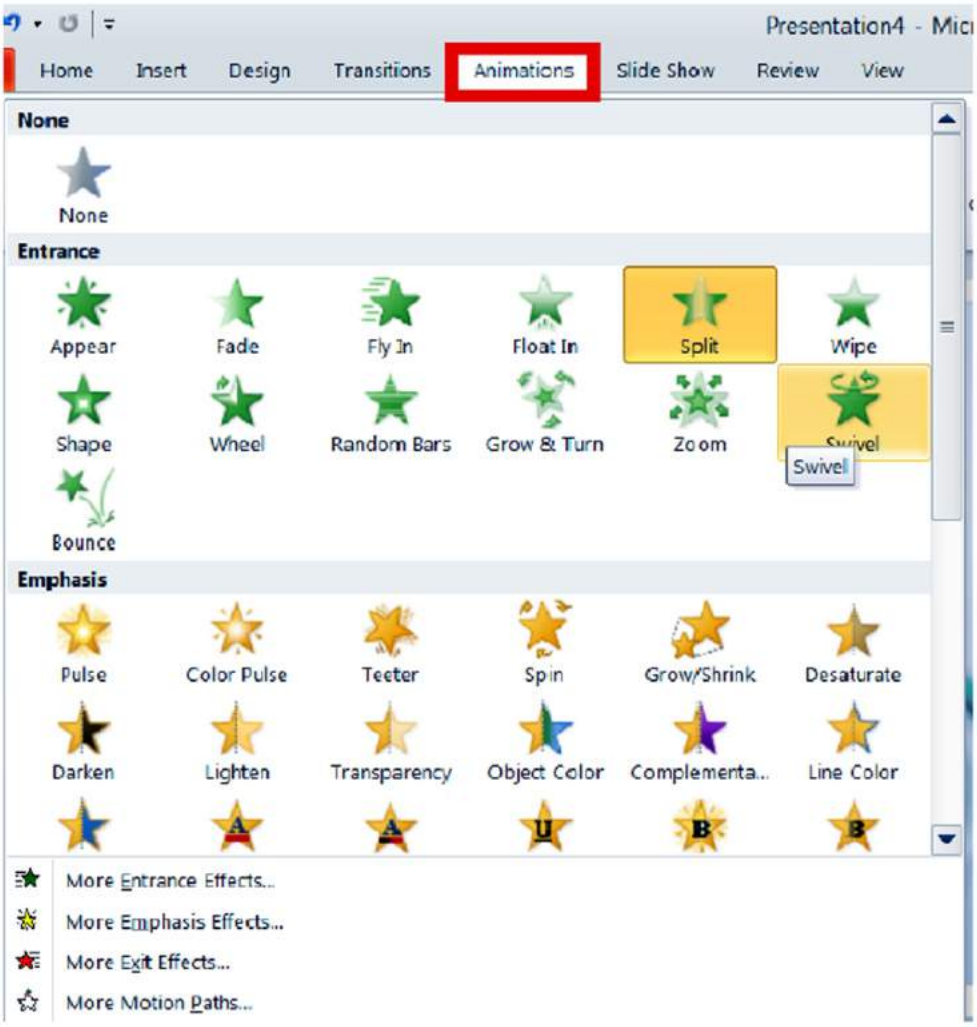


Fig : 4.22 Steps to apply animation scheme

4.5.2 Slide Transition:

During slide show in powerpoint a slide appears after the other is controlled by slide transition.Slide transitions are the visual movements as one slide changes to another. Powerpoint provides different transition effects to the user like dissolve, fade etc.

steps for inserting transition effects are:-

1. Click on Transition Ribbon
2. Select the transition type
3. Select the transition sound,transition speed and advance slide option

Fig: 4.23 Showing inserting transition effects

4.6 Exiting PowerPoint:

We can exit powerpoint when we complete and save our task. The different ways to exit from powerpoint are given below:

1. Click on the file menu and select close option

Or

2. Click on cross button present on the right hand side of the title bar

Or

3. Press Alt+F4 Keys together

1. Powerpoint is an application software used to make effective presentation
2. A presentation is composed of several slides
3. Animation is the ability to move objects .
4. There are eight categories of smart art in powerpoint.
5. Ctrl+ M key is used to insert new slides in presentation.

I. Fill in the Balnks:-

1) _____ is a presentation software

(a) Powerpoint (b) Word

(c) Excel (d) Paint

2) Power-point has _____ views

(a) 3 (b) 4

(c) 5 (d) 6

3) In _____view we cannot add the slide material

(a) Slide show (b) Normal

(c) slide sorter (d) None of these

4) Presentation can be made by _____methods.

(a) 5 (b) 6

(c) 7 (d) 8

5) There are _____ categories of Smart Art.

(a) 5 (b) 6

(c) 7 (d) 8

3. Short Answer type Questions

1) What is Powerpoint?

2) Write a short note on presentation .

3) Name different methods of preparing Presentation.

4) What is animation ?

5) Write a short note on slide.

3. Long Question Answers

1) Write a note on different types of views availableinpowerpoint

2) Write a short note on following terms:

i) Animation

ii) Layout

iii) Slide Transition

1) Prepare Five slides

First slide	:	slide related to School
Second Slide	:	about infrastructure
Third Slide	:	About Computer lab
Fourth Slide	:	About Teachers
Fifth Slide	:	Best Thing about your school.

2) Insert atleast onepicture in each slide from clipgallery

3) Insert different animation effects in all slides

4) Use smart art in any one slide

5) Save presentation with the name of your school

Advance Power Point

OBJECTIVES OF THIS CHAPTER :

INTRODUCTION

In the last Chapter we have learnt about basics of power point. In this chapter we will learn advanced features of power point. Power Point is a presentation package. In slides we can insertpictures, charts, movies and videos,objects to make our presentation more effective. In this chapter we will learn to change Design template, colour scheme,gradient, texture, background styles etc. The advanced techniques of power point make our presentation more presentable in very less time

5.1 Changing the Appearance of Slide:

Power Point provides us the facility to change complete appearance of slide by changing the background, design, colour scheme, background colour, texture, pattern and gradient.To make our slide more presentable and clear we can insert objects,pictures,movie and video clips.

5.1.1 Changing Design Themes:

Power Point provides different Themes that we can apply to a presentation to give a fully designed look. It has predefined background design,textstyle,colour etc.it can be used in single slide or more than one slides. There are various Themes template used in power Point.

Stepsare as follow:

1. Select a slide in which we want to apply new design.
2. Click on the Design tab
3. Ribbon Shows various themes in Themes Group, select the theme of your choice
4. New Theme will be implemented.

Fig 5.1 Showing different Themes

5.1.2 Changing Colour scheme

We can change the colour of text,lines,title etc. by applying colour scheme on slide .With this we can change background as well as foreground colours:

Steps are as follow :-

1. Click on Design Tab
2. On the Ribbon select the colors option in Theme group
3. In the drop down list select color scheme
4. Click the desired color.

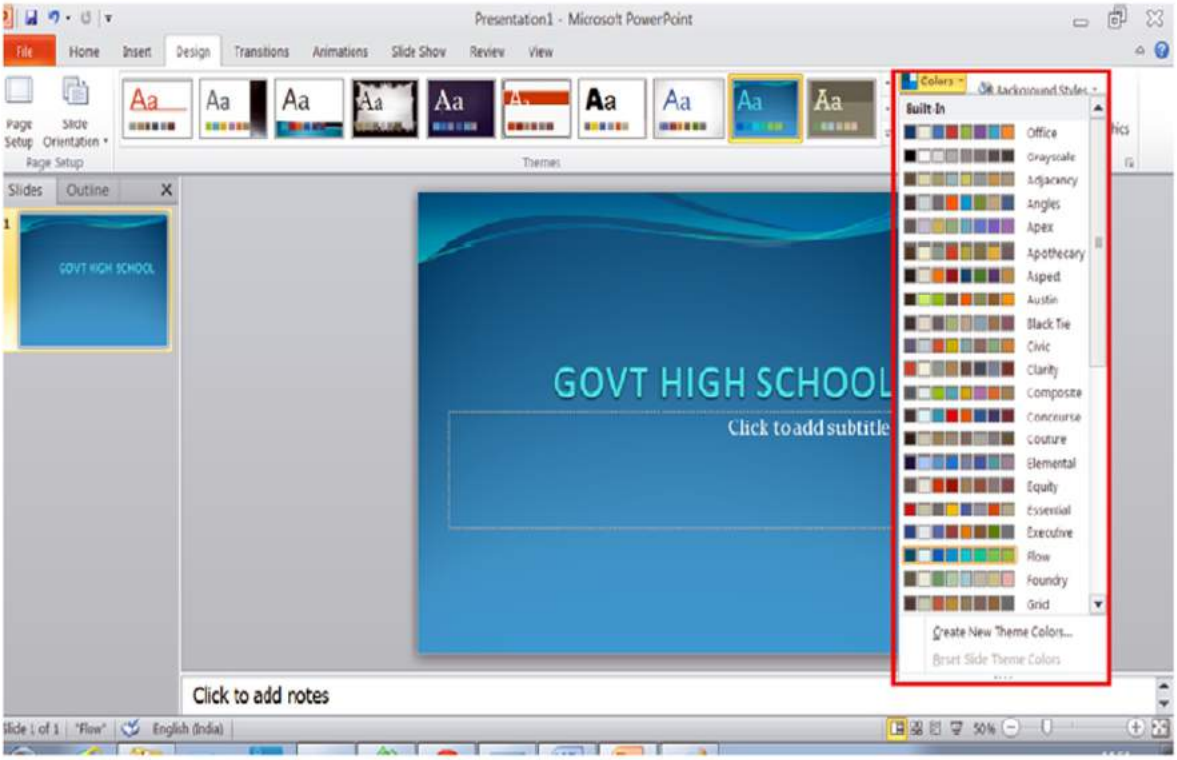


Fig 5.2 Steps for changing colour Scheme

5.1.3 Changing Background styles

We can change background colours of all slides or any selected.

Steps for changing background are as follow:

1. Click the Background Styles button on the Design Tab.
2. Move the mouse over any of the background styles.
3. The background style will be reflected on the slide
4. Click the mouse when we find a background style that we like.

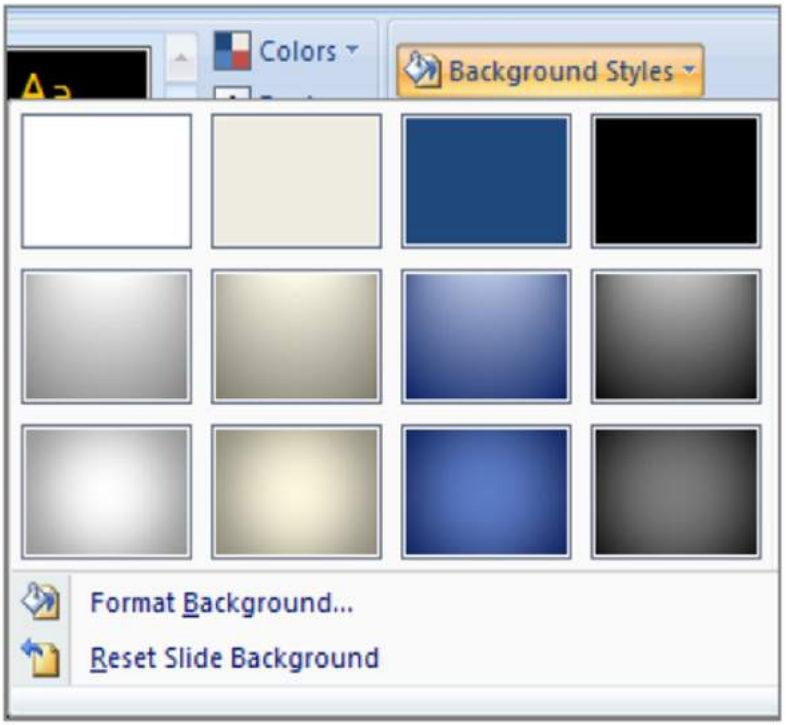


Fig 5.3 Steps for changing Background styles

5.1.3.1 Changing the Background Pattern or texture fill

We can add picture to the background of slide and texture can also be changed

Steps to change Picture:

1. Click the Background Styles button on the Design Tab.
2. Click on format background
3. Format background dialog box will appear
4. Select Fill Option, then Select picture or texture fill option
5. Select Insert from File , Clipart or clip board
6. If we selectinsert from File option the insert picture dialog box will appear
7. Select the required picture.
8. Click apply to all slides.
9. Click on Close button.
10. Picture will insert into our slide

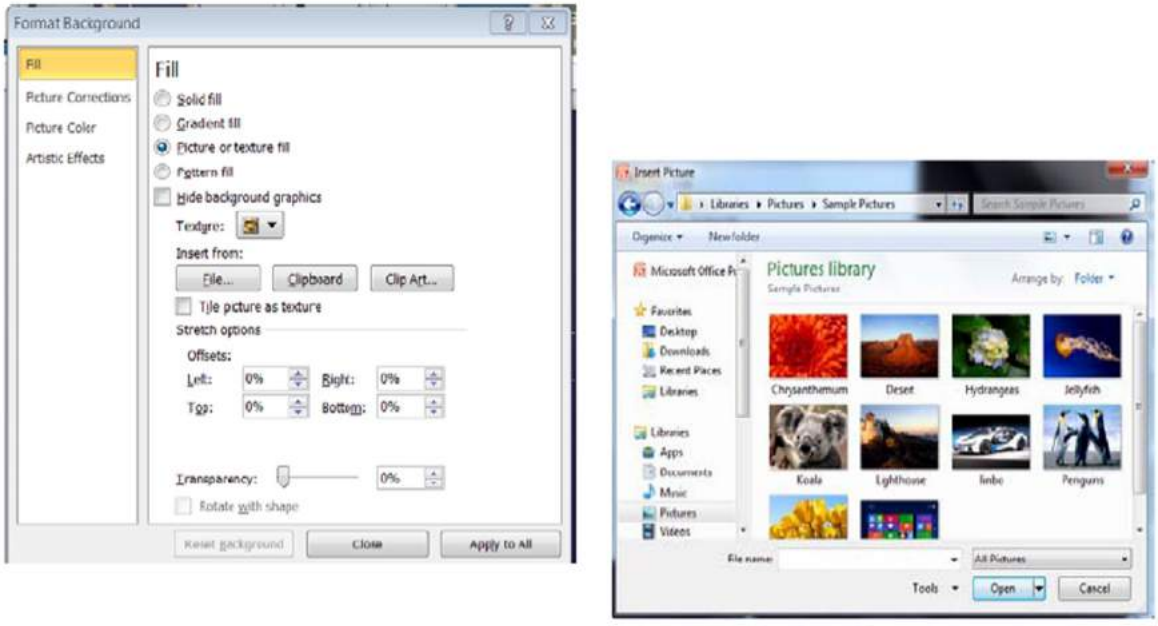


Fig 5.4 Steps for changing Picture

Steps to change texture :

1. Click the Background Styles button on the Design Tab.
2. Click on format background
3. Format background dialog box will appear
4. SelectFill Option then Selectpicture or texture fill option
5. From the Texture drop down list select the required texture
6. Click apply to all slides.
7. Click close button
8. The Texture will be implement to our slides

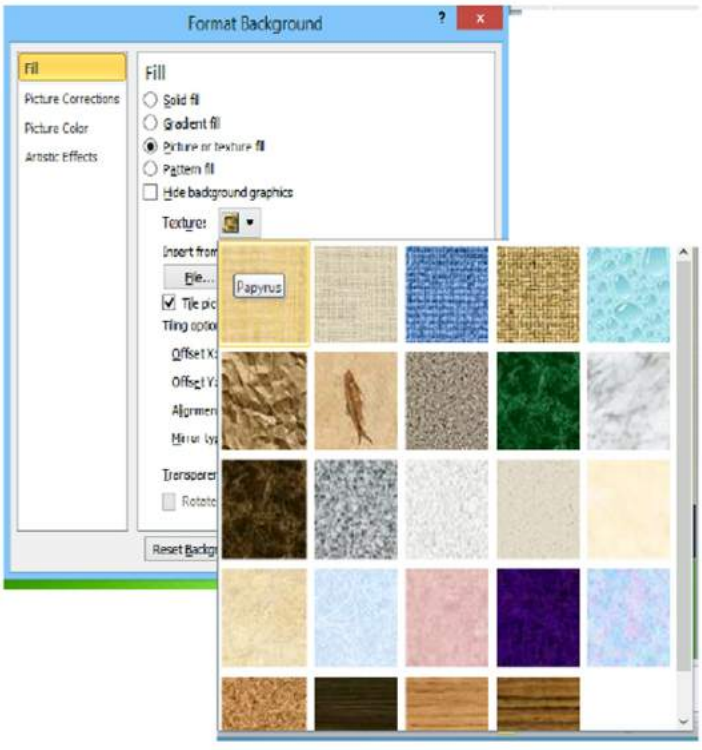


Fig 5.5 Steps for changing Texture

5.1.3.2 Changing the Gradient

With the help of gradient we can make our presentation more attractive

Steps:

1. Click the Background Styles button on the Design Tab.
2. Click on format background
3. Format background dialog box will appear
4. Select Fill Option then select Gradient Fill radio button
5. Under Preset colour Option , Select color,Type, direction,angle,stop position according to our choice.
6. Click apply to all slides
7. The Gradient will be implement

Fig 5.6 Steps for changing presetcolors under Gradient Fill option

5.2 Inserting an Object in power point

Application like worksheet,bitmap,excel chart,clip Art etc can be inserted in power point presentation.

Steps to insert objects:-

1) Click where we want to insert Object.

2) On the Insert tab, click Objectoption in Text group.

3) Insert Object Dialog box will appear

4) Select the object type: bitmap image,wordpad document etc we want to insert

5) Click ok

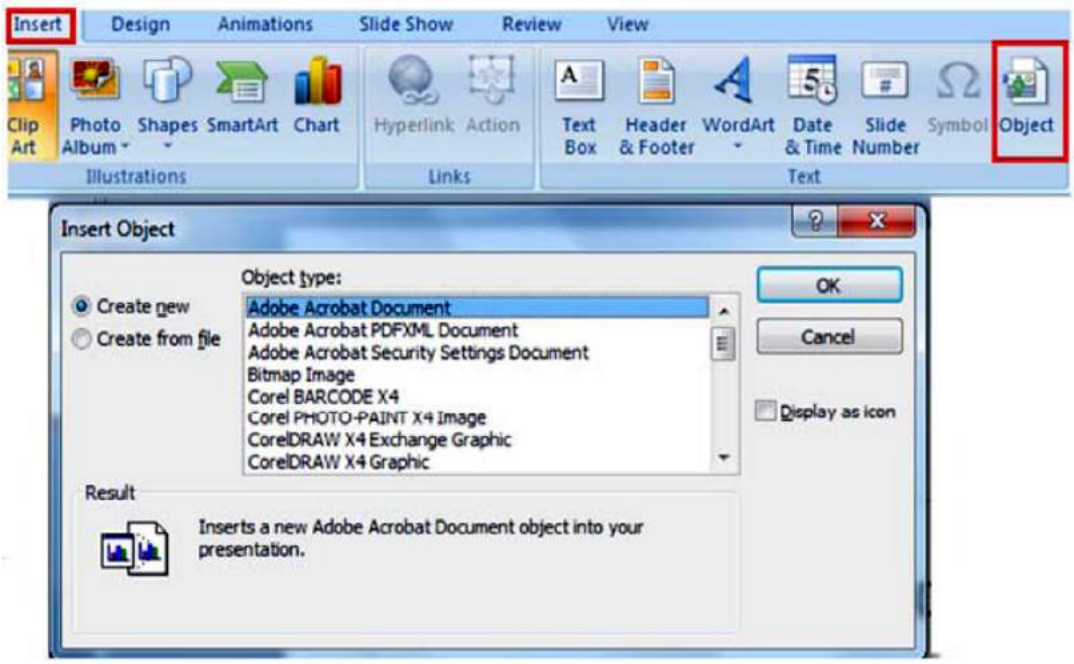


Fig 5.7 Steps for Inserting object

5.3 Inserting the picture

In order to make our presentation more presentable we can insert pictures in our slide.

Steps:

1. Click where we want to insert the picture.
2. On the Insert tab, click Picture option in images group
3. Insert Picture dialog box will appear
4. Select the picture we want to insert and click open
5. Picture of our choice will be inserted.

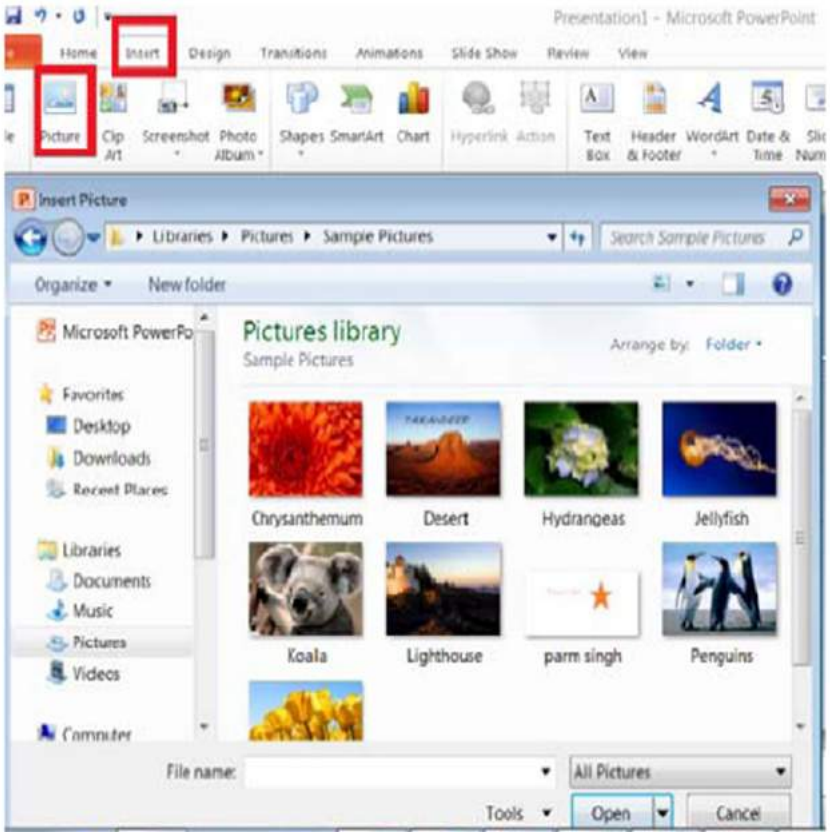


Fig 5.8 Steps for Inserting Pictures

5.4 Inserting Movie/ Video files

While inserting movie into our presentation, we have three options:-

1) Through video from File
2) Through video from website
3) Through Clip Art Video / Clip Organizer

To insert video from a file in our presentation:

1) Select the slide where we wish to insert the video.
2) Select the Insert tab.
3) Click on the video command in the Media group.
4) Select video from File Option . The Insert video dialog box will appear.
5) Locate the file we want to insert from our computer.
6) Click the file .

7) Click OK.

8) The video will appear on the slide.

The video Tools Options appears when the video is inserted.

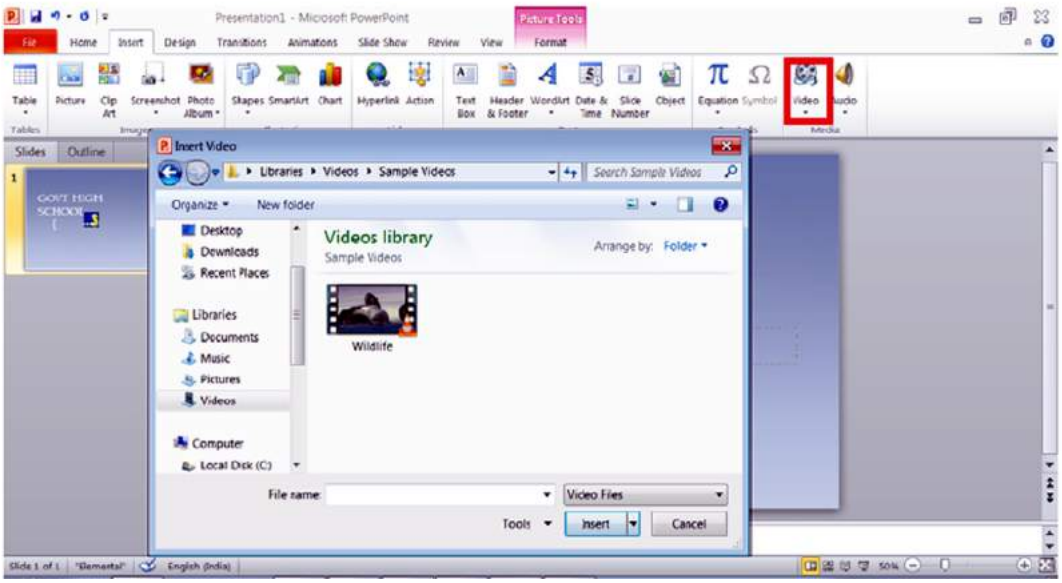


Fig 5.9 (i) Steps for Selecting video from video library

"

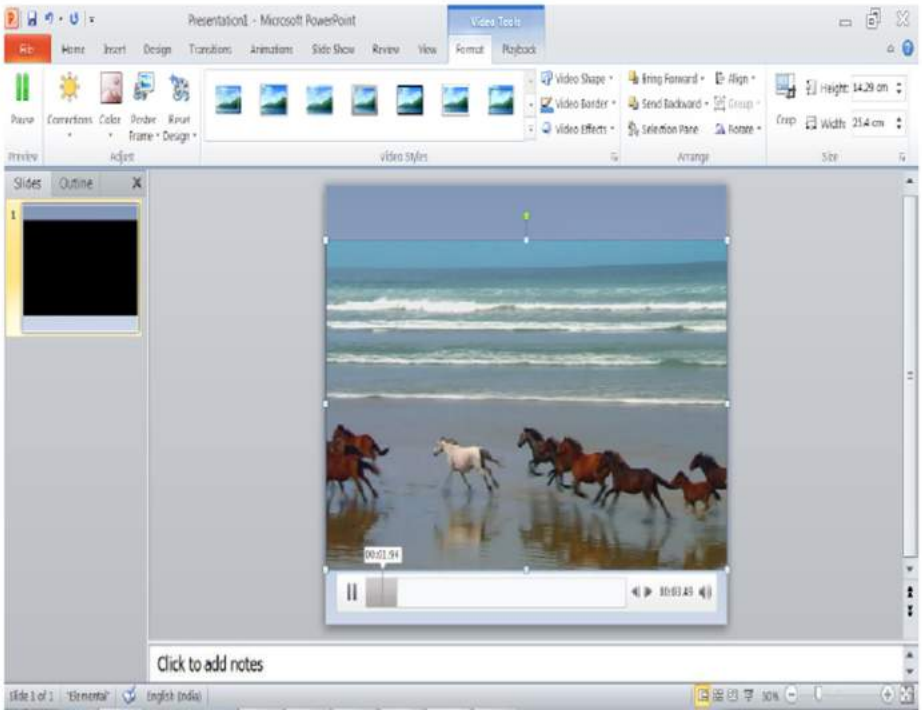


Fig 5.9 (ii) showing videothat is inserted

To insert video from a website

1. Select the Insert tab.
2. Click on the video command in the Media group andclick the arrow under Video
3. In the Video From Web Site dialog box, paste the embed code, and then click Insert.

To insert video from Through Clip Art Video (clip Organizer):

Clip organizer is used to store animated clips,videos,Photos and other media.Clip gallery is an animated clip like clipart. In order to insert movie from clip gallery follow the following steps

1) Firstly select Normal view
2) From the insert Tab ,Click video optionfrom Media Group and then click Clip Art Video
3) Clip Art search box will appear ,Now search for the required clip
4) Select the clip then selected clip will be inserted.

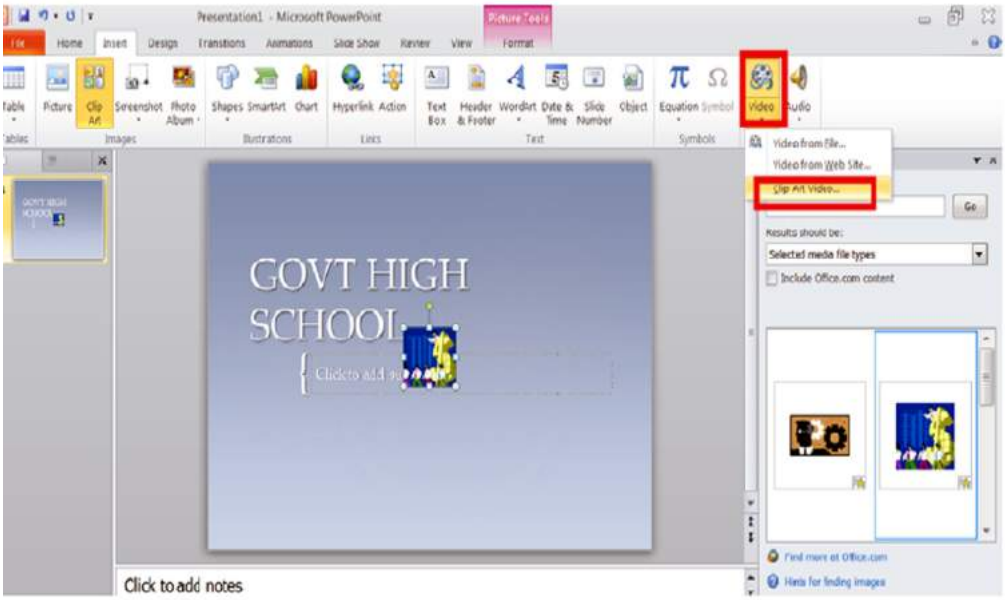


Fig 5.10 Steps for Inserting animated clip through Clip Art Video

1. Themes are predefined background design, text style, colour
2. Different objects can be inserted in slides of power point like worksheet, bitmap, excel chart, clip Art etc
3. Movie /video can be inserted in the following ways:
   i. Through video from File
   ii. Through video from website
   iii. Through Clip Art Video / Clip Organizer
4. Colour scheme has predefined color that changes the colour of text, lines, title etc.
5. Clip Organizer is used to store animated clips

1. Fill in the blanks

1. Gradient option is present in _____ dialog box.
   (a) Format Shape (b) Format Background
   (c) Paragraph (d) Font
2. Video can be inserted in _____ ways.
   (a) 1 (b) 2
   (c) 3 (d) 4
3. Through clip Art Video,video from website and _____ are the three ways in which video is inserted.
   (a) video from file (b) Through image
   (c) Through animation (d) All of these
4. Word Document, bitmap, worksheet is inserted through_____
   (a) insert Tab (b) View Tab
   (c) Home Tab (d) None of these

5. Background Style button is available on _____ ribbon.

(a) Animation (b) Design

(c) Home (d) Insert

2. True/False

1. Themes are predefined background design, text style, colour
2. Different objects cannot be inserted in slides
3. Color scheme can not be applied on slide
4. Clip Organizer is used to store animated clips

3. Short Answer type Questions:

1. Name the different ways in which appearance of slide can be changed.
2. What is the use of colour scheme?
3. Write about clip Organizer.
4. Explain Themes.
5. Name different objects that can be inserted in Powerpoint.

4. Long Answer type questions:

1. How we can insert video into our presentation? Explain the steps.
2. What is colour Scheme? Write steps to change the colour scheme.
3. Write steps to change Background style.
4. Give steps to add picture in the background of slide.
5. Write steps to insert object in Power Point.

Lab Activity-5.1 Appearance of slide

Lab Av.-5.1.1 Make four slides as given below:

1. First : Network Topology

   Ways in which one or more computers are linked together.

   Second : Table showing number of topologies

Serial No	Name of topology
1	BUS
2	RING
3	STAR
4.	MESH

Table No:1

Third : BUS TOPLOGY

All Computers are connected to a single wire

Fourth : RING TOPLOGY

All computers are connected in a circle like a ring

Lab Av.--5.1.2 **Applyany theme .**

Lab Av.--5.1.3 **Change the colour scheme**

Lab Av.--5.1.4 **Addrelevant pictures in background of slidese.g.in 3rd slide picture of bus topology Similarly, 4th slide picture of Ring Topology .**

LabAv.--5.1.5 **Save the Presentation with name topology.**

Lab Activity-5.2. Insert Objects:

Lab Av.--5.2.1 **Create slides as follows:**

Firstslide : Insertbitmap image.

Second Slide : Insert Worksheet and make table no1 as shown in Lab Av.-5.1.1 Slide no 2 .

Third Slide : insert a bitmap image and draw star topology in bitmap image

Lab Av.--5.2.2 **Change the colour of first slide to blue**

Lab Av.--5.2.3. **Save the slide with the name objects_topology.**

Lab Activity-5.3. Insert Video:

Lab Av.--5.3.1 **Open Blank presentation.**

Lab Av.--5.3.2 **Make the title Showing video.**

Lab Av.--5.3.3 **Insert video from file.**

Introduction to MS Excel

OBJECTIVES OF THIS CHAPTER :

6.1 Introduction to Ms Excel :

Electronic spreadsheetisused for monitoring and analyzing the data, and present the data in pictorial form by using charts. Some of commonly used spreadsheet packages are Tally, Lotus and Microsoft Excel.

Microsoft Excel is a spreadsheet program used for organizing and calculating numerical data. We can use it to organize our data into rows and columns and to perform mathematical calculations. Excel can also produce a range of charts and graphs that can be used to present the data in a graphical manner.

6.2 Various uses of MS-Excel

1) Excel can be used for mathematical calculations.
2) In Excel data can be represented in a graphical format in the form of Charts.
3) We can prepare the school Timetable.
4) Salaries of employees can be calculated.
5) Results of students can also be prepared in Excel.

6.3 How to startMs Excel :

To open Ms Excel window click on:

Start → All Programs → Microsoft Office → Microsoft Office Excel

OR

Type "Excel" in search bar and press enter button from keyboard.

Fig. 6.1 Search bar

The figure shows the main parts of Ms Excel Window :

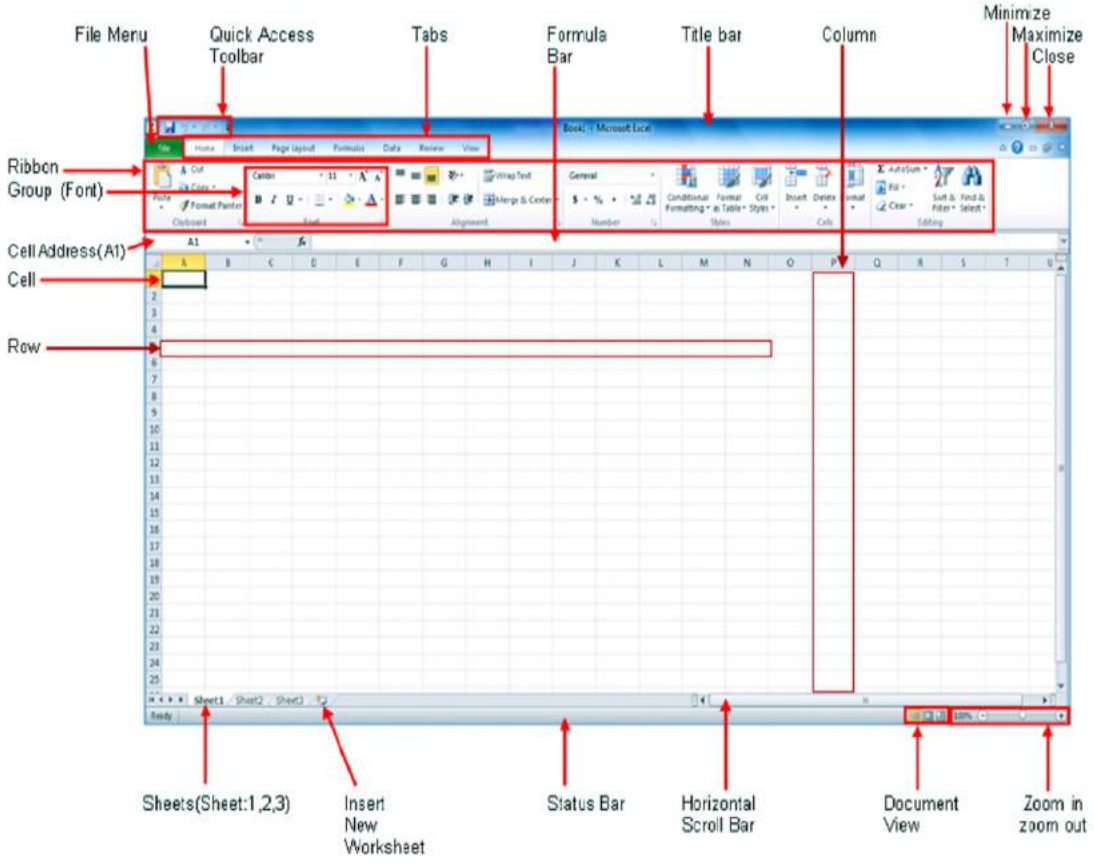


Fig. 6.2 Ms Excel Window

6.4.1 The File Menu :

In the upper-left corner of the Excel window is the File Menu. When we click the option, a newwindow appears. We can this window to create a new file, open an existing file, save a file, and perform many other tasks.

Fig. 6.3 File Menu

6.4.2 The Quick Access Toolbar :

Above the File Menu there is the Quick Access toolbar. The Quick Access toolbar gives us access to commands we frequently use. By default, Save, Undo, and Redo appear on the Quick Access toolbar. We can use Save to save our file, Undo to roll back an action we have taken, and Redo to reapply an action.

Fig. 6.4 Quick Access Toolbar

6.4.3 The Title Bar :

Next to the Quick Access toolbar is the Title bar. On the Title bar, Microsoft Excel displays the name of the workbook we are currently using. At the top of the Excel window, we can see "Microsoft Excel - Book1" or a similar name.

Fig. 6.5 Title Bar

6.4.4 The Ribbon :

In Microsoft Excel, we use the Ribbon to issue commands which tell Microsoft Excel what to do. The Ribbon is located near the top of the Excel window, below the Quick Access toolbar. At the top of the Ribbon, there are several tabs. Each tab displays several related command groups. We must click buttons to issue commands or to access menus and dialog boxes.

We may also find a dialog box launcher in the bottom-right corner of every group. When we click on it, a dialog box makes additional commands available.

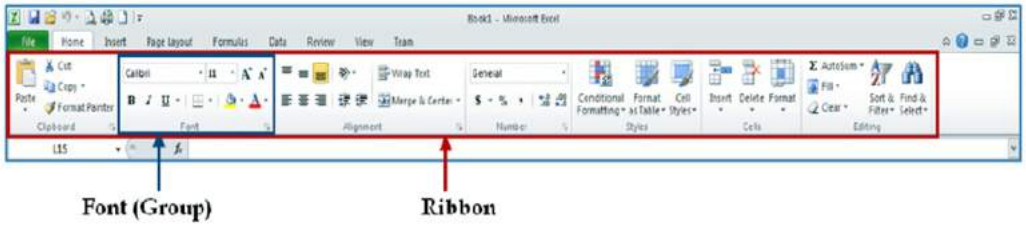


Fig. 6.6 Ribbon

6.4.5 The Formula Bar :

In the Formula bar the cell address of the active cell is displayed in the Name box which is located on the left side of the Formula bar. Cell entries are displayed on the right side of the Formula bar. If we do not see the Formula bar in our window, perform the following steps:

1. Choose the View tab.
2. Click Formula Bar in the Show/Hide group. The Formula bar appears.

Note : When we enter a formula in a cell, it is displayed in the Formula bar.

Fig. 6.7 Formula Bar

6.4.6 The Status Bar :

The Status bar appears at the bottom of the Excel window and provides information such as the sum, average, minimum, and maximum value of selected numbers. We can change what displays on the Status bar by right-clicking on the Status bar and selecting the options we want from the Customize Status Bar menu. We click a menu item to select it. We click it again to deselect it. A check mark next to an item means the item is selected.

Fig. 6.8 Status Bar

6.4.7 The Name Box :

We can also use the Name box to go to a specific cell. Just type the cell we want to go to in the Name box and then press Enter. For example follow the steps written below:

1. Type B4 in the Name box.
2. Press Enter. Excel moves to cell B4.

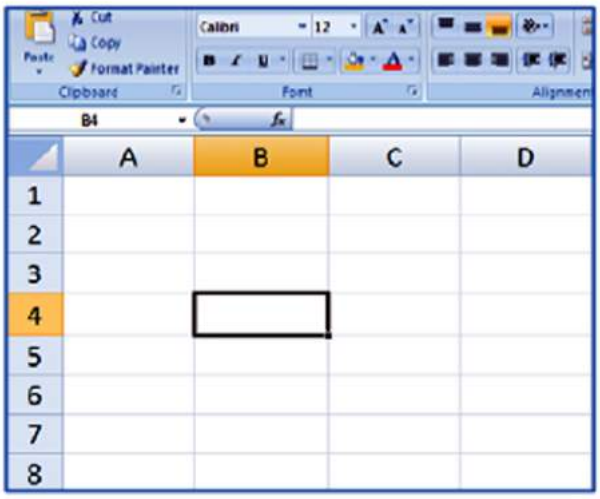


Fig. 6.9 Name Box

6.5 Terminology used in Ms Excel :

Following are terms used in Excel:

6.5.1 Workbook :

A workbook is a collection of many worksheets. By default, each workbook contains three worksheets.

6.5.2 Worksheet :

Worksheet contains columns and rows. We can insert more worksheets in workbook by pressing the button "Insert New Worksheet".

6.5.3 Row :

Rows placed in a horizontal (left to right) arrangement of a series of cells. Rows are labeled 1, 2, and 3 and so on. A maximum of 10,48,576 rows are available in worksheet.

6.5.4 Column :

A column is a vertical (Top to down) arrangement of a series of cells. The columns are labeled A to Z and then continuing with AA, AB, AC and so on till XFD. A maximum of 16,384 columns are available in worksheet.

6.5.5 Cell :

A cell is an intersection of a row and a column. Each cell is identified by a cell address. We enter our data into the cells on the worksheet.

6.5.6 Active cell :

This is the cell in which we are currently working. A bold rectangular box around the cell identifies an active cell.

6.5.7 Cell Address :

Every cell in Excel has a unique celladdress. A cell address has a column letter followed by a row number. For example A1 is the intersection of the column A and row 1. The combination of a column coordinate and a row coordinate make up a cell address. For example, the cell located in the upper-left corner of the worksheet is cell A1, meaning column A, and row 1. Cell F3 is located under column F on row 3. Cell C6 is located under column C on row 6.

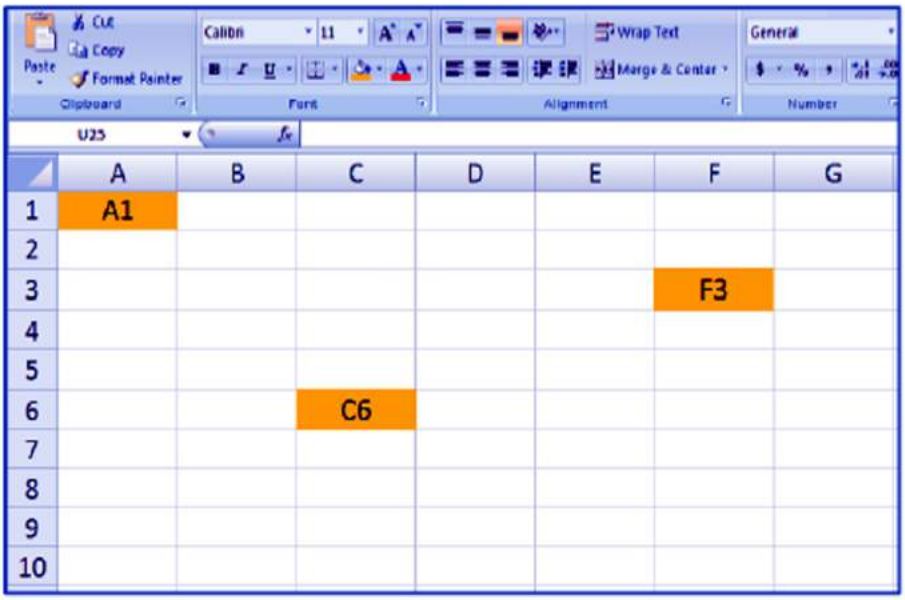


Fig. 6.10 Cell Address

6.6 Working in Worksheet of Ms Excel

6.6.1 Using the arrow keys :

We can move around our worksheet by using arrow keys. We can use the down arrow key to move downward one cell at a time, up arrow key to move upward one cell at a time. We can use the Tab key to move across the page to the right, one cell at a time and can hold down the Shift key and then press the Tab key to move to the left, one cell at a time. We can use the right and left arrow keys to move right or left one cell at a time. The Page Up and Page Down keys move up and down one page at a time. If we hold down the Ctrl key and then press the Home key, we move to the beginning of the worksheet e.g. Cell A1.

6.6.2 Selecting Cells :

If we wish to perform a function on a group of cells, we must first select those cells by highlighting them as shown in figure below:

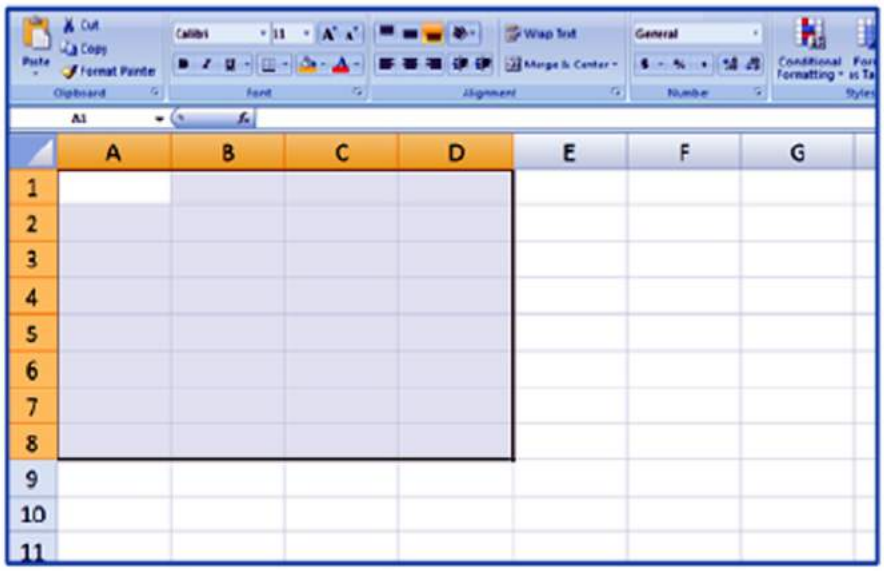


Fig. 6.11 Selecting Cells

We can select an area by holding down the left mouse button and dragging the mouse over the area.

6.6.3 Entering Data :

We can enter data in into our worksheet. First, place the cursor in the cell in which we want to start entering data. Type some data, and then press

Enter. If we need to delete, press the Backspace key to delete one character at a time.

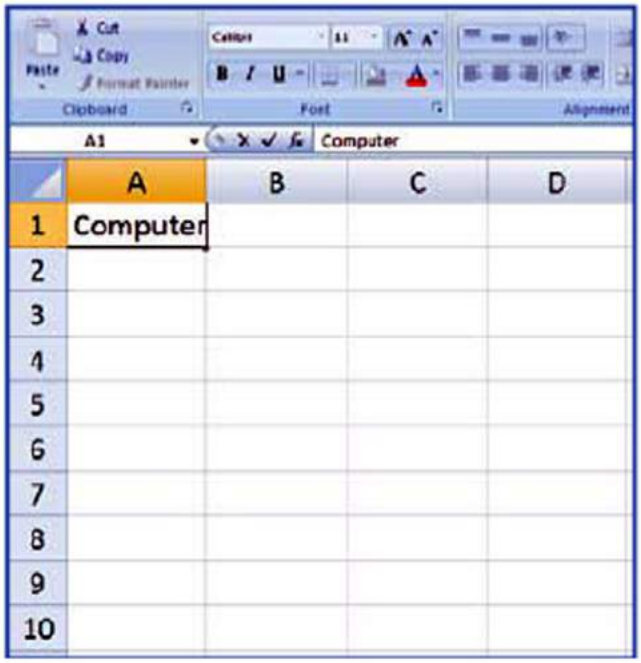


Fig. 6.12 Entering Data

6.6.4 Deleting Data :

The Backspace key erases one character at a time in the active cell.

6.6.5 Editing a Cell Data :

After we enter data into a cell, we can edit the data by pressing F2 while we are in the cell we wish to edit. We can also edit the cell by using the Formula bar or can also edit the data by double clicking the cell we want to edit.

6.6.6 Wrap Text :

When we type text that is too long to fit in the cell, the text overlaps the next cell. If we do not want it to overlap the next cell, we can wrap the text.

Follow the steps written below to wrap text:

1. Move to cell A2.
2. Type Text too long to fit.
3. Press Enter.

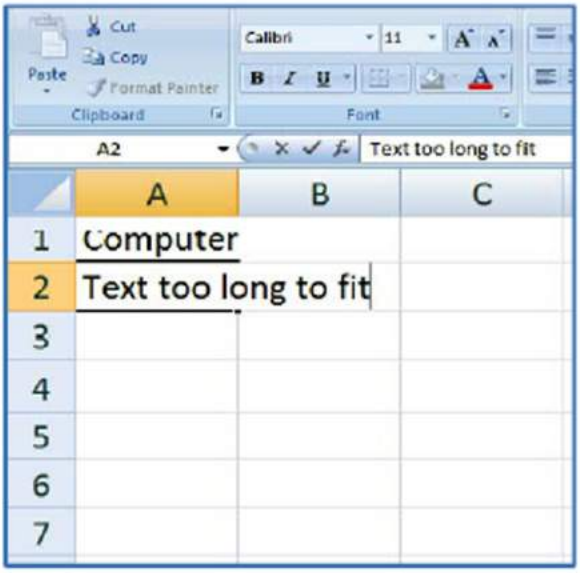


Fig. 6.13 Wrap Text

4. Return to cell A2.
5. Choose the Home tab.
6. Click the Wrap Text button . Excel wraps the text in the cell as shown in figure below.

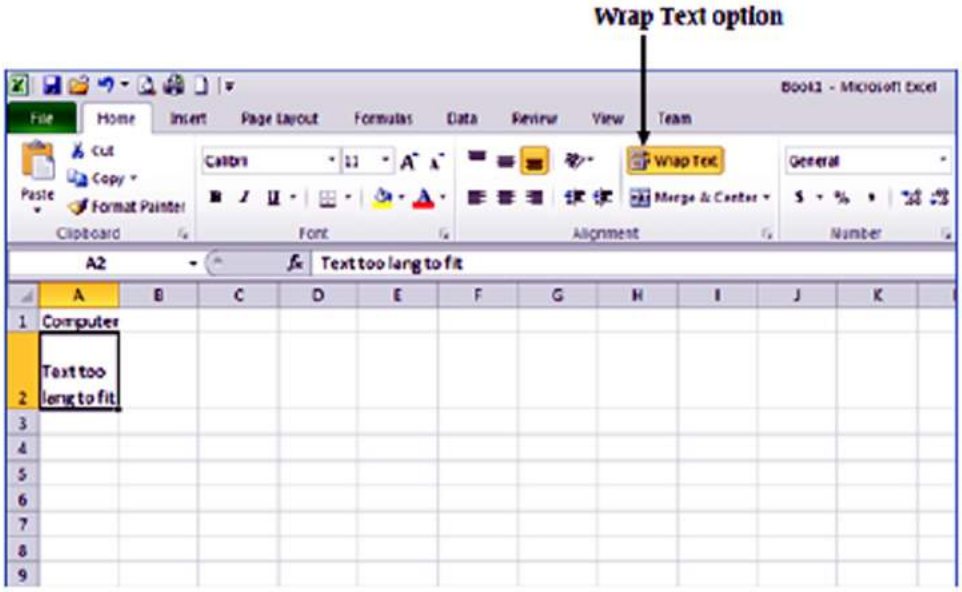


Fig. 6.14 Wrap Text

6.6.7 Delete a Cell Entry :

To delete an entry in a cell or a group of cells, we should place the cursor in the cell or select the group of cells and press Delete key from the keyboard.

6.6.8 Filling a range of cells

- Select type the first cell of the range you want to fill.
- Type the desired data.
- Now, press fill handle with left mouse button and drag the mouse.

Or

- From keyboard Press the Shift and down arrow key and select the cells or range of cells. Release both keys and press Ctrl + D to fill the data.
- This will copy the content of first cell to all the cells of the selected range.

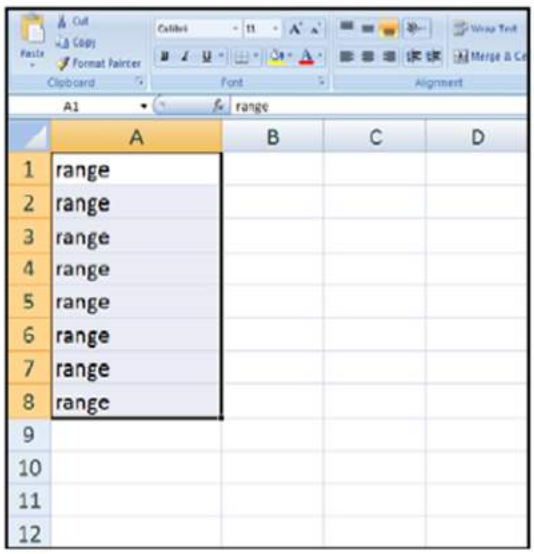


Fig. 6.15 Filling a range

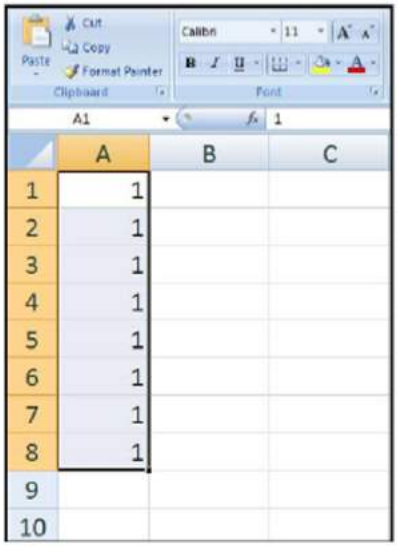


Fig. 6.16 Filling a range

6.6.9 Creating a Series

follow steps to create a series.

- Enter the value Monday (fig 6.17) or 1 (fig 6.18) in cell A1
- Enter the value Tuesday (fig 6.17) or 2 (fig 6.18) in cell A2

- Select both of the cells and press fill handle with left mouse button and drag the mouse
- This will create the series.

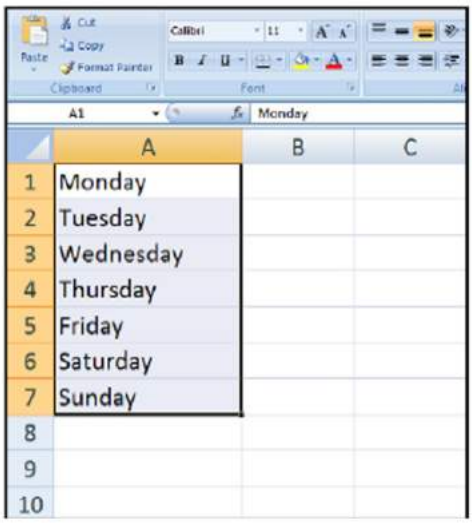


Fig. 6.17 Creating a Series

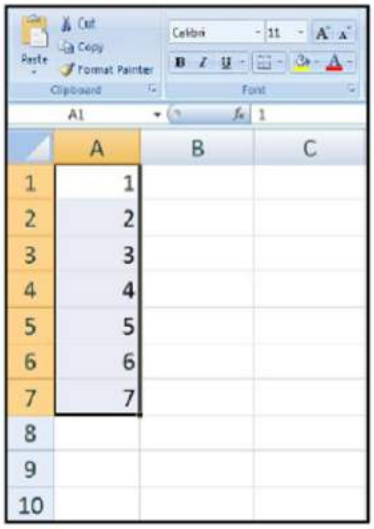


Fig. 6.18 Creating a Series

6.7 Saving a File:

To save our file, follow the steps written below:

1. Click the File Menu. A window will appear.
2. Click Save. The Save As dialog box will appear.
3. Go to the Folder in which we want to save our file.
4. Type suitable name for file in the File Name field.
5. Click Save. Excel will save our file.

6.8 Closing Excel:

Steps to close Microsoft Excel are:

1. Click on the File menu. A window appears.
2. Click on exit. Excel will close.

* Before closing Excel , always save your workbook.

1. Microsoft Excel is a spreadsheet program used for organizing and calculating numerical data
2. Salaries of employees and Results of students can be prepared in Excel.
3. Worksheet contains columns and rows. We can insert more worksheets in workbook by pressing the button "Insert New Worksheet.
4. Rows are the square or rectangle boxes placed in a horizontal (left to right) arrangement of a series of cells.
5. A column is a vertical (Top to down) arrangement of a series of cells.
6. A maximum of 16,384 columns are available in worksheet
7. Each cell is identified by a cell address. We enter our data into the cells on the worksheet
8. Active cell is the cell in which we are currently working. A bold rectangular box around the cell identifies an active cell
9. We can select an area by holding down the left mouse button and dragging the mouse over the area.
10. We can edit the data by pressing F2 while we are in the cell we wish to edit.

1. Fill in the blanks:

1. A workbook is a collection of the_____.
   (a) Cell (b) Row
   (c) Column (d) Worksheet
2. By default, each workbook contains _____worksheets.
   (a) 2 (b) 3
   (c) 4 (d) 5
3. A maximum of _____ rows are available in worksheet.
   (a) 1048576 (b) 16384
   (C) 984664 (d) 36524

4. A maximum of _____ columns are available in worksheet.
   (a) 83254 (b) 16384
   (c) 10520 (d) 65536
5. A cell is an intersection of a _____and a_____.
   (a) Row ,Column (b) Row , Cell Address
   (c) Column,Formula Bar (d) None of these
6. _____Cell is the cell which we are currently working.
   (a) Dead (b) active
   (c) working (d) None of these
7. Every _____ in Excel Sheet has unique address .
   (a) Cell (b) Row
   (c) Column (d) worksheet

2. True/False:

1. Excel can be used for mathematical calculations
2. The Status bar appears at the top of the Excel window
3. When we enter a formula in a cell, it is displayed in the Formula bar
4. The Ribbon is located near the bottom of the Excel window.
5. To open Ms Excel, type "Excel" in search bar and press enter button from keyboard

3. Short Answer type Questions:

1. What are various uses of MS-Excel
2. List the parts of Ms Excel Window
3. Define the Formula Bar
4. What is Active cell in Ms Excel?
5. How to insert more worksheet in workbook of Excel

4. Long Answer type Questions:

1. Explain the Terminology used in Ms Excel
2. How to Wrap Text in Ms Excel
3. Write about filling a range of cells in Ms Excel
4. Write about Creating a Series in Ms Excel
5. How to save our file in Ms Excel

Memory Units and Generations

OBJECTIVES OF THIS CHAPTER :

7.1 What is Memory?

Memory of computer system is just like a human brain. The memory is the storage space in computer where data to be processed and instructions required for processing are stored. It can keep all the necessary data and operations for a computer to function.The memory is divided into large number of small parts called cells. Each location or cell has a unique address.

7.1.1 Memory units :

Memory capacity of a computer is the amount of data that can be stored in the storage unitwhich is equal to the numberof bytes that can be stored in its storage unit. The storage capacity is expressed in terms of Bytes. Following are the main memory storage units:

- **Bit (Binary Digit):** A bit or a binary digit may be represented by logical 0 and 1.
- **Nibble :** A group of 4 bits is called nibble.
- **Byte :** A group of 8 bits is called byte. A byte is the smallest unit which can represent a data item or a character.
- **Word :** Acomputer word is a group of fixed number of bits processed as a unit.The length of a computer word is called word-size or word length. It may be as small as 8 bits or may be as long as 96 bits. A computer stores the information in the form of computer words.

Measuring Units for Computer Memory:

Sr. No.	Memory Unit	Discription
1	Bit	Single Binary digit either 0 or 1
2	Nibble	Group of 4 bits
3	Byte	Group of 8 bits
4	Kilobyte (KB)	1 KB = 1024 Bytes
5	Megabyte (MB)	1 MB = 1024 KB
6	GigaByte (GB)	1 GB = 1024 MB
7	TeraByte (TB)	1 TB = 1024 GB
8	PentaByte (PB)	1 PB = 1024 TB

Fig :7.1Measuring Units for Computer Memory:

7.2 Types of Memory:

Following Figure shows the basic classification of Memory units.

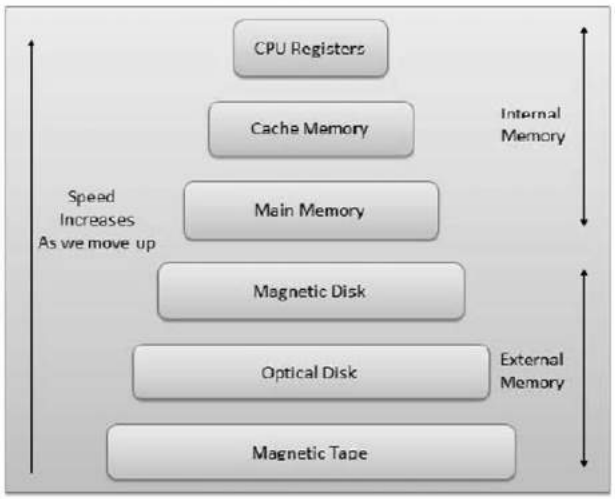


Fig : 7.2 Types of Memory:

Memory can be classified into two main categories:

7.2.1. Internal memory

7.2.2. External Memory

7.2.1 Internal Memory :

The instructions of a program and data need are placed where work can be done on them. The CPU uses internal Registers and cache Memory for this purpose. The Internal Memory can further be divided into two categories:

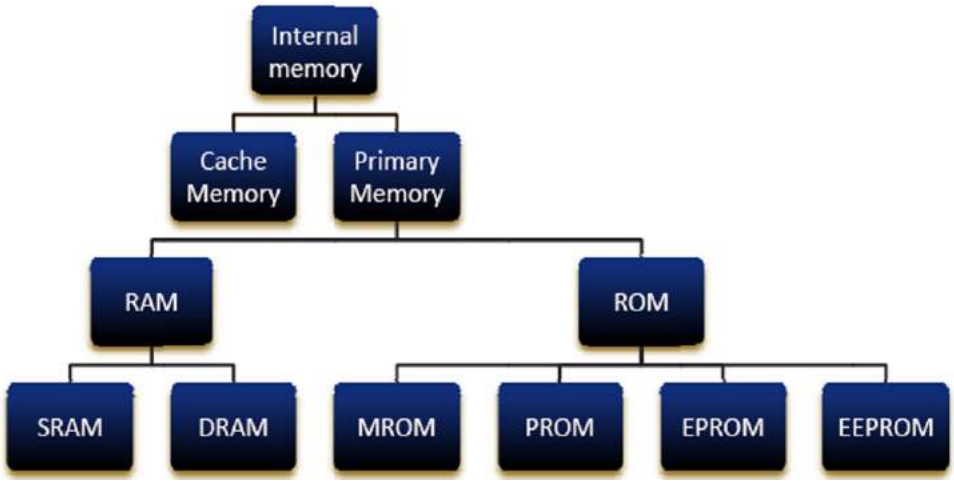


Fig : 7.3 Classification of Internal Memory:

7.2.1.1 Cache Memory:

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

Advantages of cache memory:

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 of cache memory:

The disadvantages of cache memory are as follows:

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

7.2.1.2 Primary/Main memory :

Primary memory holds only those data and instructions on which computer is currently working. It has 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 reside in main memory.

Fig : 7.4 Primary/Main memory:

Characteristics of Primary Memory

- These are semiconductor memories and are known as main memory.
- It is usually volatile memorybecause data is lost in case power is switched off.
- It is working memory of the computer.
- It is faster than secondary memories but slower than CPU registers.
- A computer cannot run without primary memory.

It is divided into two subcategories

RAM and ROM.

7.2.1.2.1 RAM :

RAM stands for Random Access Memory. It is the internal memory of the CPU for storing data, program and program result. It is read/write memory which stores data until the machine is working. RAM is volatile memory that means data stored in it is lost when we switch off the computer or if there is a power failure. This is the reason a backup uninterruptible power system(UPS) is often used with computers. Data in the RAM can be accessed randomly it is very expensive. RAM is small, both in terms of its physical size and in the amount of data it can hold. Further RAM is of two types:

- **Static RAM (SRAM):**

The word static indicates that the memory retains its data 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 have to be refreshed on a regular basis.

Characteristic of the Static RAM

- It has long life
- There is no need to refresh it.
- It is faster
- It is used as cache memory
- It is large in size
- It is expensive
- It is consumes high power .

- **Dynamic RAM (DRAM):**

DRAM must be 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 because it is cheap and small. All DRAMs are made up of memory cells which are composed of one capacitor and one transistor.

Characteristics of the Dynamic RAM

- It has short data lifetime
- It need to be refreshed continuously
- It is slower as compared to SRAM
- It is used as RAM
- It is lesser in size
- it is less expensive
- It consumes less power.

7.2.1.2.2 ROM :

ROM stands for Read Only Memory. This is the memory from which we can only read, but cannot write on it. This type of memory is non-volatile that means the information is stored permanently in such memories during the time of manufacturing. 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 etc. It is also called FIRMWARE.

Fig : 7.5 ROM

Following are the various types of ROM:

- **MROM (Masked ROM):**

Earlier ROMs were hard-wired devices that contained a pre-programmed set of data or instructions. These kinds of ROMs are known as masked ROMs which are inexpensive.

- **PROM (Programmable Read only Memory)**

PROM is read-only memory that can be modified only once. We can buy a blank PROM and enters the desired contents using a PROM program. It can be programmed only once and is not erasable.

- **EPROM(Erasable and Programmable Read Only Memory)**

The EPROM can be erased by exposing it to ultra-violet light for the duration of up to 40 minutes. During programming, an electrical charge is used. This charge can be retained for more than ten years. For erasing this charge, ultra-violet light is passed.

- **EEPROM(Electrically Erasable and Programmable Read Only Memory)**

The 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 (milliseconds). 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 re-programming is flexible but slow.

* millisecond =1/1000 of a second

Advantages of ROM:

The advantages of ROM are as follows:

- It is non-volatile in nature.
- These cannot be accidentally changed.
- It is cheaper than RAMs.
- It is easy to test and more reliable than RAMs
- These are static and do not require refreshing.

7.2.2 External Memory :

This type of memory is also known as secondary or auxiliary memory or non-volatile. It is slower than main memory. These are used for storing data and Information permanently. CPU does not access these memories directly. They are accessed via input-output routines. Contents of secondary memories are first transferred to main memory, and then CPU can access it. For example: Hard disk, CD-ROM, DVD etc.

Fig : 7.6 External Memory (HDD)

Characteristic of Secondary Memory :

- These are magnetic and optical memories.
- Backup / Reusable memory:data stays in the secondary storage on permanent basis until it is not overwritten or deleted by the user.
- Non-volatile memory: Data is permanently stored even if power is switched off.
- Reliable:Data in secondary storage is safe because of high physical stability of secondary storage device.
- Convenience:With the help of computer software, authorized people can locate and access the data quickly.
- Capacity:Secondary storage can store large volumes of data in sets of multiple disks.
- Cost:It is much lesser expensive to store data on a tape or disk than primary memory.
- Computer can start without secondary memory.
- Slower than primary memories.

The following figure illustrates the types of External/Secondary Memory devices. They are mainly of two types:

7.2.2.1 Sequential Access Devices

- Magnetic Tapes

7.2.2.2 Direct Access Devices

- Magnetic Disks
  - Floppy disks
  - Hard disks
- Optical disc
  - CD
  - DVD
- Memory Storage devices
  - Flash derive
  - Memory card

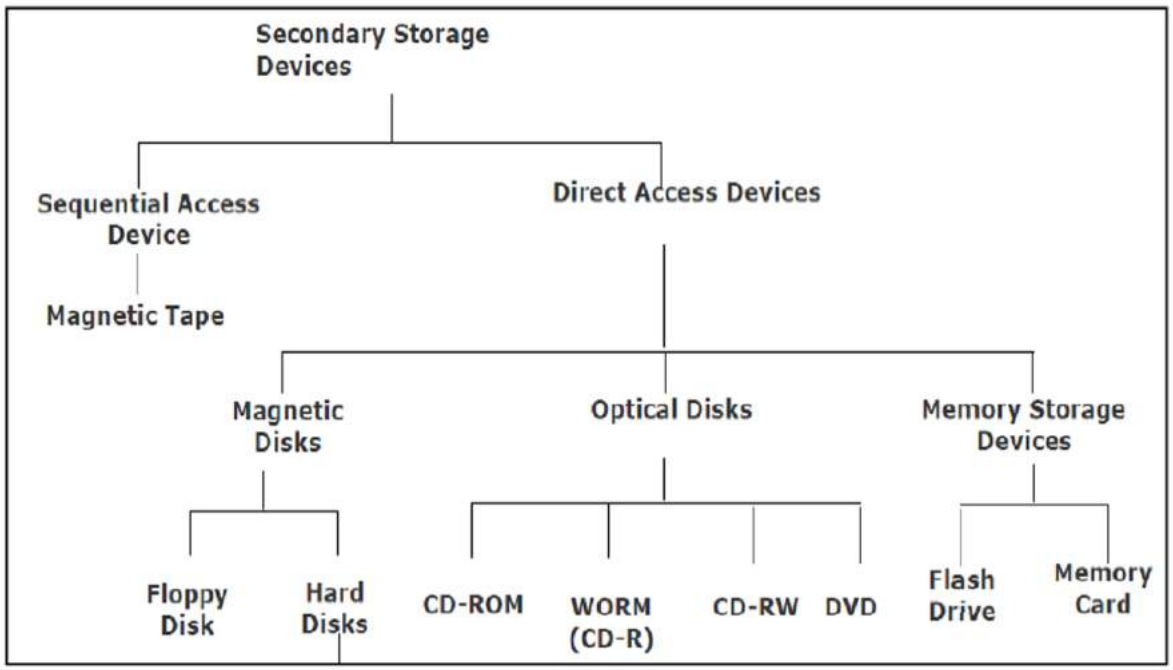


Fig : 7.7 Types of External/Secondary Memory devices

7.2.2.1 Sequential Access Devices :

In these type of storage devices data can only be retrieved in sequential order, in whichit is stored. These are suitable for sequential processing appli-

cations where most of the data records need to be processedone after another. Magnetic tape is a good example of such types of storage device.

Data storage capacity is the amount of data that can bestored on a given length of tape. It is measured in bytesper inch (bpi)

Storage capacity of a tape =Data recording density x Length

7.2.2.2 Direct Access Devices :

In these storage devices any storage location may be selectedand accessed randomly. They permits access to individual information in a moredirect or immediate manner. These are suitable for direct processing applications such as onlineticket booking systems, on-line banking systems. Magnetic, optical, and magneto-optical disks are examples of direct access storage devices.

7.3 Physical Structure of Magnetic Disk :

The figure shows the physical structure of magnetic disk.

7.3.1 Tracks :

The surface of disk is divided intoa number of invisibleconcentric circles called tracks. These tracks are numberedconsecutively from outermostto inner-most starting fromzero. The number of tracks on adisk may vary according to the capacity of disks.

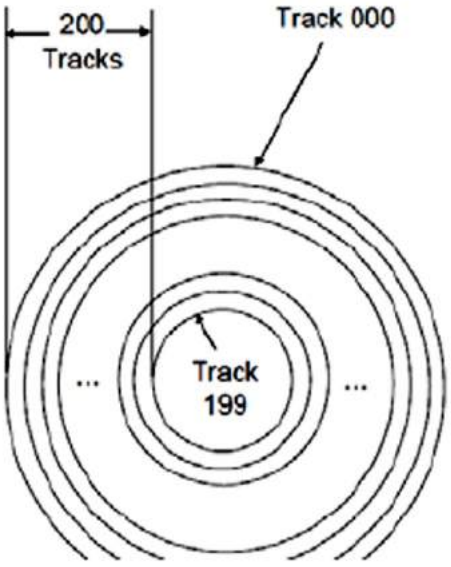


Fig : 7.8 Tracks

7.3.2 Sectors :

Each track of a disk issubdivided into small portions known as sectors. There are 8 or moresectors per track. A sector typically contains 512 bytes.

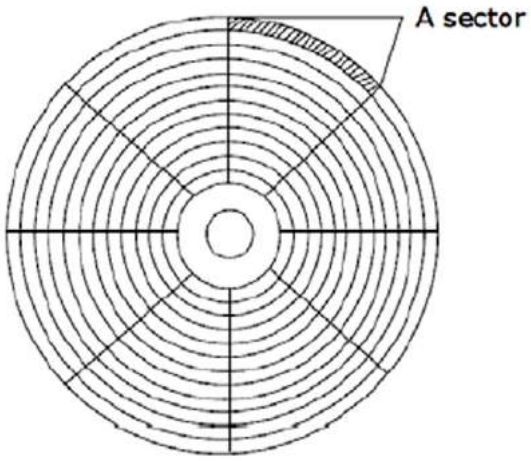


Fig : 7.9 Sectors

Storage capacity of a disk system may be calculated by using the following formula:

Storage capacity = Number of recording surfaces x Number of tracks per surface x Number of sectors per track x Number of bytes per sector

7.4 Generations Of Computer:

In computer terminology, Generation is a change in technology of computer. Earlier, the generation term was used to distinguish between varying hardware technologies. But nowadays, generation includes both hardware and software, which together make up an entire computer system.There are totally five computer generations known till date. These are explained as followed:

7.4.1 First Generation Computers (1942-1955) :

The time period of first generation was 1942-1955. The first generation computers used vacuum tubes as the basic components for memory and circuitry for CPU (Central Processing Unit). These tubes were like electric bulbs which produced a lot of heat and were prone to frequent fusing. They were very expensive and could be afforded only by very large organizations.

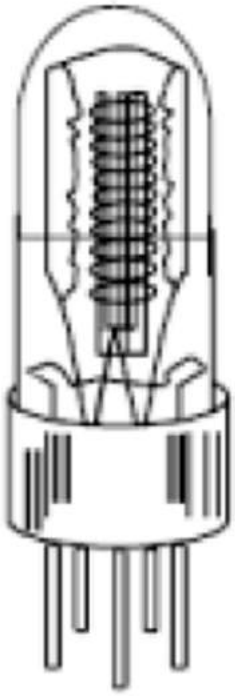


Figure 7.10 Vacuum Tube

In this generation, mainly batch processing operating systems were used. Punched cards, Paper tape and Magnetic tapes were used as Input & Output devices. Machine codes and electric wired board languages used to operate the machines.

Main features and characteristics of First Generation:

- Vacuum tubes as basic component, Electromagnetic relay memory; Punched cards as secondary storage were used.
- Machine andAssemblylanguages and stored program concept for operating the machines were used.
- They were very much bulky in size and produce a lot of heat.
- They were not much reliable systems.
- They cannot be commercially used.
- They were costly and difficult to use.

Names of First Generation Systems:

- ENIAC
- EDVAC

- EDSAC
- UNIVAC I
- IBM 701

7.4.2 Second Generation (1955-1964) :

The time period of second generation was 1955-1969. This generation used the transistor as their basic component. They were cheaper, consumed less power, more compact in size, more reliable and faster than the first generation machines made of vacuum tubes. In this generation, magnetic cores were used as primary memory and magnetic tape and magnetic disks as secondary storage devices.

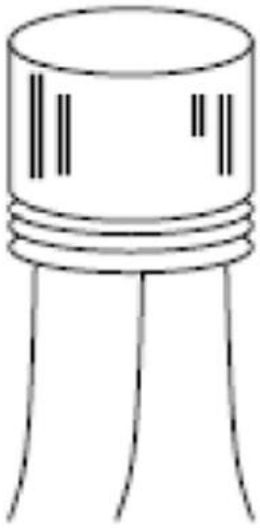


Figure 7.11 Transistor

In this generation, assembly language and high-level programming language like FORTRAN and COBOL were used.Batch processing and Multiprogramming Operating system were also used.

Main features and characteristics of Second Generation:

- Transistors as the basic components, magnetic cores memory, Magnetic tapesand Disks for secondary storage were used.
- Batch operating system, High-level programming Languages were used.
- They were faster, smaller, more reliable and easier to program than previous generation systems and were used for scientific and commercial applications..
- Commercial production of second generation computers was still difficult.

- They were costly.
- They were smaller in size and generate less heat as compared to first generation computers.
- They consumed less electricity as compared to first generation computers.

Names of Second Generation Systems:

- IBM 7030
- UNIVAC LARC.

7.4.3 Third Generation (1964-1975) :

The time period of third generation was 1964-1975.The third generation of computer used Integrated Circuits (IC's) in place of transistors. A single IC has many transistors, resistors and capacitors along with the associated circuitry. The IC was invented by Jack Kilby. This development made computers smaller in size, reliable and efficient.

Figure:7.12 IC (Integrated Circuit)

In this generation, Remote processing, Time-sharing, Real-time, Multi-programming Operating System were used.High-level languages such as FORTRAN-II TO IV, COBOL, PASCAL PL/1, BASIC, ALGOL-68, etc. were used during this generation.

Main features and characteristics of Third Generation:

- ICs with SSI and MSI technologies were used as basic components
- Larger magnetic cores memory, largercapacity disks and magnetic tapes as secondary storagewere used.
- They used Timesharing operating system and multi-programming operating systems.

- They were commercially, easier to use and easier to upgrade.
- They were used for Scientific, commercial and interactive online applications.

Names of ThirdGeneration Systems:

- IBM 360/370
- PDP-8
- PDP-11
- CDC 6600

7.4.4 Fourth Generation (1975-1989)

The period of Fourth Generation was 1975-1989.The fourth generation of computers used Very Large Scale Integrated (VLSI) circuits. VLSI circuits having about 5000 transistors and other circuit elements and their associated circuits on a single chip made it possible to have microcomputers of fourth generation. Fourth Generation computers became more powerful, compact, reliable, and affordable. As a result, it gave rise to personal computer (PC) revolution.

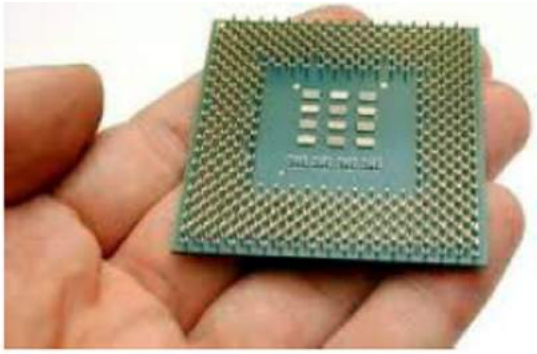


Figure:7.13 Microprocessors

In this generation, Time sharing, Real time, Networks, Distributed Operating System were used.All the higher level languages like C and C++, DBASE, etc., were used in this generation.

Main features and characteristics of Fourth Generation:

- ICs with VLSI Technology and microprocessors were used.
- Semiconductor memories, larger capacity hard disks as in-built secondary storage were used.
- Magnetic tapes and floppy disks as portable storage media were used.
- Operating systems for PCs with GUI and multiple windows on a single terminal screen.

- Multiprocessing OS, UNIX operating system with C programming language,Object-oriented design and programming were used.
- PC, Network-based and supercomputing applications were used.
- They were small, affordable, reliable, and easy to use PCs and more powerful and reliable mainframe systems and supercomputers.
- They were totally general purpose machines, easier to produce commercially and easier to upgrade.

Names of FourthGeneration Systems:

- IBM PC and its clones
- Apple II
- CRAY-1
- CRAY-2
- CRAY-X/MP

7.4.5 Fifth Generation (1989-onwards) :

The period of Fifth Generation is 1989-till date.In the fifth generation, the VLSI technology became ULSI (Ultra Large Scale Integration) technology, resulting in the production of microprocessor chips having ten million electronic components.

Figure:7.14 ULSI chip

This generation is based on parallel processing hardware and AI (Artificial Intelligence) software.AI is an upcoming branch in computer science which interprets means and methods of making computers think like human beings.

AI include following areas:

- Robotics.
- Game Playing.
- Development of expert systems to make decisions in real life situations.

- Natural language understanding and generation.

All the higher level languages like C and C++, Java, .Net, etc., are used in this generation.

Fig 7.15 Robotics using AI (Artificial Intelligence)

Main features and characteristics of Fifth Generation:

- ICs with ULSI technology, larger capacity main memory, hard disks with RAID (Redundant Array & Inexpensive Disk)support are used.
- Optical disks as portable read-only storage media are used.
- Notebooks, powerful desktop PCs and workstations, powerful servers and supercomputers are used.
- Internet and Cluster computing is used.
- Micro-kernel based, multithreading, distributed OS, Parallel programming libraries like MPI & PVM ,JAVA, World Wide Web, Multimedia, Internet applications and more complex supercomputing applications are used.
- These are portable computers, and are more powerful, cheaper, reliable, and easier to use desktop machines.
- High uptime due to hot-pluggable components andaretotally general purpose machines.
- Easier to produce commercially and to upgrade.
- Rapid software development is possible.

Names of Fifth Generation Systems:

- IBM notebooks
- Pentium PCs
- SUN Workstations
- IBM SP/2
- PARAM 10000

1. Memory is the storage space in computer where data to be processed and instructions required for processing are stored.
2. Memory capacity of a computer is the amount of data that can be stored in the storage unit.
3. Cache memory is a very high speed semiconductor memory which can speed up CPU.
4. Primary memory holds only those data and instructions on which computer is currently working.
5. RAM stands for Random Access Memory.
6. ROM stands for Read Only Memory.
7. The surface of disk is divided intoa number of invisibleconcentric circles called tracks.
8. Each track of a disk issubdivided into small portions known as sectors.
9. In computer terminology,Generationis a change in hardware as well as software technology of computer.
10. External Memory is also known as secondary or auxiliary memory or non-volatile

1. Fill in the blanks:

1. A group of _____ bits is called byte

(a) 8 (b) 16
(c) 32 (d) 64

2. A bit or a binary digit may be represented by logical _____ and _____

(a) 0,1 (b) 0,0

(c) 1,2 (d) 1,1

3 RAM stands for _____

(a) Read Access Memory (b) Random Access Memory

(c) All of these (d) None of these

4 ROM stands for _____

(a) Read Only Memory (b) Random Only Memory

(c) Read Open Memory (d) None of these

5 Each track of a disk issubdivided into small portions known as _____

(a) Sector (b) Area

(c) Disk (d) Tape

2. True/False:

1. Group of 8 bits is called Giga Byte
2. Main memory is faster than Cache memory
3. PROM stands for Programmable Read only Memory
4. EPROM stands for Erasable and Programmable Read Only Memory
5. The surface of disk is divided into a number of invisible concentric circles called tracks

3. Short Answer type Questions :

1. Name the types of Memory.
2. Name the various types of ROM
3. Main features and characteristics of First Generation:
4. Names of FourthGeneration Systems
5. Write the areas which are included in AI.

4. Long Answer type Questions:

1. Explain the External Memory.
2. Explain the Characteristic of Secondary Memory.
3. What are Tracks?
4. What are Sectors?
5. Explain Fifth Generations Of Computer.

COMPUTER SCIENCE

(for 8th Class)

Punjab School Education Board

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PREFACE

Punjab School Education Board has been updating the school level syllabi compatible with modern approach and latest reasearch. The previously written text-books are in continuous process of revision according to the latest syllabi. The Board has also launched a special derive to prepare new text books as per latest National Policies in this regard. The present book is a part of this rpestigious program.

The knowledge in the subject of Computer Science is the need of the hour because its study is essential for enhancement of eficient usage of Science and Technology in every field of modern era. Computerization of every department is done to keep it updated light of all round development of Information Technology and Communication. The knowledge of Computer Education as well as usage of internet is necessary for everyone to have latest information about different departments, to avail facilities of E-Ticketing etc.

Keeping in view of these requirements Punjab School Education Board has introduced Computer Science as a compulsory subject at Elementary and Secondary levels as per guidelines of Punjab Government. This subject is already being taught bhy PICTES in some Government Schools. The present book is English translation of its Punjabi version prepared according to revised syllabus on the demand of teachers. Every effort has been made to include each requisite information regarding the subject in this book. I hope it will be useful for students and teachers.

All suggestions for the improvement of the book will be highly appreciated.

Chairperson

Punjab School Education Board

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