Computer Science

(For 6th Class)

Punjab School Education Board

Sahibzada Ajit Singh Nagar

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PREFACE

Punjab School Education Board has been updating the school level syllabi compatible with modern approach and latest research. 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 prestigious program.

The knowledge in the subject of Computer Science is the need of the hour because its study is essential for enhancement of efficient usage of Science and Technology in every field of modern era. Computerization of every department is done to keep it updated in 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 by PICTES in some Government Schools. The present book is English translation of its Punjab 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.

Chairman

Punjab School Education Board

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LESSON 1

Introduction to Computer

Objective of this Chapter

1.1 What is a Computer?
1.2 Definition of Computer
1.3 What can we do on a Computer?
1.4 Applications of a Computer
1.5 Characteristics of Computer
1.6 Limitations of a Computer

Introduction

Computer has become very important nowadays because it is very much accurate, fast and can accomplish many tasks easily. Many of our day to day activities are based on computer. Computers are used in Schools, Banks, Hospitals, Shops, booking counters of Railways and Airlines, Education and Entertainment. The term computer is derived from the Latin term 'computare', this means "to calculate". Computer cannot do anything without any instruction.

1.1 What is a Computer ?

Computer is an electronic machine. It is designed to work with Informations. It receives Data and Instructions from user. The process of giving Data and Instructions to Computer is called Input. Computer processes the input. After processing computer gives us result which is called Output.

Fig. 1.1 Computer

1.2 Definition of Computer

"Computer is an electronic machine that takes data as input from the user and processes these data according to the set of instructions called program and gives the result (output). It saves output for the future use. It can process both numerical and non-numerical calculations".

1.3 What can we do on a Computer?

A computer can perform the following functions:-

1. We can do mathematical calculations on computer.
2. We can check spelling of a text on Computer.
3. We can draw pictures on Computer.
4. We can use Computer to print books and newspaper.
5. We can play games on Computer.
6. We can listen songs and see films on Computer.
7. We can book our tickets to travel in Trains, Buses and Airplanes.
8. We can check arrival and departure time of Trains, Buses and Airplanes.
9. We can check the weather conditions of a place before travelling.
10. We can prepare reports, results of our school or time table.
11. We can search the map of a place where we wish to travel.

1.4 Applications of a Computer

Computers are used in many fields. Some of the following fields are:-

1.4.1. In Education field

1.4.2. In Health and Medicine field

1.4.3. In Shops

1.4.4. In Business

1.4.5. In Banks

1.4.6. In Entertainment field

1.4.7. In different Government fields.

1.4.8. In Sports

Let us learn about the use of computers in different fields in detail :

1.4.1 In Education field

Computers are widely used in teaching by teachers and students. Teachers use computer to make lesson plans, reports and time table. The students use computers for drawing, making projects and to solve different kinds of problems quickly and efficiently. They use computers to collect different information about education on the Internet.

Fig. 1.2 In Education Field

1.4.2 In Health and Medicine field :

Nearly every area of health and medicine uses computers. For example, in hospitals computers are used for maintaining patient history and other records. They are also used for patient monitoring and diagnosis of diseases etc. Computer is also used in hospital laboratories to perform different medical tests.

Fig. 1.3 In Health and Medicine

1.4.3 In Shops

Computer is also used in shops. On computer, a shop keeper can keep the records of goods which is available in his shop. He can maintain the

record of tax and record of sales-purchase on a computer. Nowadays many shopkeepers maintain bills of sales-purchase with the help of computers.

Fig. 1.4 In shops

1.4.4 In Business

Computers are very helpful in business also. With the help of computers a businessman can contact his clients using email. A businessman can take meetings with his clients using Video Conferencing. With the help of computers he can maintains his books of accounts.

Fig. 1.5 In Business

1.4.5 In Banks

Computers are widely used in banks. They are used in banks for record keeping and maintaining accounts of customers. Most of the banks provide the facility of ATMs (Debit Card). The customers can withdraw and deposit money in his account through ATM (Debit Card) at any time.

Fig. 1.6 In Banks

1.4.6 In Entertainment field

Computer is also helpful in our Entertainment. With the help of Computers a computer designer can give special effects in movies. With the help of computes even imaginary characters (cartoons) can play a part in making movies, videos, and commercials.

Fig. 1.7 In Entertainment

1.4.7 In different Government fileds

Various departments of the Government use computer for their departmental planning, control and law enforcement activities. Computers are widely used in Traffic, Tourism, Information & Broadcasting, Education, Aviation and many other sectors.

Fig 1.8 In Government Sectors

1.4.8 In Sports

Computers are mostly used in Sports also. In cricket some scoreboards are manually update but nowadays most professional sports venues have very modern scoreboards that update scores and information immediately

after the information is entered into the computer and display result to audiences.

Fig. 1.9 In Sports

1.5 Characteristics of a Computer

As we know that a Computer is a very useful machine. It has many characteristics as described below :

1.5.1. Speed
1.5.2. Accuracy
1.5.3. Diligence
1.5.4. Versatility
1.5.5. Automation
1.5.6. Storage

Let us learn about the characteristics of computer in detail :

1.5.1. Speed

Computer can work very fast. It takes only few seconds for calculations that we take hours to complete. We will be surprised to know that a computer can perform millions of instructions and even more per second.

1.5.2. Accuracy

The degree of accuracy of computer is very high and every calculation is performed with the same accuracy. The errors in computer are due to human and inaccurate data because in whatsoever manner data and instructions are fed into computer, it processes the data and instructions in the same manner.

1.5.3. Diligence

A computer is free from tiredness, lack of concentration, fatigue, etc. It can work for hours without creating any error.

1.5.4. Versatility

It means the capacity to perform completely different type of work. We may use our computer to do calculations and on the same time we may use it for inventory management or to prepare Sale/Purchase bills and listening songs.

1.5.5. Automation

Once the instructions are fed into computer it works automatically on it without any human intervention. It works till the completion. It executes the program until it meets logical instructions to terminate the job.

1.5.6. Storage

The Computer has an in-built memory where it can store a large amount of data. we can also store data in secondary storage devices such as CD's, DVD's and USB Pen Drives.

1.6 Limitations of Computer

Although a computer is very fast, powerful and accurate machine, but it has the following limitations :

1. A computer cannot generate information on its own.
2. A computer cannot correct wrong instructions.
3. A computer cannot come up with its original decision.
4. Computer cannot do any work without getting instruction from the user.
5. It does not have feelings or emotion like a human being.
6. It does not have knowledge and experience like a human being.

Points to Remember

1. Computer is an electronic machine.
2. Computer gives accurate result if right instructions are given
3. Computer never gets tired
4. Computer is versatile machine.
5. Computer possess no intelligence
6. Computer has no feelings or emotions

Exercise

1. Fill in the Blanks using the right option :

1. …… is an electronic machine.
   (1) Cycle (2) Typewriter (3) Computer (4) All of these.
2. The speed of computer is …… .
   (1) Fast (2) Slow (3) Medium (4) None of these.
3. Computer has very large …… .
   (1) Speed (2) Memory (3) Display (4) Keyboard
4. In business computers are used to prepare …… .
   (1) Cash (2) Tickets
   (3) Books of account (4) None of these
5. Computers are used in Education by …… and …… .
   (1) Teachers, students (2) Businessman, Banker
   (3) Parents, children (4) all of these

2. Write down True or False :

1. Computer can perform Mathematical Calculations.
2. Computer cannot take decision itself.
3. Computer doesn't have storage capacity.
4. A computer cannot correct wrong instructions.
5. Computer is an electronic machine which receives input, processes it and gives output.

3. Short Answer type Questions :

1. What is a Computer?
2. Give definition of Computer ?
3. What can we do on a Computer ? Write any four.
4. How a Computer is helpful in Health and Medicine ?
5. How a Computer is helpful in Banks ?

4. Long Answer type Questions :

1. Write down about the fields where a Computer can be used ?
2. Write Down characteristics of a Computer.
3. Write Down the limitations of a Computer.

LESSON
2

Functioning of Computer

Objective of this Chapter

2.1 Block Diagram of a CPU

2.2 Types of Computer

Introduction

We have learnt that a Computer is an electronic machine. It can process data, pictures, sound and graphics. It can solve complicated problems quickly and accurately. A computer performs basically five major computer operations. These are :

1. It accepts data or instructions by way of input.
2. It stores data.
3. It process data as required by the user.
4. It gives results in the form of output.
5. It controls all operations inside a computer.

Before studying about Block Diagram of CPU we need to learn about the functions of a computer in detail. Let us learn about basic functions in detail :

Basic Functions of Computer :

1. Input : This is the process of entering data and programs in to the computer system. We know that computer is an electronic machine. It receives data and instructions as input.

2. Storage : The process of saving data and instructions permanently is known as storage. We need to feed data into the computer system before the actual processing starts. Because the processing speed of Central Processing Unit (CPU) is so fast. So the data has to be provided to CPU with the same speed. It provides space for storing data and instructions.

The storage unit performs the following major functions :

- ➥ All data and instructions are stored here before and after processing.
- ➥ Intermediate results of processing are also stored here.

3. Processing : After input computer takes action on data. The task of performing operations like arithmetic and logical operations on data is called processing.

4. Output : This is the process of producing results from the data for getting useful information. Similarly the output produced by the computer after processing must be kept inside a place in a computer is called Storage.

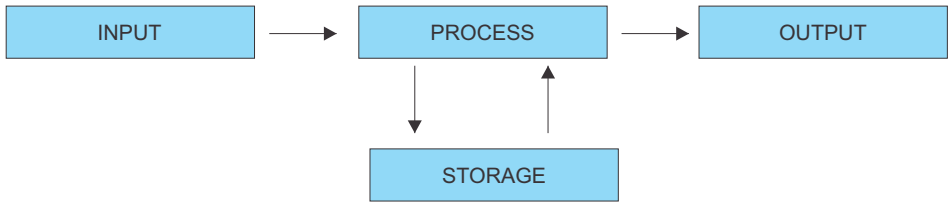
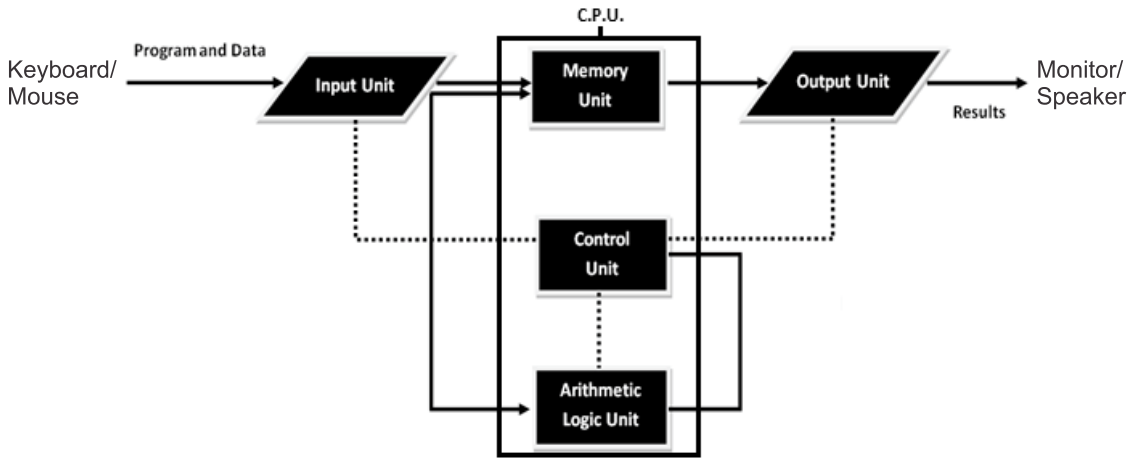


Fig. 2.1 Basic Functions of Computer

2.1 Block Diagram of CPU

In this section we will learn about the functioning of a computer system. CPU Stands for Central Processing Unit and it's the most important part of a computer system. As we have learnt that firstly we give Input (data) to Computer System then this data is processed and finally we get Output.



BLOCK DIAGRAM OF CENTRAL PROCESSING UNIT

Fig. 2.2

Basically Central Processing Unit is divided into three separate units for its operation. These are :

2.1.1. Memory unit

2.1.2. Control Unit

2.1.3. Arithmetic logic unit.

Let us learn about the brief detail of Central Processing Unit.

2.1.1 Memory Unit

The Memory Unit is the part of the computer that holds data and instructions for processing. Although it is closely associated with the CPU but in actual fact it is separate from it. Memory associated with the CPU is also called primary storage or primary memory. Whatever software we load into a computer system from a floppy disk, hard disk or CD-DVD ROM, firstly it is stored in the Main Memory.

There are two types of computer memory inside the computer:

2.1.1.1. Primary Memory

2.1.1.2. Secondary Memory.

2.1.1.1 Primary Memory

Primary memory is known as main memory. It is of two types: RAM and ROM. It is the only one directly accessible to the CPU. The CPU continuously reads instructions stored there and executes them as required. RAM is used to store data on temporary basis, such as we input a data. As soon as the computer system is switched off or in case of power failure, the information hold in RAM is deleted, that's why it also called Volatile Memory. ROM stores the instructions and information that is required by a computer to start on. In case of Power failure or computer system is switched off the data stored in ROM doesn't get deleted. ROM can be re-programmed. Primary Memory has limited storage capacity. It is very expensive. It is not easily portable.

ROM : Random Access Memory

RAM : Read only Memory

2.1.1.2 Secondary Memory

Secondary memory is called auxiliary memory. It contains all data storage that is not currently in a computer's primary storage or memory.

This is computer memory that is not directly accessible to the processor. It is for storing data not in active use and keeps data even without power. So it is called non-volatile memory. Hard disk is a good example of secondary memory that is fixed in a computer system. CD, DVD or USB Pen Drive also few examples of secondary memory. It is not so costly. Its storage capacity is more than primary memory. It is easily portable.

2.1.2 Control Unit

The control unit is also called a control system or central controller. It directs the various components of a computer, such as receiving input, giving instructions to store data and producing results. It reads and interprets (decodes) instructions in the program one by one decodes each instruction and also control the other parts of the computer. Some of its basic functions are as follows :

1. To read the code for the next instruction.
2. To decode the numerical code for the instruction .
3. To provide the necessary data to an ALU.

2.1.3 Arithmetic Logic Unit:

An arithmetic logic unit (ALU) performs arithmetic and logical operations. The ALU is a building block of the central processing unit (CPU) of a computer because the instructions are executed here. ALUs can perform the following operations :

1. Integer arithmetic operations (for example : addition, subtraction, multiplication and division).
2. Bitwise logic operations (greater than, smaller than, equal to)

2.2 Types of Computer

Types of computers are based upon the purpose, functioning and size of the computer. Accordingly they are classified into four types :

2.2.1. Micro Computer (Personal Computer)

2.2.2. Mini Computer.

2.2.3. Mainframe Computers

2.2.4. Super Computer

Let us study in details about these types of Computer:

2.2.1 Micro Computer (Personal Computer)

Microcomputers are the most common type of computers used by people nowadays. These Computers are used in a workplace, at school or at home.

Fig. 2.3 Micro Computer (Personal Computer)

These computers include :

2.2.1.1. Laptop

It is a portable personal computer. It is light in weight and small enough that it is easy to operate it on a person's lap. A laptop computer has its own battery and can be charged easily as required. A person can carry a laptop while travelling.

Fig. 2.4 Laptop

2.2.1.2. Notebook

It is a portable computer smaller than a laptop. Likewise Laptop Computer It is light in weight. A notebook computer has its own battery and can be charged easily as required. A Person can carry it while travelling.

Fig. 2.5 Notebook

2.2.1.3. Palmtop

It is a computer that has a small screen and compressed keyboard. It is small enough to be held in the hand. It is often used as a personal organizer and stores message, contacts etc.

Fig. 2.6 Palmtop

2.2.1.4. Tablet

It is a very thin portable computer. It is usually battery-powered. It has a touch screen as the primary interface and input device. It doesn't have a physical keyboard and lid like a laptop.

Fig. 2.7 Tablet

2.2.2. Minicomputer

A minicomputer is a class of multi-user computers. It is a type of computer that possesses most of the features and capabilities of a large computer but is smaller in physical size. Minicomputers are mainly used in scientific applications

Fig. 2.8 Minicomputer

2.2.3 Mainframe Computers

These computers are capable of handling and processing very large amounts of data quickly. These Computers are capable of performing high processing speed and data storage but not powerful as super computers. Mainframe computers are used in large institutions such as government banks and large corporations.

Fig. 2.9 Mainframe Computers

2.2.4 Supercomputer

A super computer is most powerful computer. It has fastest speed and very high processing speed. It has large data storage. Super computer is specifically used for complex applications by big organization. Super computers are costly.

Fig. 2.10 Supercomputer

Points to Remember

1. Computer accepts data and instructions by way of input.
2. Computer can process data as required by the user,
3. Computer gives results in the form of output.
4. CPU Stands for Central Processing Unit
5. Basically a CPU is divided into three separate units for its operation. They are :
   - ➥ Memory unit
   - ➥ Control unit.
   - ➥ Arithmetic logic unit
6. The control unit is often called a control system or central controller.
7. Memory associated with the CPU is also called primary memory.
8. Secondary memory, sometimes called auxiliary memory.
9. Computers are classified into four types :
   - ➥ Micro Computer (Personal Computer)
   - ➥ Mini Computer
   - ➥ Mainframe Computers
   - ➥ Super Computer
10. Super Computer is most powerful computer available in the world.

Exercise

1. Fill in the Blanks using the right option :

1. …… is the process of entering Data and Instructions to the computer.

   (1) Input Devices (2) Output Devices
   (3) CPU (4) None of these

2. The process of saving data and instructions permanently is known as ……

   (1) Input (2) Storage (3) Processing (4) Output

3. The process of producing results from the data for getting useful information is called …… .

   (1) Input (2) Output (3) Processing (4) None of these

4. Primary storage is also known as……. Memory.

   (1) Secondary (2) Main (3) Auxiliary (4) All of these

5. Secondary storage is also called…….. storage.

   (1) Secondary (2) Main (3) Auxiliary (4) all of these

2. Write down True or False :

1. A computer is an electronic machine.
2. The Process of entering data and programs into the computer is called Output.
3. Intermediate results of processing are stored in Storage.
4. A super computer is most powerful computer.
5. Memory is of two types : Primary Memory and Secondary Memory.

3. Short Answer type Questions :

1. Draw the diagram of basic functions of a Computer.
2. Draw Block Diagram of C.P.U. and name three parts of it.
3. Define memory and name of two types of memory.
4. Differentiate between Primary memory and Secondary memory.
5. Describe about Laptop.
6. What is Tablet?

4. Long Answer type Questions :

1. What are the basic functions of a Computer?
2. Difference between Primary Memory and secondary memory?
3. Describe Control Unit.
4. Describe A.L.U.
5. Describe Microcomputer.

LESSON 3

Introduction to Windows

Objective of this Chapter

3.1 What is an Operating System ?

3.2 How to Start a Computer ?

3.3 What is Desktop ? Icons, Taskbar and Shortcut.

3.4 What are Icons ?

3.5 What is Taskbar ?

3.6 Parts of Windows : Title Bar, Menu bar, Toolbar, Scroll Bar

3.7 How to Turn off a Computer ?

Introduction

We have learnt that a Computer is an electronic machine. Likewise other machines we need to start a Computer. Many of us can work easily on a Computer, but we don't know how to start a Computer ?

In this chapter we will learn how to start a Computer ? We will learn about various objects visible on a screen after starting a computer. We will also learn about Operating System that acts as a link between a user and a computer.

3.1 What is an Operating System ?

The operating system is the most important program that is on a computer. The operating system basically runs the computer and allows other programs to run as well. The operating system does all the basic functions that a computer needs to do, such as getting inputs from the mouse or the keyboard. It prevents unauthorized access to the computer.

3.1.1 Definition of Operating System

"An operating system is a software program that enables the computer hardware to communicate and operate with the computer software."

Operating System is available in many types such as Microsoft Windows, Linux Operating Systems and Macintosh Operating System. The most popular Operating system today is Microsoft's Windows operating system. In this chapter we will study about Microsoft Windows 7.

3.1.2 Windows

Windows is an Operating System. It is installed on a Computer System. It provides us Graphical User Interface (GUI). So it is very easy to operate Computer with the help of a Mouse. We can easily run a Program that is installed on it. A window is called a window because of its shape, whenever we click on a program; it opens in a frame like a window.

3.2 How to start a computer ?

The Steps to turn on the computer are described below:

1. Switch on the Power Switch of CPU and Monitor. We will see a blink of light on our keyboard and see some text on our computer screen. Now The Operating System will start Loading in computer. This process is called Booting. Wait till the booting process is completed.

Fig 3.1 How to Start a Computer

After booting the following screen will be displayed to us :

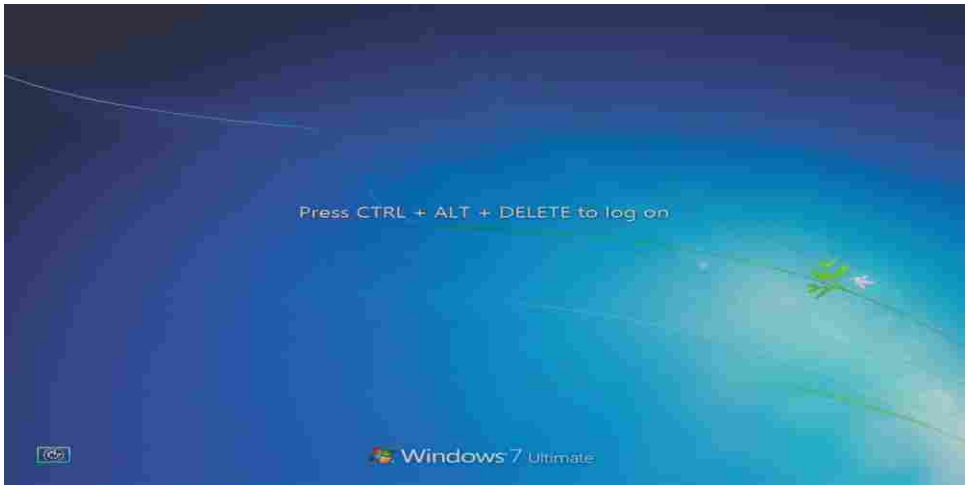


Fig. 3.2 Screen after Booting

As shown in Fig. 3.2 we need to press Alt, Ctrl and delete keys simultaneously from our key board. After this we will see the following screen :

Fig. 3.2.1 Log on Screen

Logging-on to our computers : If we have server based "N-Computing" Computer lab in our school then we need to press Alt, Ctrl and delete keys simultaneously from our key board. After this we will see log on screen as shown in Fig 3.2.1. In this chapter the default username for server is "School". For log on to server we need to click in username box and type "School" after this we need to type "p@1" as password. Now press Enter key from keyboard. if we are using Clients Computers then we need to type user1, user2 user3, user4 and user5 respectively in username box to log on

according to our seating position. The password is "p@1" for all computers. It must be remembered that we should not log on same user on different clients.

If there is no server based "N-computing" Lab in our school, then we will see Fig. 3.2 on each computer screen. To log on computer we need to do the following tasks :

1. Press Ctrl, Alt and Delete key from computer keyboard, we will see the screen as shown in Fig. 3.2.1.
2. There can be two or three username on this computer. We can logon any of the one username as per our requirement. To log on we need to click in username box and type the prescribed username (e.g. "School", user1 etc). After this type "p@1" in password box.
3. Press enter key.

After log on to computer, we will see the following screen that consists of some shapes and a long bar lying down the bottom of the screen. This screen is called Desktop.

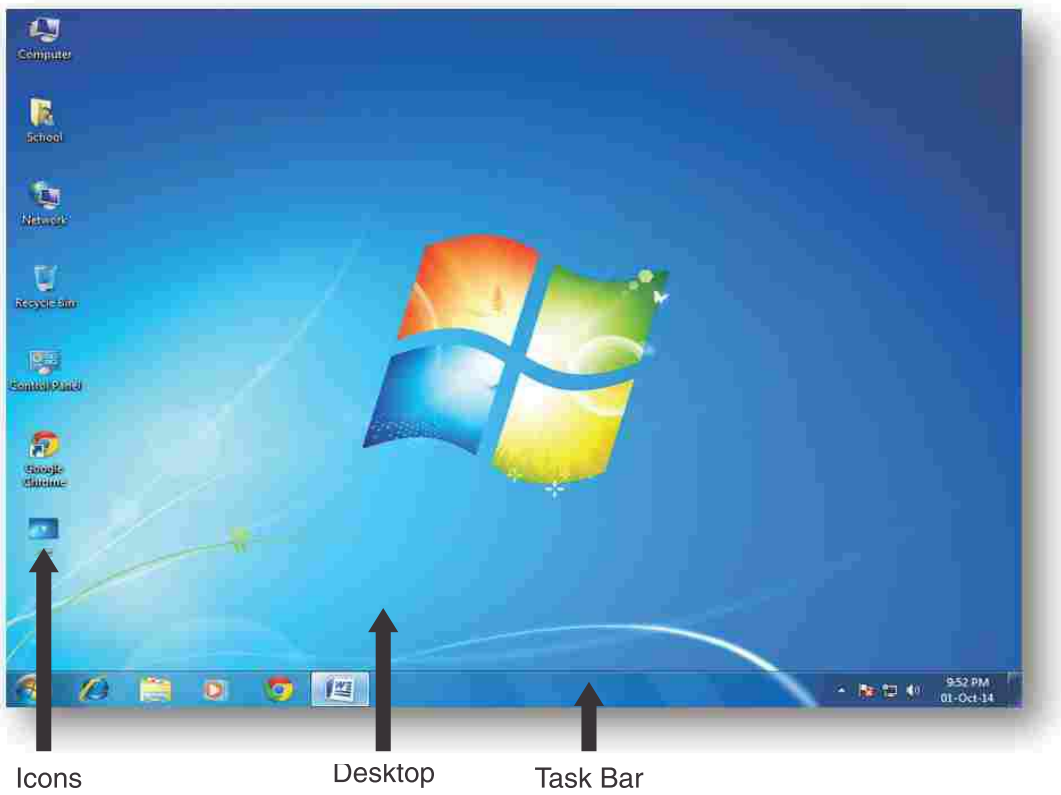


Fig. 3.3 Desktop

3.3 What is Desktop ? Icons, Taskbar and Shortcut

Desktop is the basic screen that is visible after completion of Booting process. All the programs of the windows are run with the help of Desktop. Desktop have the following three parts :

- Icons
- Taskbar
- Shortcut

3.4 What are Icons ?

Icons are like small pictures on Desktop. Icons act like button. Icons represent folders and files. To open a folder or file we have to click its icon twice e.g. if we double click My Computer icon then My Computer windows will open. Some examples of desktop icons are shown below :

Fig 3.4 Icons

1. My Computer
2. Network
3. User's Files (School)
4. Recycle Bin

Let us study about these icons in detail :

3.4.1 My Computer

With the help of My Computer Icon we can see everything available in Computer. It has many files, folders and Drives. My computer window opens when we double click on My Computer Icon.

3.4.2 Network

This icon is available on the Desktop. We can see our network settings by opening this icon and we can set it as per our requirement.

3.4.3 User's Files (School)

This icon is used to save the files created or downloaded by us. We can save our files and folders too in this folder. When we double click on this icon, we will see the following display :

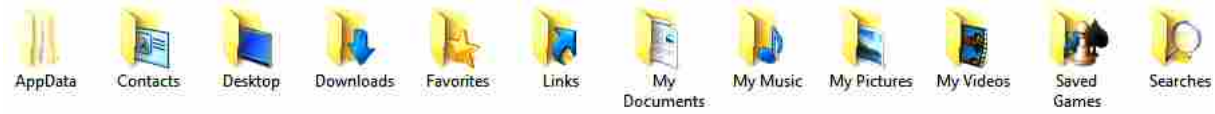


Fig. 3.5 User's Files (School)

3.4.4 Recycle Bin

All the deleted files and folders are stored in the Recycle Bin. Whenever we don't need a file or folder we delete it from its location, but it is not deleted permanently from the computer but it goes to Recycle Bin. To delete a file or folder permanently we have to delete it from Recycle Bin too.

In case we have deleted a file or folder by mistake then we need not to worry about it. We can get back the deleted file or folder from Recycle Bin. This process is called Restore. To do this we need to open Recycle Bin and then select deleted file or folder in it. Then press **Restore this item**, the selected file or folder will go back to its original location. (See fig 3.6)

Fig. 3.6 Recycle Bin

3.5 What is Taskbar ?

The Task bar is the thin strip that runs across the bottom of wer screen. It has a number of different areas like a start button, Quick launch icons,

active programs, a notification area and date & time. The image below shows where the different areas are :

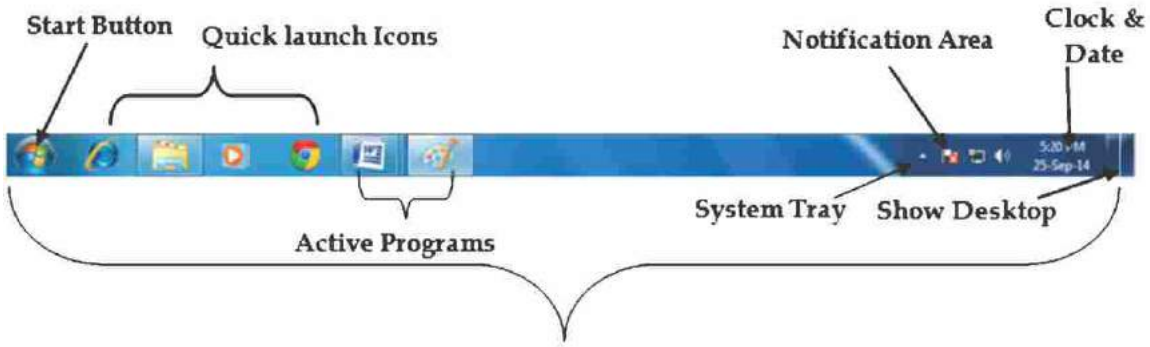


Fig. 3.7 Task Bar

With the help of Start button we can run any program. On the right side of the Task bar we will see System Tray Button ,Notification area, Computer Network Icon, System Sound icon and Date and Time is displayed. There is one more area on the Taskbar that is easily overlooked- the Show Desktop button. In the above image we can see a narrow rectangle to the right of the clock. By clicking on this button we can minimize all open programs and access the desktop.

Note : Task Bar is also called Super bar because of Show Desktop Button.

3.5.1 Shortcut

If we want easy access from the desktop to our favorite files or programs, we can create shortcuts to them. A shortcut is an icon that represents a link to a program/file/folder, rather than the program/file/folder itself. When we double-click a shortcut, the program/file/folder opens. If we delete a shortcut, only the shortcut is removed, not the original program/file/folder. We can identify shortcuts by the arrow on their icon.

Fig. 3.8 Shortcut

3.6 Parts of Windows : Title Bar, Menu bar, Toolbar, Scroll Bar

When we open a program, it opens in a shape of frame. This frame is called Windows. Windows has many components. Different programs

open in their different windows. Components of each window are almost same.

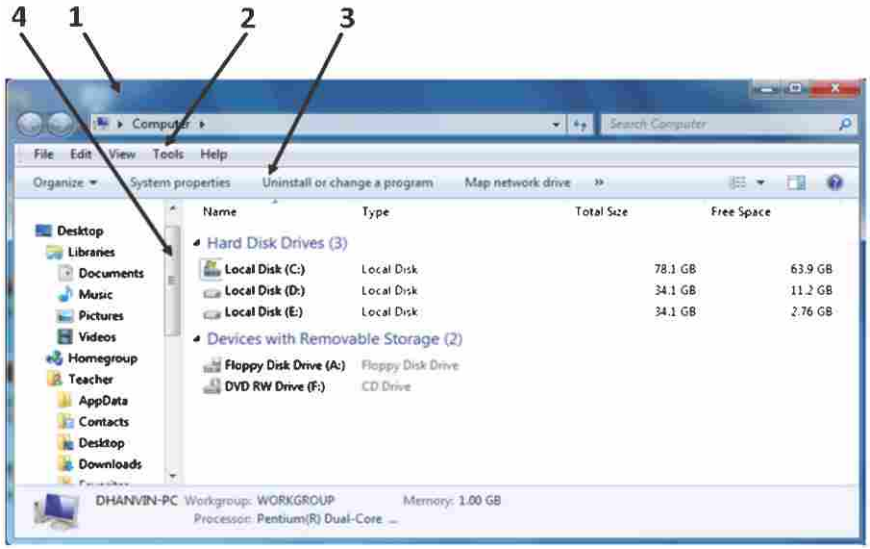


Fig. 3.9 Parts of Windows

Let us learn about different components of My Computer Windows :

3.6.1. Title Bar

3.6.2. Menu Bar

3.6.3. Tool Bar

3.6.4. Scroll Bar

Let us study about these parts in details :

3.6.1 Title Bar

It appears at the top of the windows. On the right side following buttons are present :

1. Minimize Button ( **) :** It is used to minimize the windows. When we click this button the windows attains the shape of a button on the taskbar.

2. Maximize Button ( **) :** This button is located in the middle. It is used to spread the windows on the whole of the screen.

3. Restore Button ( **) :** We can change the window to its old shape while clicking on this Button is (before maximizing the windows)

4. Close Button ( **) :** This button is used to close the windows.

3.6.2 Menu Bar

This bar contains generally used commands in windows. When we click on any option in this bar, we will see drop down menu.

3.6.3 Toolbar

It contains buttons for the commands which are commonly used.

3.6.4 Scrollbar

This bar lets a user to scroll the contents of the window to see information that is currently out of view

3.7 How to Turn off a Computer ?

If we have completed our work, then we should know how to turn off our computer properly. Close all the open programs before shutting down off our computer. Let us learn how to turn off/shut down our computer :

1. Click on "Start Button", Start menu will be opened. (see in Fig. 3.10)
2. Click on "Shut Down" on start menu. (see in Fig. 3.10)

Fig. 3.10 How to Turn off/Switch off a Computer ?

After some time our computer will shut down.

Note : Always close all the running application before shut down our computer. Always shut down our computer with above method. Never shut down our computer directly from Power Switch.

Points to Remember

1. Primary Screen of Computer is called Desktop.
2. Small pictures showing program, files and folders on the desktop are called Icons.
3. My computer icon is used to see files, folders and Local Drives.
4. All the Deleted files are stored in Recycle Bin.
5. Task bar is also called Super bar.
6. Show Desktop Button is used to minimize all open programs and access the desktop.
7. We should not Shut Down our Computer Directly from Power button.

Exercise

1. Fill in the Blanks using the right option :

1. The Primary screen (first to open) of computer is called ……..…. .
   (1) My Network (2) Icon
   (3) Desktop (4) Recycle Bin
2. The bar lying at the bottom of the desktop is called …… .
   (1) Title Bar (2) Status Bar (3) Task Bar (4) Scroll Bar
3. The bar present at the top of the window is called …… .
   (1) Title Bar (2) Status Bar (3) Task Bar (4) Scroll Bar
4. Deleted files go to …… .
   (1) My Network (2) My Documents
   (3) My Computer (4) Recycle Bin

5. …… button is used to close the window.

(1) Minimize (2) Maximize (3) Close (4) Start

2. Write down True or False :

1. Windows is an Operating System.
2. Primary Screen of windows is called My Computer.
3. My computer helps us to see drives of my Computer.
4. Maximize button helps us to enlarge the window.
5. My Documents icon contains files and folders.
6. We should turn off our computer directly from power button.

3. Short Answer type Questions :

1. What is an Operating System?
2. What is windows?
3. What is a window desktop?
4. What are icons? Name any three icons.
5. Name different components of windows.
6. Write down about Show Desktop button on Task bar.

4. Long Answer type Questions :

1. Explain Task Bar.
2. Explain the following icons.
3. What is Recycle Bin?

LESSON
4

Introduction to M.S. Paint

Objective of this Chapter

Introduction

Paint is a drawing program used for drawing objects and shapes. We can draw colorful pictures with paint. These pictures can be saved and printed. These pictures can be copied in another document and can also be taken to desktop as background.

4.1 What is Paint?

Paint is a drawing tool which helps us to create drawings. It is a useful program for new users and children. There are many different tools in paint used for making beautiful pictures. Drawings in paint can be either in black-and-white or in color, and can be saved as bitmap files. We can print these drawings, can use it for your desktop background, or paste it into another document. We can use Paint to work with pictures, such as .jpg, .gif, or .bmp file formats.

4.2 How to start the MS-Paint

Start  **→ All Programs → Accessories → Paint** 

OR

1. Click on the start button on taskbar/super bar. Start menu will appear.

2. Click on All Programs, another menu will appear.
3. Click on Accessories option in this menu. Another menu will appear. This menu has a Paint option.
4. Click on Paint option.
5. Paint window as shown in diagram given below.

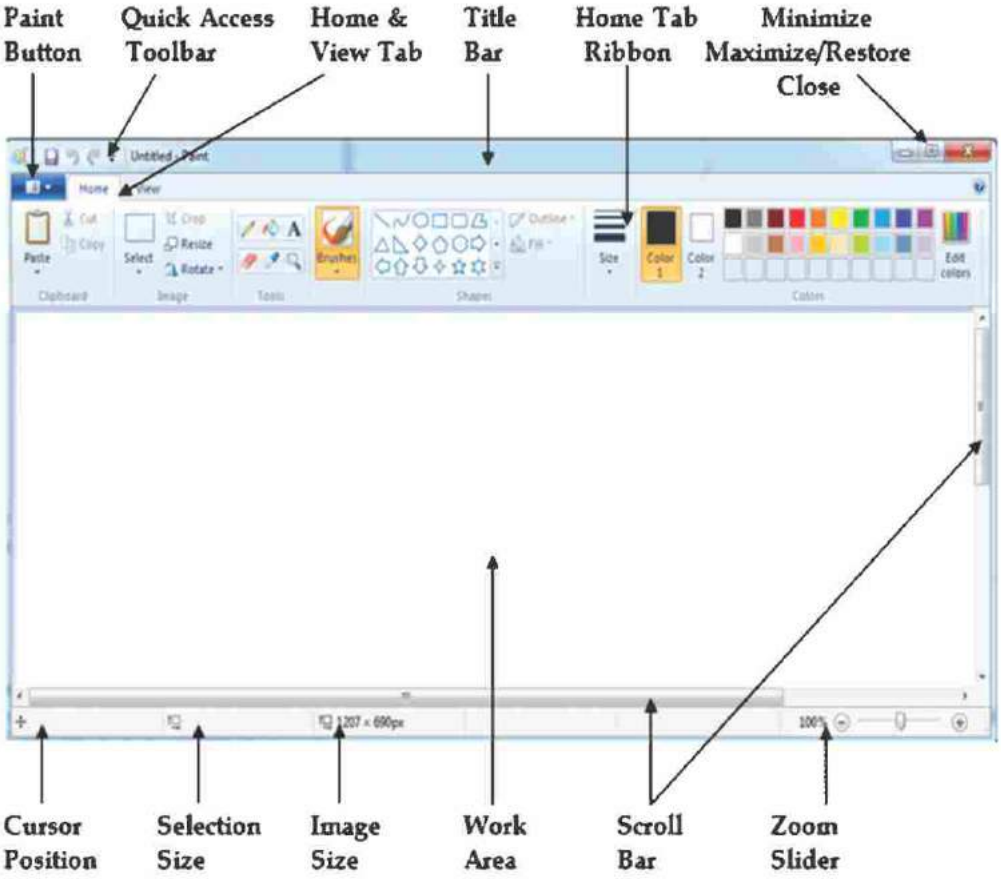


Fig. 4.1 Parts of Paint Windows

4.3 Parts of a Paint Window

Paint window is shown in above figure. It has following main parts:

1. Title Bar
2. Quick Access Toolbar
3. Menu Bar
4. Vertical and Horizontal Scroll Bar
5. Status bar
6. Zoom in zoom out
7. Work Area

4.3.1 Title Bar

The title bar is present at the top of the paint window. At the left end of the Title Bar the first item shown is little paint palette. If we click this button a standard window menu opens, having options Restore, Move, Size, Minimize, Maximize and Close. Another thing we will see the title of our picture followed by the name of the programPaint. If we haven't saved our picture, the name will be shown as "Untitled".

Fig. 4.2 Title Bar

4.3.1.1 Quick Access Toolbar

Quick Access Bar, contains four buttons - **Save**, **Undo**, **Redo** and **Customize.**

4.3.1.2 Minimize, Maximize / Restore, close:

Title bar has three buttons on its right corner. They are:

- Minimize button : used for minimizing the paint window onto the task bar.
- Maximize/Restore button : used for maximizing and restoring the paint window.
- Close Button : used for closing the paint window.

Fig. 4.3 Minimize, Maximize, close

4.3.2 Quick Access Toolbar

It is toolbar present in title bar by default. Its position can be changed both to below or above the ribbon and icons can be added and removed as per the user's requirement.

Fig. 4.4 Quick Access Toolbar

4.3.2.1 Moving Quick Access Toolbar to below the Ribbon

If we prefer to have **Save**, **Undo** and **Redo** below the ribbon, move your cursor over the title bar until the **Customize** icon lights up. Click and a menu will appear. Near the bottom of the menu that appears, we will see

Show below the Ribbon. Click **Show below the Ribbon.** The Quick Access Toolbar will move below the Ribbon.

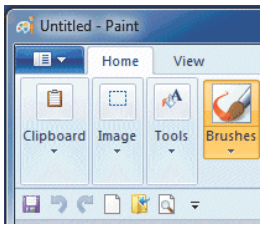


Fig. 4.5 Moving Quick Access Toolbar to below the Ribbon

We can add more options such as **New, Open, and Print Preview** etc. to the Quick Access Toolbar with the help of **Customize** icon.

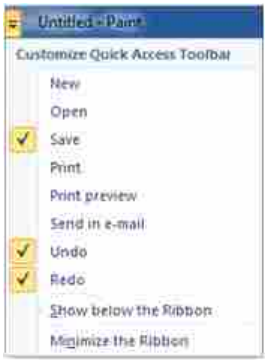


Fig. 4.6 Customize Quick Access Toolbar

Let us learn about these commands and their functions :

Name of Command	Functions
New	Creates a new, blank image file.
Open	Opens a dialog box to open (view) an existing image file.
Save	Saves changes to the current file.
Print	Use to Print the current picture.
Print Preview	Displays the image on screen as it will appear when it is printed out on paper.
Send in e mail	In Paint Send a copy of the picture in an email as an attachment.
Undo	Undo last action.
Repeat	Redo last action.

Name of Command	Functions
Show below/ above the ribbon	Shows Quick Access Toolbar below or above the ribbon.
Minimize the ribbon	Toggle the ribbon On/Off.

We can click any of these items a second time to undo changes we have made to the Quick Access Toolbar.

4.3.2.2 Adding Ribbon items to the Quick Access Toolbar:

Many other items from the ribbon can also be added to the Quick Access Toolbar. On the Ribbon, right click on anything we like to add. A menu will appear which includes the option "Add to Quick Access Toolbar". Click on this option.

Fig. 4.7 Adding Ribbon items to the Quick Access Toolbar

Here the Magnifier, Pencil, Color2 (background color)and Transparent selection tools have been added to Quick Access Toolbar. To remove these items we have added from the Ribbon, right click the unwanted icon and then click the Remove from Quick Access Toolbar option.

4.3.3 Menu Bar

The Menu bar has three tabs named as Paint Button, Home tab ribbon and View tab ribbon, on the left side and a Help button at the far right side of the bar as shown in the figure below.

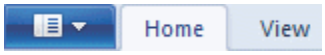


Fig. 4.8 Menu Bar

4.3.3.1 Paint Button :

The first on the left of the Menu Bar is the **Paint Button**, which opens a menu, as shown below, and a list of pictures we have recently saved.

Fig. 4.9 Paint Button

Here we can see some new commands which are discussed in table shown below :

Name of Command	Functions
Save As	Saves changes to the current file, and allows us to pick a new or different file name and format such as PNG, JPEG, BMP, GIF or other format for the file.
From scanner and camera	Import picture from scanner or camera.
Set as desktop background	Set the current picture as our desktop background.
Properties	Change the properties of the picture. The Properties dialogue box will give us information about the picture on which we're currently working.
Exit	To close paint window.

4.3.3.2 Home tab Ribbon

All the tools, shapes, the color palette, and most commands are grouped together in the ribbon except the commands such as Save, Undo and Redo,

which are shown at the left end of the title bar, in the Quick Access Toolbar. Drop-down arrows below each item in the ribbon will give us access to everything in their menus. For everything we do in paint, we will need the **Home** tab. The Home tab contains the Ribbon, from which tools, shapes, brushes and colors are selected.

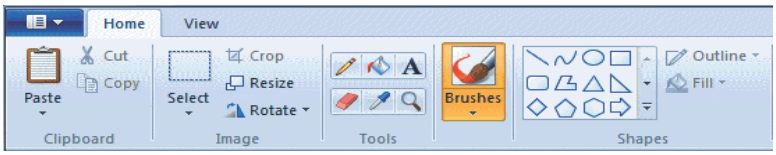


Fig. 4.10 Home tab Ribbon

There is also an option to minimize the ribbon. If we choose this, the ribbon disappears entirely, but pops into view if you click on the **Home** tab.

4.3.3.3 View tab Ribbon

We can use the View tab by clicking on it. The options such as Zoom in and Zoom out, show or hide and display are in View tab. Zoom in and out can be used alone or in conjunction with the Zoom Tool on the Ribbon or the slider on the Status Bar.

Fig. 4.11 View tab Ribbon

4.3.4 Scroll Bar

Scroll Bar is used to move the screen. It is of two types

4.3.4.1 Horizontal Scroll bar

It is present at the bottom of the Paint window and above the status bar. It moves the screen left and right.

4.3.4.2 Vertical Scroll bar

It is present on the right side of the Paint window. It moves the screen up and down.

4.3.5 Status Bar

The Status Bar is present at the very bottom of the Paint Window; it gives information and can be used to help us as we work in Paint. Let us look at its features from left to right.

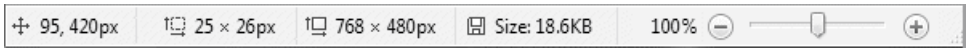


Fig. 4.12 Status Bar

- **Cursor Position :** It gives the Cursor Position, which is helpful when we want to position any picture precisely.

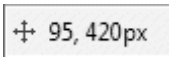


Fig. 4.13 Cursor Position

- **Selection Size :** It shows the size of a selection we are making, or of an object we are drawing.

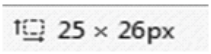


Fig. 4.14 Selection Size

- **Image Size :** It shows the size of our entire picture, even if the picture is very large and is not all visible in the window. If we have not changed the units in the Properties dialogue box the measurement will be in pixels, but we can change the measurement to inches or centimeters.

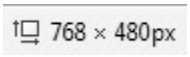


Fig. 4.15 Image Size

- **Disk Size :** Once we have saved our picture, this option will show its size on storage Disk. In a very small window, this figure might not be shown.

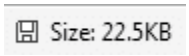


Fig. 4.16 Disk Size

- **Zoom Slider :** The Zoom Slider is convenient if we are working in a zoomed-in view and want to zoom out. However, we cannot zoom **in** on a particular spot, as we can do with the Magnifier.

Fig. 4.17 Zoom Slider

4.3.6 Work Area

Free space is called work area. It is used for making drawing.

4.4 Saving our Work

It is good to save our picture as soon as we begin to work. We must click on the **Save** button on the **Quick Access Toolbar** every few minutes. This saves loss of work if the program closes unexpectedly, as in a power failure.

When we click the **Save** for the first time, we will find a dialogue box where we have to type a name for the picture. Having typed a name, click the **Save** button.

Save as : With the help of Save as option we can **Save a Copy** of picture with another file name. Go to the Paint button and open the menu.

Fig. 4.18 Paint button

Click **Save as** 

In the dialogue box, just change existing name then click the Save button.

Points to Remember

1. Quick Access Toolbar is present in title bar by default
2. New Command creates a new, blank image file
3. The first on the left of the Menu Bar is the Paint Button
4. Maximize, Minimize and close button are parts of title bar.
5. The Status Bar is present at the very bottom of the Paint Window.

Exercise

1. Fill in the Blanks using the right option :

1. The …… bar is present at the top of the paint window.
   (1) Title bar (2) Status Bar
   (3) Scroll Bar (4) All of these
2. …… toolbar present in title bar by default. Its position can be changed either to below or above the ribbon.

(1) Quick access bar (2) Status Bar (3) Scroll Bar (4) Task Bar

3. The first on the left of the Menu Bar is the …… Button.

   (1) Paint (2) Help (3) Close (4) Minimize

4. Scroll Bar is used to move the screen. It is of …… types

   (1) 2 (2) 3 (3) 4 (4) 5

5. With the help of …… option we can Save a Copy of picture with another file name..

   (1) save as (2) open (3) new (4) exit

2. Write down True or False :

1. Drawings in paint can be saved as bitmap .bmp files.
2. There are 3 buttons at the Right hand side of The title bar.
3. Minimize button is used to minimizing the paint window onto the task bar.
4. New command is used to create a new, file.
5. Drawing is done in drawing area.

3. Short Answer type Questions :

1. What is paint?
2. How to start the Ms Paint.
3. Write the parts of paint window.
4. Write the types of scroll bar.
5. What is work area?

4. Long Answer type Questions :

1. What is Quick Access Toolbar? Explain its parts.
2. What is paint button? Write down its commands.
3. Define Home Tab Ribbon.
4. What is status bar? Explain its parts.
5. How to save our work?

LESSON 5

M.S. Paint – Part 2

Objective of this Chapter

5.1. Home Tab Ribbon

Many of the tools we use in Paint are found in the Home Tab Ribbon, which is below the Menu Bar of the Paint window. The following figure shows the Ribbon and main parts of Home Tab Ribbon.

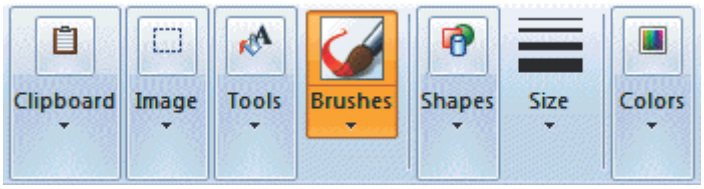


Fig. 5.1 Home Tab Ribbon

5.1.1 The Clipboard Menu

The clipboard menu has three options – **Cut**, **Copy** and **Paste**. Only when a selection is active, the Cut and Copy icons are shown as active.

Fig. 5.2 The Clipboard Menu

Paste is always active, because we may wish to **Paste from** a picture on our computer. For example if previously, we have drawn and saved a small flower and wish to add it to our new drawing. We can click the down arrow under Paste, click **Paste from** and navigate to the saved picture, click its name and click **Open.**

5.1.2 The Image Menu – Select

Depending on the size of our window, the Image Menu will look like one of figures shown below. When we click the down arrow just below the dotted rectangle, or just below the word Image, a menu offers us further choices.

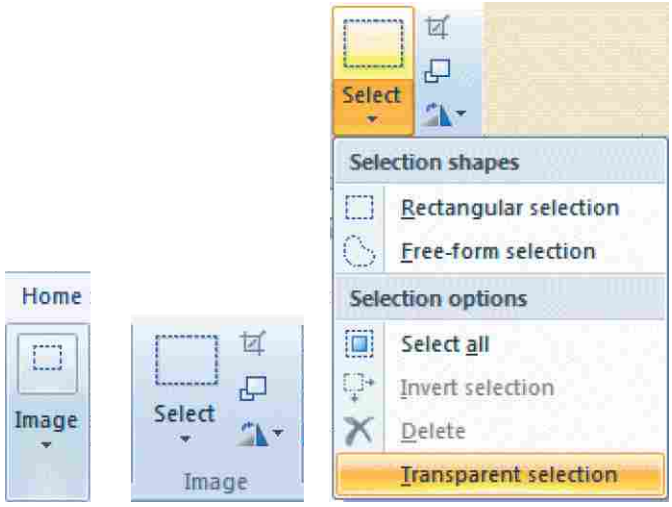


Fig. 5.3 The Image Menu – Select

Before we can use the buttons on the right of this menu, we must select the part of our drawing that we want to work with.

- **Transparent selection :** At the bottom of the Select menu we can see **Transparent selection**. We may use this often, so it is good to add it to our Quick Access toolbar. To do this, right click on Transparent

selection and then click on **Add to Quick Access toolbar**. On our Quick Access Toolbar, there will be a checkbox in front of the words, Transparent selection, as shown in figure below.

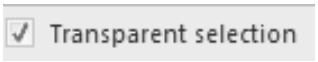


Fig. 5.4 Transparent selection

While that box has a tick in it, selections will be transparent. To make our selections opaque, just click the checkbox to remove the tick.

- **Rectangular selection :** Usually we can make a rectangular selection. After clicking the rectangular selection tool, position the cross-hair cursor at the top left of the part we want to select, press your left mouse button and drag down to its bottom right. A dashed rectangle will appear around our selection. With the move cursor we can move our selection, or drag while holding the Ctrl key to make a copy of it.
- **Freeform selection : W**e may need to make a freeform selection if the part of our drawing that we want to work with is crowded up closely with parts we don't want to include.

5.1.2.1 Copying a selection

There is a Copy button on the ribbon for copying, but we can make multiple copies of a selection in a faster way also.

Draw a selection around the part we want to copy, using either the rectangular or the freeform selection tool. Whenever Move Cursor appears; hold the Ctrl key as we begin to drag to its new location, Click, a copy will appear of the selection. If we want to continue copying, press the Ctrl key again as we begin to drag the second time. Repeat as many times as we needed.

5.1.2.2 Painting with a selection

Select a small piece from a picture, for example, with more than one color. Hold down the Shift key while we drag it around to make an abstract pattern. We can even write with a small selection.

5.1.2.3 Selection option

To the right of the selection icon we can see three options, **Crop**, **Resize** and **Rotate flip.**

5.1.2.3.1 Crop

The top button, a diamond shape with a line through it is crop. It helps us crop to our picture so that only the selected area remains. If we click the Save icon after cropping to a selection, our large drawing page will be replaced with the cutout.

5.1.2.3.2 Saving a cutout

1. Save the picture we are working on.
2. Select the part we want to save as a cutout.
3. Click the Crop button.
4. Go to the Paint button and open the menu.
5. Click **Save as** Save as .
6. Type a name for the cutout and click Save. We will return to the Paint window with the cutout displayed in it and the name on the Title bar is the name we used when saving the cutout.

5.1.2.3.3 Resize and Skew

The second small button to the right of the large Select button will open the Resize and Skew dialogue box as shown in figure below.

Fig. 5.5 Resize and Skew

5.1.2.3.3.1 Resize

We can quickly resize a selection by dragging any of the little blocksor handleson the selection rectangle. However, if we want the size adjustment

to be precise, we must use the Resize and Skew dialogue box, which will appear when we click the Resize icon as shown in figure below.

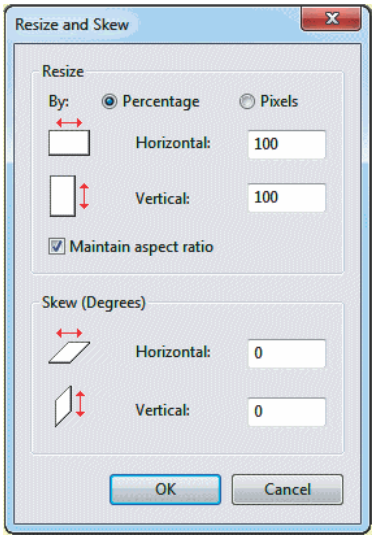


Fig. 5.6 Resize

Only the top half of this dialogue box is concerned with resizing.

Note : While t**he option Maintain aspect ratio** is checked, whatever we type into the Horizontal slot will be repeated in Vertical and our selection will stay exactly in proportion. We can remove the check if we want the selection to be fatter or thinner.

Fig. 5.7

5.1.2.3.3.2 Skew

The bottom part of the Resize and Skew dialogue box invites us to skew our selection. When we use this option, it makes our selection include a lot of border area to avoid having part of the picture cut off. If this does happen, click **Undo** and make a wider selection before trying again.

Fig. 5.8 Skew

This above blue box show in fig 5.8 is skewed 20 degrees horizontally. We can skew a selection both horizontally and vertically.

5.1.2.3.4 Rotate or flip

This menu helps us making mirror images of selections, either vertically or horizontally, and it also helps us in rotating an item 90 degrees.

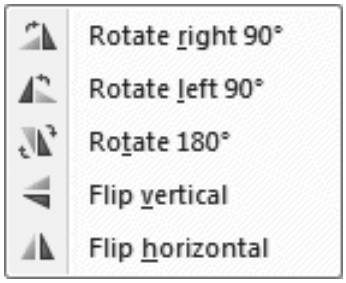


Fig. 5.9 Rotate or flip

Making a mirror image is easy if we are trying to draw anything that looks symmetrical. We have to just copy half of the picture, flip it and join it to itself.

- **Invert Color :** Another set of options are available if we **right** click on a selection we have made. It includes **Cut, Copy, Paste, Crop, Select all, Invert selection, Delete, Rotate and Resize**, the only one option that is available on this menu and nowhere else is **Invert color**. It helps in making a black mask with white lettering to create a fancy fill for text. Invest color always shows opposite color of our selection for e.g. if we select black color then use invert color, it will show as white color.

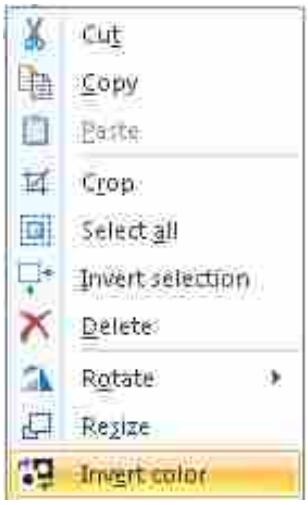


Fig. 5.10 Invert Color

5.1.3 The Tools Menu

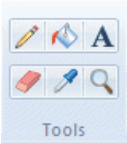


Fig. 5.11 Tools Menu

5.1.3.1 Pencil

The pencil tool is used for free-hand drawing, or it can be used for pixel-by-pixel editing in a zoom-in view.

Fig. 5.12 Pencil

When we work with the pencil tool, we must press the left mouse button to draw with Color 1 and with the right mouse button to draw with Color 2.

Note : Color 1 in Paint is referred to as the Foreground color, and Color 2 is the Background color of the picture. We can also change the pencil's thickness in the Size tab to 1, 2, 3 or 4 pixels or with the use of ctrl + '+' button to increase the size or ctrl + '–' to decrease the size.

5.1.3.2 Fill with Color

The Fill with color tool, is used to fill an area with **a single color**. Color 1 is used if we press the left mouse button on the area to be filled. Color 2 is used if we press with the right mouse button.

Fig. 5.13 Fill with Color

This tool does not work successfully if we are trying to color different shades of one color. The Fill with Color tool always fills with a solid color.

5.1.3.3 The Text Tool

Like earlier versions **of** Paint, The Text tool is used to insert our text.

Fig. 5.14 Text Tool

To begin inserting text, click on the text tool. Our cursor will change to an insertion bar.With this cursor, drag to draw box that we think will be needed to hold our text. Now we must not **click anywhere outside that box.**

The **Text Toolbar** appears as shown in figure below :

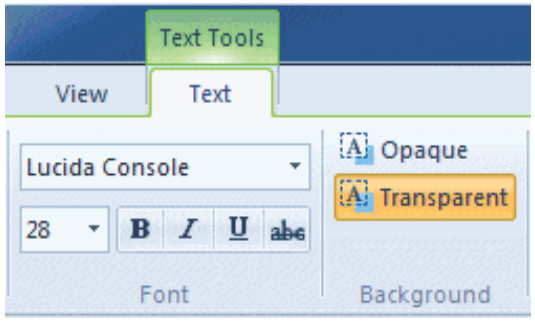


Fig. 5.15 Text Toolbar

Now we can type our text.

Formatting the text :

1. Select the text we have typed.
2. Click the down arrow at the end of the **Font Name** box, so that a list of fonts drops down.
3. Move your cursor – without pressing any mouse buttonsup and down in the font list. As we do this, the appearance of the text we have typed will change accordingly. When we like what we see, click on the name of that font.
4. The font list will close.
5. We can repeat this process with the **Font Size** list also.
6. We can also click the **Background** from **Transparent** to **Opaque** or vice versa.
7. We can change both Color 1 and Color 2.

Note : If we hit the enter key at the end of our text, the box will expand downwards. We can also use the handles to move the text box across the page, pulling it wider on one side and pulling it in on the other. There is no way to align our text automatically to the centre, we can put our cursor to the left of the text and press the space bar as many times as necessary to centre align the text.

Fig. 5.16 Formatting the text

We can also type text in different colors, fonts and size, in the same text box. When we are making changes, only selected text will be affected.When we have completed editing of text, we can click anywhere on the page outside of your text box. After clicking away from the text box, the Text Toolbar disappears and the text becomes part of our picture. Now, it cannot be edited in any way.

5.1.3.4 The Eraser

The Erasertool erase the part of a picture with the left button of the mouse pressed. It changes whatever is dragged across to the background color – Color 2

Fig. 5.17 Eraser

With the right button pressed, the eraser tool changes pixels of Color 1 to Color 2, but leaves everything else unaffected. We can resize our eraser with the help of ctrl + '+' button or ctrl + '–' button.

5.1.3.5 The Color Picker

The Color Picker Tool is used to set the current foreground or background color and to match any color in our picture. It's especially useful when colors in the picture are different from those on the palette. By picking a color from the picture, we can make sure that we are using the color we want when drawing in Paint, so that our colors match.

Fig. 5.18 Color Picker

For example we are zoomed in and working with the Pencil tool on an area that has many shades of red, and we want to use one of those shades. Click the Color Picker and click directly on the shade of red that we want to use. The tool will immediately change back to the Pencil, loaded with the color we want.

5.1.3.6 The Magnifier

The Magnifier Tool is used to zoom in on a section of our picture. Magnifier can be clicked over an area of which we want a closer view. The Left click gives a closer view and Right click zoom out.

Fig. 5.19 Magnifier

5.1.4 Brushes

We can work in various widths and textures with the help of Brushes. Widths are controlled by the brushes and the Size Tool together; textures are controlled by the brushes.

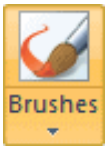


Fig. 5.20 Brushes

In the figure shown below lines are drawn with each of the offered brushes, using the same color and the same line width for each.

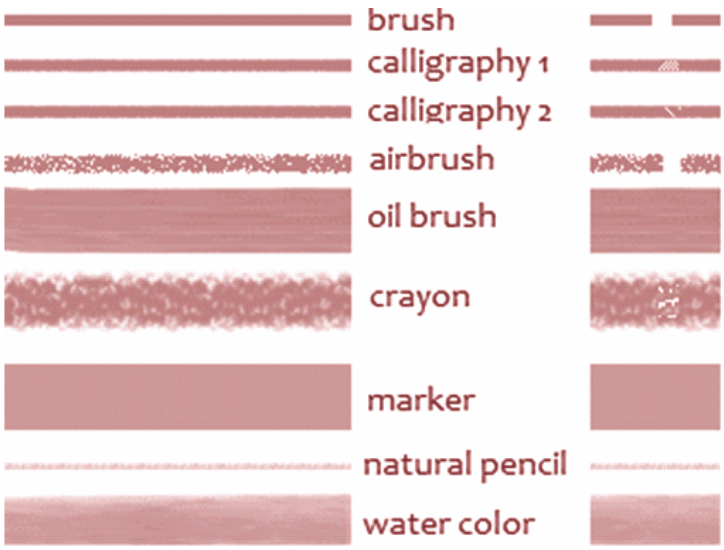


Fig. 5.21 Lines are drawn withBrushes

5.1.5 Shapes

In the Shapes Gallery, along with Rectangles, Rounded Rectangles Ellipses and Freehand Polygons, the Line Tool and the Curved Line Tool

can also be seen. There are number of other shapes such as arrows, speech balloons, various stars and others are also included.

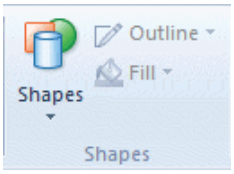


Fig. 5.22 Shapes

We can open the **Shapes Gallery** by clicking the down arrow under the Shapes picture and click the shape we want to draw.

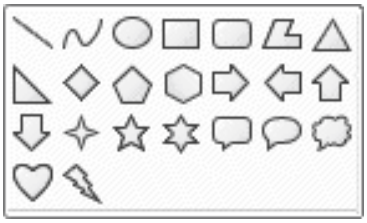


Fig. 5.23 Shapes Gallery

- **Straight Lines :** Straight lines can be drawn while the left mouse button is pressed and will use Color 1, those drawn with the right button will use Color 2. Line will be perfectly straight, If we hold down the Shift key while drawing a line.
- **Curved Lines :** Click the Curved Line button to draw a curve. Click the Outline button and choose Solid Color or a texture of your choice. Then click under the Size picture and choose a line thickness.

Fig. 5.24 Curved Lines

- **Elipses, Rectangles, Circles and Squares :** If we want to draw an exact shape such as a square or a circle, hold the Shift key while we draw.
- **Freehand Polygons :** To draw a freehand polygon, click the Polygon button in the gallery. Hold a mouse button down and draw the

first line of the polygon. Then release your mouse button and click where you want the next line to end. Keep clicking end points until we want the last line to finish the shape, then double click

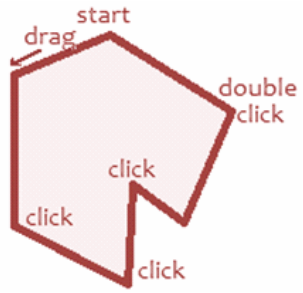


Fig. 5.25 Freehand Polygons

5.1.6 The Size Tool

This tool becomes active only **after** we choose either a Brush or a Shape. After selecting our Brush or Shape we will find down arrow under **SizeTool** and can choose a line thickness. The line thicknesses offered vary according to the brush we have chosen.

Fig. 5.26 Size Tool

5.1.7 Colors

The Color section of the ribbon has three parts :

1. Boxes showing the active colors – Color 1 and Color 2,
2. The Color Palette
3. The Edit Colors button

1. The Color Boxes :

Fig. 5.27 Color 1 selected in Color Boxes

Fig. 5.28 Color 2 selected in Color Boxes

➥ **Color 1** is the **Foreground Color**, and is always black when we open Paint.

➥ **Color 2** is the **Background Color**, and is always white when we open Paint.

2. The Color Palette : The two top lines of the Color Palette show all the colors available whenever we are making a picture. The line of blank squares at the bottom shows those colors, we have edited **during our work.** Once Paint is closed, the edited colors vanish away.

Fig. 5.29 Color Palette

3. Edit Colors : The Edit Colors button takes us into the Edit Colors dialogue box.

Fig. 5.30 Edit Colors

The Edit Colors dialogue box is shown in figure below :

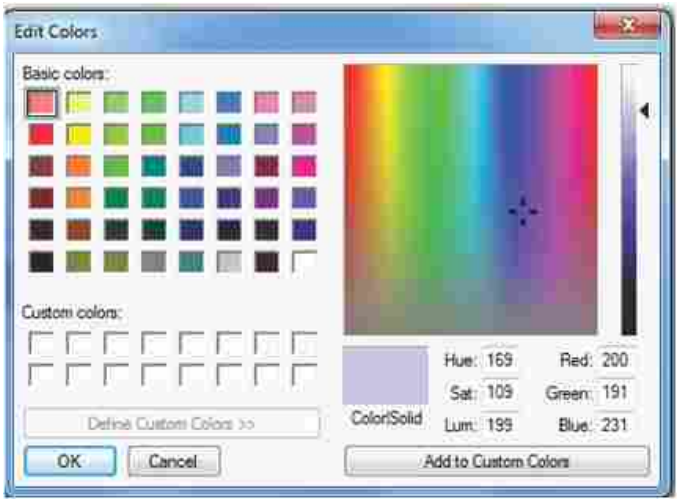


Fig. 5.31 Edit Colors

Here we can click any color on an extended palette and click the Add to Custom Colors button. Here only one color will be added to the squares under the palette. To add more colors, we must return to the dialogue box and add them one at a time.

5.2. View Tab Ribbon

The following section explains the View Tab Ribbon. It has three main options : Zoom, Show or hide and Display.

5.2.1 Zoom

Zooming in and out can be used alone or in conjunction with the Zoom Tool on the Ribbon or the slider on the Status Bar. **Zoom in** and **Zoom out** tools can be clicked repeatedly to get a closer or more distant view. **The 100% option** brings us back to normal view of the picture.

5.2.2 Show or Hide

This portion of the View Tab Ribbon includes :

- The **Show or Hide** option for the **status bar**. The status bar is very useful while drawing pictures precisely.
- **Gridlines** are convenient if we want to align shapes accurately.
- **Rulers can be t**urned on or off as per our requirement.

5.2.3 Display

On the **Display** section, we can click for **Full Screen View**. We can also get a Full Screen View by hitting F11. We can **come back to a normal view by pressing the Esc key.**

- **Thumbnail** is active only when we are zoomed in. It helps us seeing how changes, we have made are affecting our picture in normal view.

Points to Remember

1. Many of the tools we use in Paint are found in the Home Tab Ribbon
2. The clipboard menu has three options – **Cut, Copy** and **Paste.**
3. The top button, a diamond shape with a line through it is crop. It helps us crop to our picture so that only the selected area remains.
4. **The Eraser** tool erases the part of a picture with the left button of the mouse pressed.
5. Zooming in and out can be used alone or in conjunction with the Zoom Tool on the Ribbon or the slider on the Status Bar.

Exercise

1. Fill in the Blanks using the right option :

1. The clipboard menu has three options – Cut, Copy and …… .

   (1) Paste (2) Move (3) Close (4) Zoom

2. The top button, a diamond shape with a line through it is …… .

   (1) Paste (2) Cut (3) Copy (4) Crop

3. The …… tool can be used to draw pentagon.

   (1) Triangle (2)Rectangle (3) Pentagon (4) Hexagon

4. The Eraser tool erase the part of a picture with the …… button of the mouse pressed

   (1) Left (2) Right (3) scroll (4) None of these

5. Color 2 is used if we press with the …… mouse button

   (1) Left (2) Right (3) scroll (4) None of these

2. Write down True or False :

1. Ellipse tool help us to draw a square.
2. Eraser tool is used for free hand drawing.
3. Brush tool is used to spray colors.
4. Drawing/Work area is place where you can draw pictures.
5. Text tool is used to add text in a picture.

3. Short Answer type Questions :

1. What is Home Tab Ribbon?
2. Write the name of main parts of Home Tab Ribbon
3. Write the name of tools available in Tools Menu
4. What is size tool?
5. Write about brushes

4. Long Answer type Questions :

1. Explains the section of View Tab Ribbon
2. Explain the parts of Color section in Home Tab Ribbon
3. Write about Resize and Skew option
4. What is Text Tool? How to Formatting the text
5. Write about shapes menu

5. Name the following tools :






_____ _____ _____ _____ _____ _____

Name the following Shapes :






_____ _____ _____ _____ _____ _____

LESSON 6

Hardware and Software

Objective of this Chapter

6.1 What is Hardware?

6.2 What is Software?

6.3 Types of Software

6.4 System Software and Application Software

6.5 Relationship between Hardware & Software

Introduction

Computer is a type of an electronic machine which stores data, uses it for future, process it and which can be programmed through instructions. Computer is a combination of hardware and software which are inter-dependent. It means without software hardware is limited and without hardware software cannot be operated properly. To work efficiently hardware and software needs each other.

6.1 What is Hardware ?

In the computer world, hardware refers to the physical components like Keyboard, Mouse, Printer, Monitor that make up computer system. Input is feed and output is received through hardware. Data is stored and processed on Hardware. Hardware can be touched and sensed.

Features of Hardware :

1. We can touch it.
2. We can feel it.
3. It occupies space.
4. We can process &store data on it.

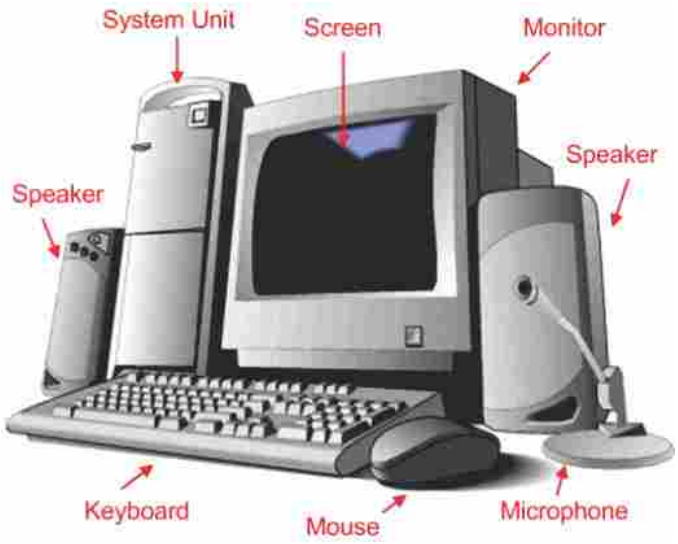


Fig. 6.1

6.1.1 Computer Case

The Computer case also known as Computer Chassis or System unit or Cabinet etc is the usually made up of plastic or metal box that contains the computer's main parts such as the motherboard, hard drives, etc.

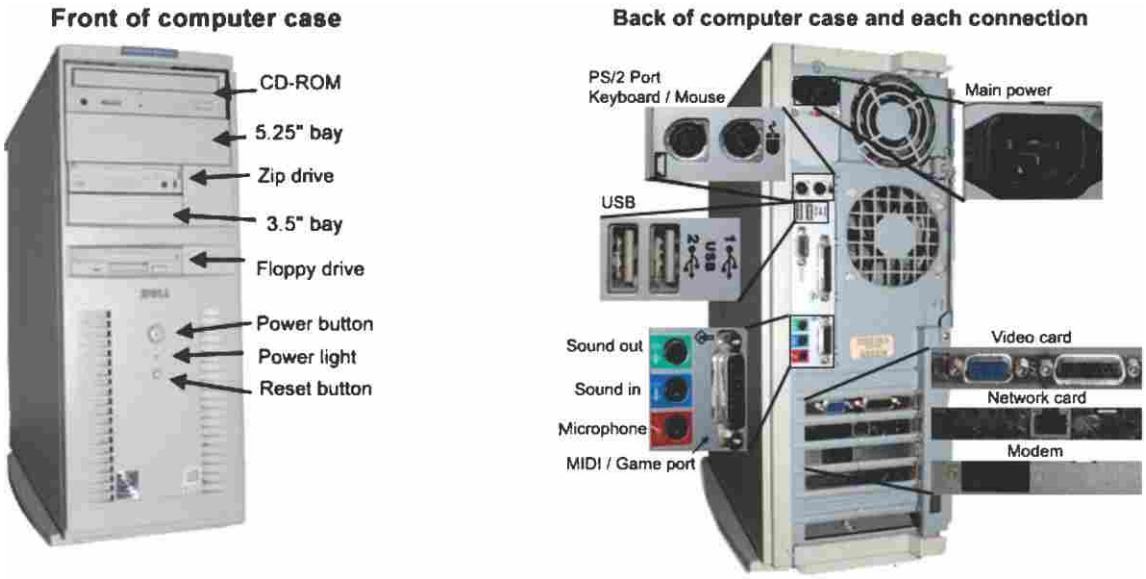


Fig. 6.2 Computer Case Views

6.1.2 Motherboard

The motherboard is a sheet of plastic (board) that holds all the circuitry to connect the various components of a computer system.

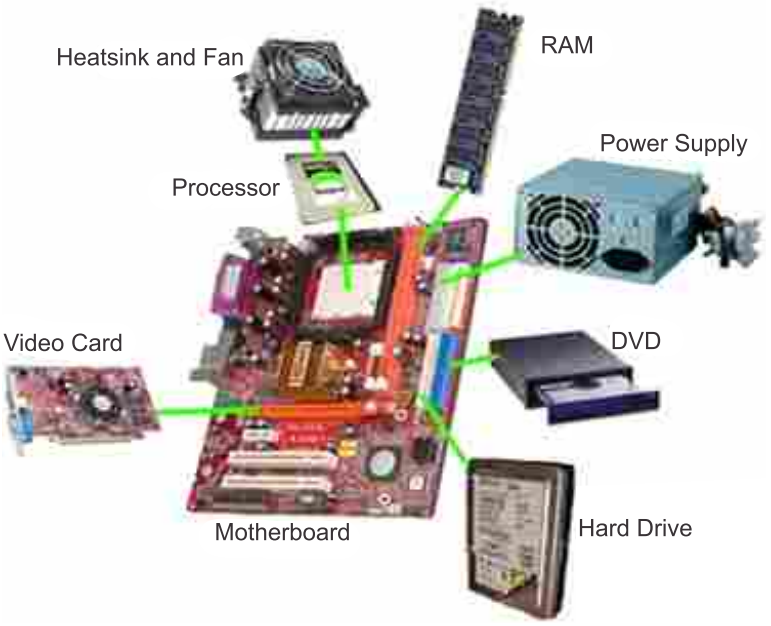


Fig 6.3 Mother Board

Some of the Hardware components that are connected with motherboard are :

- **Hard Drive :** Hard drive Or Hard Disk is the main storage media device that permanently stores all data on the computer.
- **Video Card :** The video card is the device in a computer that outputs visual information to the monitor.
- **Processor :** Processor is the main part of computer system which carries out the instructions of a computer program by performing the basic arithmetical, logical, control, and input/output operations of the system. It acts as a brain of the computer system & termed as CPU
- **FAN :** Every computer has a cooling fan designed primarily to prevent the CPU from overheating. Cooling fans may bring cool air into the computer cabinet and draw hot air out of it.
- **RAM :** It is a type of data storage used in computers that is generally located on the motherboard. This type of memory is volatile and all information that was stored in this memory is lost when the computer is turned off.
- **Power Supply (SMPS) :** The component that supplies power to a computer. it is also called switched-mode power supply (SMPS).
- **CD/DVD ROM :** It is used to run CD/DVD in the computer.

6.1.3 Important points for taking care of Hardware.

If different components of computer are not properly looked after,they get spoiled very soon. Following points should be kept in mind while handling Hardware:

1. We must keep all the parts of computer clean.
2. We must cover it after use.
3. We must not pull cables of computer parts.
4. We must press keyboard keys gently.
5. We must not eat anything in the Computer Room.
6. We must keep Hardware properly
7. We must handle different parts of computer in a proper way.
8. We must use soft cloth or brush to clean computer.
9. We must not clean the equipment while the computer is turned on.

6.2 What is Software

A Computer without instructions is like a car without a driver. It requires a set of instructions given by us to work on. Sequence of instructions is called program.

Software is the collection of program that are stored and run on computer hardware and help user to work on the computer. Software is a program stored in a storage device. You can make a software or you can get ready made software from market. e.g. MS Word, Games etc.

Features of software :

1. Software has no weight.
2. We cannot touch it.
3. A software helps the computer to work.
4. These are costly.

A group of instructions is known as Program

Many programs are combined to make up a Software

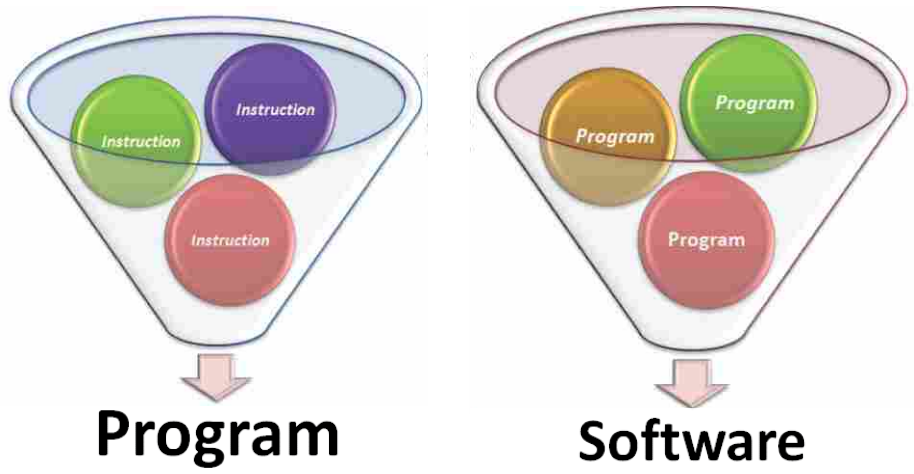


Fig 6.4

6.3 Types of Software

Software is of two types :

- System Software
- Application Software

6.3.1 System Software

System Software is defined as a collection of programs that control the operation and internal working of the computer system. It reads data from input devices and transfers the processed information to output devices. It works like a manager. It plays an important role in computer. We cannot take any work from computer without it. Example of system software are- Operating System, Utility Program, Language Translator.

Features :

1. It is costly.
2. It is difficult to generate system software.
3. It is complex. It can be developed by an expert only
4. A computer system cannot work without it.

Fig. 6.5 System Software

6.3.2 Application Software

It is used for an important task. These are sets of program developed by programmers in order to perform specific types of jobs like creating the documents, making calculations, preparing results & reports, creating graphics, arranging data in an organized way. System software is the need of every computer but application software can be different for different computers. Today there are many application software available in the market. e.g wordprocessor, spreadsheet, presentation tool, graphics software, database etc.

Features of application software :

1. It depends on user requirement
2. It is cheaper than system software
3. Graphics, documents, reports are easily created in them.

Fig. 6.6 Application software

6.4 System Software and Application Software

System software is different from Application Software in many aspects. Let us differentiate the two :

S.No.	System Software	Application Software
1.	System software is compulsory to operate a computer. Computer cannot work without it.	Application software is not compulsory to operate a computer. Computer can work without it.
2.	It is very complex. It can be made by expert only.	It is generally simple. A person with less experience can made it.
3.	It is expensive.	It is cheaper
4.	System software interact directly with hardware. It depends on operating system	Application software does not interact directly with hardware. It depends on system software
5.	Example : window, Unix etc.	Example : MS-Word, MS-Excel, Paint etc.

6.5 Relationship Between Hardware And Software

For a Computer to produce useful output its **Hardware and Software** must work together. Hardware & software cannot work properly without each other. Hardware components are controlled by software. For example: when we purchased a new mobile phone & memory card from market they are hardware's. We upload songs & games on them they acts as software's.

Another example is ATM machine. ATM machine acts as a hardware & the set of instruction that are followed by machine to operate its functions are software .in the same way in washing machine, washing machine acts as hardware & the set of instruction or process by which it rinse & spins the clothes are known as software.

Fig 6.6

Points to Remember

1. Parts of computer are called Hardware.
2. Hardware can be touched and sensed.
3. Printer, Monitor, Keyboard, Mouse, Hard Disk are parts of Hardware.
4. Set of all programs are called Software.
5. Software is of two types : System and Application Software.
6. We cannot touch software.
7. MS-Word, MS-Excel, MS-PowerPoint are examples of Application Software.

Exercise

1. Fill in the Blanks using the right option :

1. Computer is a product of hardware and …… .
   (1) Software (2) Application (3) Program (4) All of these
2. Set of instructions is called …… .
   (1) Software (2) Hardware (3) Program (4) Application
3. Group of programs is called …… .
   (1) Hardware (2) Software (3) Processor (4) None of these

4. Software is mainly of …… types.

   (1) Two (2) Three (3) Four (4) Five

5. Computer cannot work without …… .

   (1) Word (2) Excel

   (3) System software (4) PowerPoint

2. Write down True or False :

1. Other name of software is hardware.
2. All the instructions given in the form of program are called Software.
3. We cannot touch Hardware.
4. System and Application Software are two types of Software.
5. System software is expensive.

3. Which of the following are Hardware :

1. Hard disk
2. CD
3. Mouse
4. MS-Paint
5. Presentation
6. Keyboard

4. Short Answer type Questions :

1. What is Hardware?
2. What is Software?
3. Name two types of Software.
4. Give four examples of Hardware.
5. What are the qualities or features of Software?

5. Long Answer type Questions :

1. Write the difference between Application Software and System Software.
2. Write a note on Hardware.

3. What are the points while taking care of Hardware?
4. Define Motherboard. Explain any of its five parts?

Group Activities

1. **Write the name of the Pictures given below.**

.....

.....

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LESSON 7

Input Devices

Objective of this Chapter

Introduction

The computer will be of no use unless it is able to communicate with the outside world. Input devices are required for users to communicate with the computer. In simple terms, input devices bring information into the computer these input devices are known as peripherals since they are attached with the CPU and memory of a computer system.

CPU alone cannot function. It has many helping devices. These devices help in its working. Some devices give input to CPU and some receive its output. Devices which give input to computer are called **Input devices**. In this lesson we will study about these devices in detail.

7.1 Input Device

An **input device** is a **hardware** device that sends data to a computer, allowing users to interact with and control it. Devices that gives data and Instructions to the computer are called Input devices. Input devices are needed to give input to the computer.

7.2 Uses of Input Devices

If CPU is the brain of computer then the Input devices of computer such as key board, mouse, microphone are its eyes and ears, that feed the information into the computer. We use input devices to give data and information to the computer.

Generally used Input devices are :

- Keyboard
- Mouse
- Microphone
- Scanner
- Web Camera
- Joy Stick
- Light Pen
- Touch pad
- Barcode reader
- Touch screen
- Track ball
- Magnetic ink card reader
- Digitizer
- Biometric
- Electronic signature pad

7.3 Keyboard

Keyboard is most common and very popular device which helps in inputting data to the computer. The layout of the keyboard is like that of traditional typewriter. A keyboard has many buttons which are called keys.

There are some additional keys provided for performing additional functions. A keyboard is used for typing letters, words, numbers and special symbols. It is a standard input device. Commonly used Keyboard or standard keyboard has 104 keys.

Fig. 7.1 Keyboard

Types of Keys : Keyboard has five types of Keys. These are

- Alphabetical Keys
- Numeric Keys
- Functional Key
- Special Keys
- Arrow Keys

Fig. 7.2 Keys of Keyboard

7.3.1 Alphabetical Keys (A to Z)

Alphabet keys are used to type characters. These keys are present in the middle of the key board. All the keys A to Z are called alphabet keys.

7.3.2 Numeric Keys (0 to 9)

The numeric keys are used to type numbers. These keys are present below the functional keys. On the right side of keyboard a special pad is present. It contain 17 keys. This key pad is called numeric key pad. This pad is similar to calculator, because along with numbers it also has mathematical signs and enter key. On the left top of the pad, a key named num lock is also provided. The Key's of this key pad works if num lock is on. The status of num lock is indicated by the indicator on the keyboard.

7.3.3 Functional keys (F1 to F12)

These are 12 in numbers. These are from F1 to F12. These are located at the top of the keyboard. The function of these keys can be different for different program. e.g. F1 key is generally used for help.

Fig. 7.3 Functional Keys

7.3.4 Special Keys

Each special key is used to perform a special function. Some special key with their functions are mentioned as under :

S.No.	Name of Special Key	Function
1	Delete	To delete characters written on right side of cursor.
2	Back Space	To erase character present on left side of cursor.
3	Enter	To start a new line or to execute the command
4	Space Bar	To insert space between two words or texts.
5	Shift	It is used along with other key e.g. when shift and 'a' pressed together will print A.
6	Ctrl	It is also used along with other key e.g. in paint Ctrl and S key when pressed together, they save a file
7	Alt Key	It is also used with another key e.g.- alt + F4 are pressed together to close an open program
8	Caps Lock	When we press caps lock key then an indicator appears on the key board. It means caps lock is on, it means capital letters will be written.

7.3.5 Arrow Keys

These are used to move cursor. These are four in number. These can move up, down, left, right. Arrow Keys are used to move the cursor in all directions.

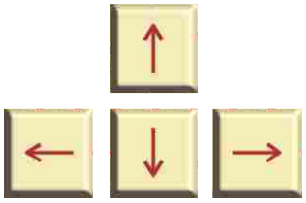

Fig. 7.4 Arrow Keys of Key Board

7.4 Mouse

Mouse is an important Input device. It is used to control cursor on the screen. It is a small device. It is also called **pointing device**. Generally it has three buttons called left button and right button. Wheel is present between these buttons called scroll button. It is called mouse because of its shape. Mouse is rolled over a flat surface. As you move a mouse, the cursor also moves on the screen in same direction. Now days wireless/cordless mouse are also in use.

Mouse pad : The pad on which we move the mouse is known as the Mouse pad.

Fig. 7.5 Mouse

Mouse has following three buttons

- Left Button
- Right Button
- Scroll Button

7.4.1 Left Button

Generally we use the left button. When we press left button once, it is called "click" when pressed twice it is called "Double Click".The programs are opened with double click. While things are selected with single click.

7.4.2 Right Button

When we press right button, it is call right click. It is used to open shortcut Menu.

7.4.3 Scroll Button

It is just like a wheel fixed in the centre of left and right button of mouse. It rotates which is called scrolling. It is used to move screen up and down.

7.5 Microphone

It is also called mike and is used to input/record voice. We can give instructions to computer with the help of mike of our computer. If it has microphone then we can record our own voice. We can listen recorded voice. Those users who can not type, can give input to the computer with microphone. Using microphone we can also talk to our friends on the Internet.

Fig. 7.6 Microphone

7.6 Scanner

Scanner is an input device. It is used to add text and picture in computer. It works like a Photostat Machine. Difference is that Photostat machine gives output on paper while it saves output in computer. Scanners of many types and shapes are available in the market.

Fig. 7.7 Scanner

7.7 Web Camera

Web Camera is used to click photo graphs. We can edit these photos in the computer. It is similar to camera. Difference is that a camera develops photo on a film roll and Web camera saves photos in computer. Web camera is not an expensive device.

Fig. 7.8 Web Camera

7.8 Touch Pad

It is also an input device. Touch pad are used in laptop in the form of a small panel containing different touch-sensitive areas. It is used in place of mouse. The buttons of touch pad are similar to mouse left right button which are up down within touch pad. A touchpad is operated by using your finger and dragging it across a flat surface; as you move your finger on the surface, the **mouse cursor** will move in that same direction, and like most computer mouse, the touchpad also has **buttons** below the touch surface that **enables** you to **click** like mouse.

Fig. 7.9 Touch Pad

7.9 Bar Code Reader

A Barcode reader (or Barcode scanner) is an electronic device for reading printed barcodes. Like a flatbed scanner, it consists of a light source, a lens and a light sensor translating optical impulses into electrical ones. In every single business today barcodes are used for different reasons. These are helpful in stores in order to maintain accurate and updated inventory monitoring. They can help to determine the price of an item. It is a fixed input gadget that is used to capture and read information enclosed in a bar code. This device consist of scanner.

Fig. 7.10 Bar Code Reader

7.10 Light Pen

It is an pointing device. It is just like a pen and is connected to a VDU. The tip of light pen contains a light sensitive element which when placed against the screen, detects the light from the screen enabling the computer to identify the location of the pen on the screen. Light pen have the advantage of drawing directly on to the screen.

Fig. 7.11 Light Pen

7.1 1 Joy Stick

Joysticks consist of a base and a stick that can be moved in any direction. The stick can be moved slowly or quickly . Some joysticks have sticks that

can also be rotated to the left or right. Because of the flexible movements a joystick allows, it can provide much greater control than the keys on a keyboard. It is an input device consisting of a stick. It has lever that moves in all direction and control the movement of a pointer. It is often used to play video games and usually have one or more push buttons

Fig. 7.12 Joy Stick

7.12 Touch Screen

A type of display screen that has a touch-sensitive transparent panel covering the screen. Instead of using a pointing device such as a mouse or light pen, you can use your finger to point directly to objects on the screen. For example ATM machine, Smart Phones, Smart Boards etc.

Fig. 7.13 Touch Screen

7.13 TrackBall

Track Ball is an input device that is mostly used in notebook or labtop, instead of a mouse. This is a ball which is half inserted by moving fingers on balls, pointer can be moved. Since the whole device is not moved, a track ball requires less space than a mouse. A trackball comes in various shapes.

7.14 Track Ball

7.14 Magnetic Ink Card Reader (MICR)

MICR input devices is generally used in banks because of a large numbers of cheques to be processed every day . The bank's code number an cheque number are printed on the cheques with a special type of ink that contains particles of magnetic material that are machine readable. This reading process is called Magnetic Ink Character Recognition (MICR)

Fig. 7.15 Micr Reader and Code

7.15 Digitizer

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

Fig 7.16 Digitizer

7.16 Biometric

Biometric is a type of machine by which a person can be uniquely identified by its body parts like fingerprints, hand, eye etc.

Fig. 7.17 Biometric

7.14 Electronic Signature Pad

It is an electronic device used to capture written signatures and convert them to digital format.

Fig 7.18 Electronic Signature Pad

Points to Remember

1. Input devices are used to give input to computer.
2. Keyboard is an input device. It looks like a type writer.
3. Mouse is used to move cursor here and there.
4. Scanner is used to add text and pictures in the computer.
5. Web Camera sends photo graphics in the computer.
6. Mike is used to record voice in the computer.
7. Touch pad is used in laptop.
8. Bar Code Reader is used in Big Stores.
9. Light Pen : It is a pointing device.
10. Joy Stick is used to play video games.

Exercise

1. Fill in the Blanks using the right option :

1. …… is used to click photos in computer.
   (1) Headphone (2) Web camera
   (3) Speakers (4) None of these

2. Commonly used keyboard has ……. keys.
   (1) 100 (2) 104 (3) 105 (4) 107

3. Bar Code Reader Consist of …… .
   (1) Sensor (2) Light (3) Heat (4) Magnetic

4. …… is a pointing device.
   (1) Headphone (2) Keyboard
   (3) Mouse (4) Web Camera

5. …… is used to add text and Picture in computer.
   (1) Printer (2) Scanner (3) Speakers (4) Mouse

6. …… keys are used to move cursor in all directions.
   (1) Arrow (2) Special (3) Function (4) Numeric

2. Write down True or False :

1. Web Camera produce photos on film roll.
2. Scroll button is used to move screen.
3. Joystick is used to control video games.
4. F1 to F12 are functions Keys.
5. Delete key is special key.

3. Short Answer type Questions :

1. What is an input device ?
2. Name Six input devices .
3. Write short Note on Trackball.
4. Write a note on touchpad.
5. What is the use of Microphone?
6. Write a note on MICR.
7. Give use of web Camera.
8. Where is Scanner used?

4. Long Answer type Questions :

1. Write note on Keyboard And its keys In Detail?
2. Write a note on Bar Code Reader?
3. What is Mouse? Explain the functions of Mouse Button.

LESSON 8

Output Devices

Objective of this Chapter

8.1 Output Devices
8.2 Types of output devices
8.3 Monitor
8.4 Printer
8.5 Speaker
8.6 Headphone
8.7 Plotter
8.8 Projector

Introduction

Both input & output play an important role to complete a task on computer, because output allows the user to decide what to do next with the information. We have learnt in previous chapter about input devices. Now we will study about various output devices in this chapter.

8.1 Output devices

An **output device** is any computer hardware equipment used to communicate the results of data processing carried out by an information processing system (such as a computer), which converts the electronically generated information into human-readable form. Output devices are connected to computer and these are used to show data in term of sound, text and images. They are used to get result of computer. In other words these devices get output from the computer.

Uses of output device : Output devices are used to get information from computer. Whether it can be sound or in text form of that information. Whatever the computer has done is predicted by output devices.

8.2 Types of output devices

Every Output device has its own work. **Commonly Output devices are:-**

- Monitor
- Printer
- Speaker
- Headphone
- Plotter
- Projector

8.3 Monitor

It is most commonly used output device. It is a soft output device which looks like a television. It shows output on its screen.

Here are two kinds of viewing screen used for monitors.

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

8.3.1 Cathode-Ray Tube (CRT) Monitor

. Many Types of CRT monitors are available in the market. CRT Monitor size is measured by diagonal length of the screen. Monitors are available in 15",17",19 and 21". Earlier black and white monitors were used but now we use coloured monitors. Such monitors display coloured pictures.

Figure 8.1 CRT Monitor

There are some disadvantages of CRT :

- Large in Size
- High power consumption
- Heat dissipation

8.3.2 Flat-Panel Display Monitor:

The flat-panel display refers to a class of video devices that have reduced volume, weight and power requirement in comparison to the CRT. You can place them on walls. Current uses of flat-panel displays include calculators, video games, monitors, laptop computer, graphics display. Some example of Flat-Panel Display monitors are LCD, LED, Plasma etc

Figure 8.2 Flat Panel Display Monitor

8.4 Speaker

Speaker is an output device. They receive audio **input** from the computer's **sound card** and produce audio **output** in the form of sound waves. It is used to listen sounds from computer. You can listen songs from computer. Speakers are present in different shapes. Generally there are two speakers attached with one computer.

Fig. 8.3 Speakers

8.5 Head Phone

Sometimes referred as **earphones**, **headphones** are a hardware device that either plugs into your computer **(line out) or speakers** and allow you to privately listen to audio without disturbing anyone else.

Fig. 8.4 Headphone

8.6 Printer

Printer prints output on paper. It is a hard output device. The output of printer is permanent. Its record can be preserved for long time. Printers of different types with speed resolution and size are available in the market. Printer are black and white as well as colored. Colored printers give coloured printout. These are of three types :

- Dot matrix Printer
- Inkjet Printer
- Laser Printer

8.6.1 Dot Matrix Printer

It is a type of computer printer which uses a print head that moves back & forth or in up and down motion on the page and print by impact. It prints by joining dots,. It is cheaper. Its speed is slow. It produces sound while working. The resolution of its printing is poor.

Fig. 8.5 Dot Matrix Printer

8.6.2 Inkjet Printer

It is a type of computer printer that creates a digital image by throwing droplets of ink on to a paper. It printing quality is better than dot matrix

printer. We can print graphical images with a good quality. It is coloured printer. It is very cheap. It does not produce sound while working. Its speed is faster than dot matrix printer.

Fig. 8.6 Inkjet Printer

8.6.3 Laser Printer

Laser printer is a electro static digital printer. It produce high quality & graphics by passing laser beams. These are both black and white as well as coloured. These are costly. Their speed is fastest of all other printers.

Fig. 8.7 Laser Printer

8.7 Plotter

Plotter is an output device. A device that draw picture on paper based on command from a computer. Plotter differ from printer in that they draw lines using a pen. As a result they can produce continues lines where as printer can only simulate lines by printing a closely spaced series of dots. Multicolor plotter use different colored pen to draw different colors. It is used in computer aided designing. Plotter are more expensive than printer. They are use in engineering applications.

Fig. 8.8 Plotter

8.8 Projector

A projector is an **output device** that can take images generated by a computer and reproduce them on a large, flat (usually lightly colored) surface. For example, **projectors** are used in meetings & multimedia presentations to help ensure that all participants can view the information being presented.

Fig. 8.9 Projector

There are also many devices that are used for both Input and Output. For example

1. Digital Camera
2. Pen Drive
3. CD/DVD
4. Modem
5. Fax

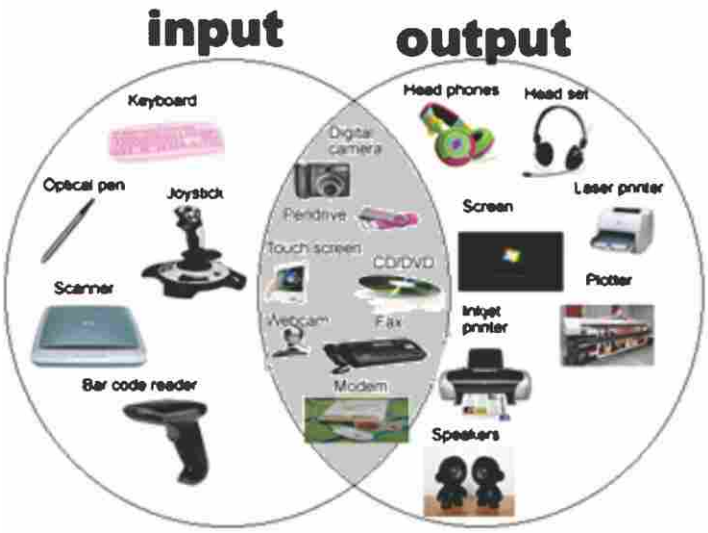

Fig. 8.10

Points to Remember

1. Output devices are used to get information from computer.
2. Monitor is a soft output device it shows text and pictures on the screen.
3. Printer is hard output device. It prints output on paper.
4. Printers are of many types like Inkjet, Dot-matrix and Laser.

Exercise

1. Fill in the Blanks using the right option :

1. Monitor is soft and …… is hard output device.
   (1) Printer (2) Plotter
   (3) Both of these (4) None of these.
2. …… is used to listen sound from computer.
   (1) Printer (2) Speaker (3) Microphone (4) Mouse
3. …… prints output on paper.
   (1) Printer (2) Keyboard (3) Mouse (4) Speaker
4. …… printer prints by joining dots.
   (1) Dot matrix (2) Inkjet (3) Laser (4) None of these

5. Monitor are of …… types.

   (1) Two (2) Three (3) Four (4) Five

6. Headphones are also called …… .

   (1) Earphone (2) iphone

   (3) Both of these (4) None of these

2. Write down True or False :

1. Output devices are used to get information from computer
2. We cannot listen music from computer.
3. Printer is soft output device.
4. There is no difference between Printer & Plotter.
5. Nowadays black & white monitor are in use.

3. Short Answer type Questions :

1. List the four types of output device?
2. Write the types of monitor
3. Where are projector used?
4. List the types of printer.
5. Write a note on Plotter?

4. Long Answer type Questions :

1. Write note on monitor and its types ?
2. What is printer? Explain three types of Printer.
3. Write difference between CRT&Flat panel display.

LESSON
9

Introduction to M.S. Word

Objective of this Chapter

9.1 Introduction

Word Processing is the widely used computer application which helps us to enter text from keyboard on a computer. With the help of Word Processing, we can create and save documents for future use. Main purpose of a Word Processing application is to produce documents. Its major advantage is that the documents can be easily edited before printing without retyping the entire document.

9.2 What is Word Processing

Earlier typewriters, either manual or electronic were used to type documents. In those typewriters, words are print directly on the paper. Text typed using a typewriter will have to be typed again if it contains errors. If we used more than one copy of the same document, we have to type complete text document again in computer. Word Processing software has changed the way we can create text documents. In Word Processors, text can be seen on the computer screen, checked for errors and corrected, before it is printed.

9.3 Features of Word Processing

Various Features of Word Processing are:

1. Documents can be saved for future use.
2. Documents prepared in Word processing software can be checked for errors before printing.
3. We can format documents as per user's requirement and can give them better looks.
4. In Word Processing software we can use different fonts and their sizes in the same document.
5. Documents need not to be typed again as in the case of a typewriter.

9.4 Different Word Processing Software

Various Windows based word processing software packages are: WordPerfect, Note Pad, Word Pad and Ms Word. WordPerfect is mostly used by publishing industry because of its more powerful features of creating print quality documents. Note Pad is used to create simple text documents without any specific formatting. This feature makes the document size small and easy to share over networks. But Word Pad is used to create text documents with some formatting tools with different font styles, font sizes and bullet styles. MS-Word is widely used for office or home documents it contains very good formatting features, which we need for creating attractive documents.

9.5 Notepad

Notepad is a basic text editor that we can use to create the simple text documents. It supports few basic formatting features such as font and word wrap formatting only. We can type and edit text in this application. We can also use some options like cut, copy, paste, delete, find, replace, go to, date and time etc. The extension of notepad file is .txt.

9.5.1 How to start the Notepad

Start → **All Programs** → **Accessories** → **Notepad**

OR

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

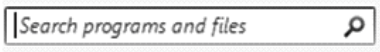

Fig. 9.1 Search bar

9.5.2 Parts of Notepad Window

Following are the parts of Notepad Window :

1. Title bar
2. Menu Bar
3. Text Area
4. Status Bar

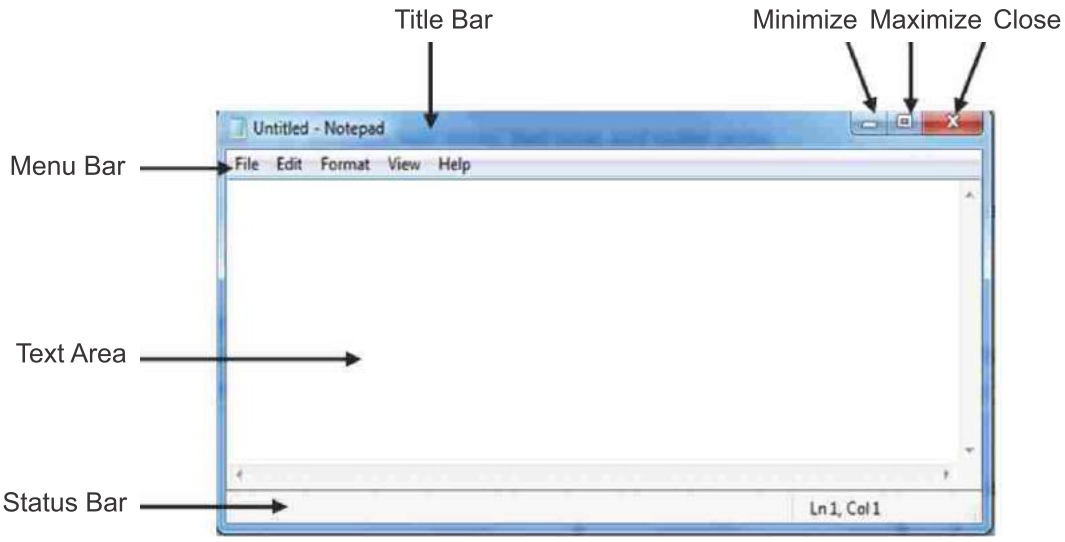

Fig. 9.2 Parts of Notepad Window

9.6 WordPad

Windows provides one more word processing software named WordPad. We can create and edit simple text documents in WordPad application. It also allows us to format our document with different font styles, font sizes and bullet styles. We can also print the document and do many more things by using various menus provided by WordPad like:

- Cut, copy, paste, find, replace etc.
- Formatting with fonts, size, style, etc.
- Paragraph setting, alignment, numbering and bullets etc.
- Inserting pictures, drawings, date/time and any other object also.

9.6.1 How to start WordPad

Start → **All Programs** → **Accessories** → **WordPad**

OR

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

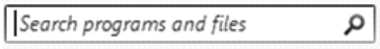

Fig. 9.3 Search bar

9.6.2 Parts of WordPad Window

Following are the parts of WordPad Window :

1. WordPad Button
2. Quick Access Toolbar
3. Tabs
4. Title bar
5. Home Tab Ribbon
6. Ruler
7. Text Area
8. Status Bar

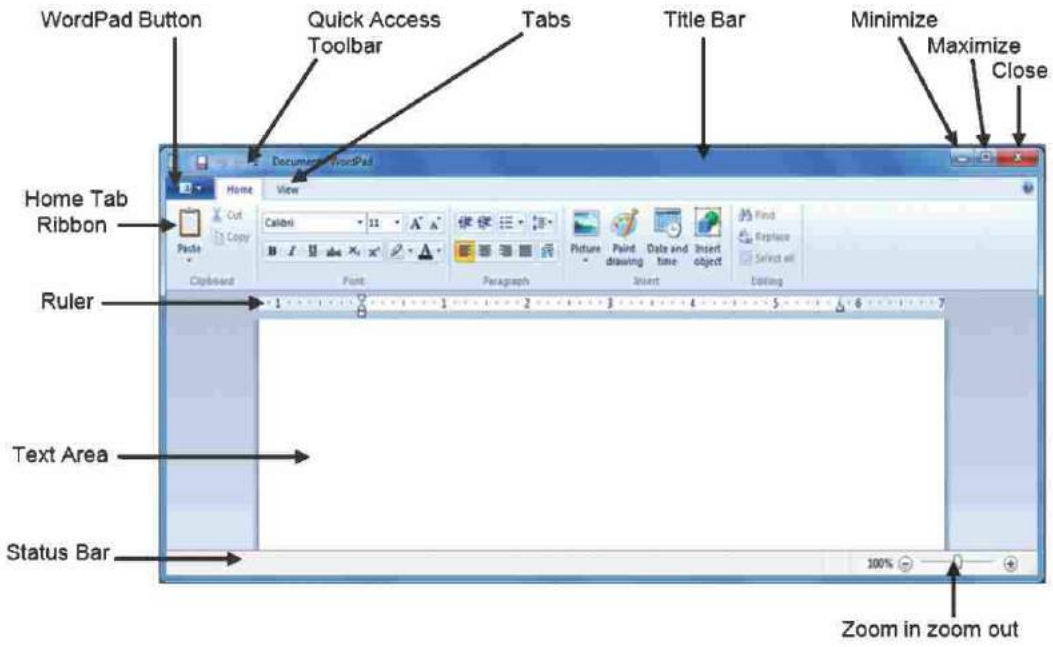

Fig. 9.4 Parts of WordPad Window

9.6 Ms Word

Microsoft Word is a word processing software package. It can be usedfor preparing letters, reports, and other documents. These documents can be saved and edited whenever required in future.

9.7.1 Special Features of Ms Word

Following are the special features of MS Word:

1. Allows us to insert text anywhere in the document.
2. We can erase characters, words, lines, or pages as easily as we can cross them out on paper.
3. We can cut and copy a section of text from one place in a document to somewhere else. We can also paste a section of text.
4. We can define various page sizes and margins, and the word processor will automatically read just the text so that it fits to page.
5. It allows us to direct the word processor to search for a particular word or phrase. We can also replace one character/word with another.

6. We can change fonts within a document such as bold, italics, and underlining and can change the font size.
7. It allows us to embed graphs into a document.
8. Ms Word allows us to specify customized headers and footers that the word processor will put at the top and bottom of every page. The word processor automatically keeps track of page numbers so that the correct number appears on each page.
9. It specifies different margins within a single document and to specify various methods for indenting paragraphs.
10. It provides the facility of macro which is a list of commands that save a lot of time.
11. It helps usin merging text from one file into another file by using feature Mail-merge.Generating mailing labels is one of the examples of using merges.
12. Ms Word provides a facility to check the spelling of words. It puts a colorful line under the words that are incorrect.
13. It helps us to automatically create a table of contents and index based on special codes that you insert in the document.
14. A built-in thesaurus allows us to search for synonyms without leaving the word processor.

9.7.2 How to start Ms Word

Start → **All Programs** → **Microsoft Office** → **Microsoft Office Word**

OR

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

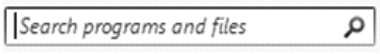

Fig. 9.5 Search bar

9.7.3 Parts of Ms WordWindow:

Figure shows the main parts of Ms Word Window :

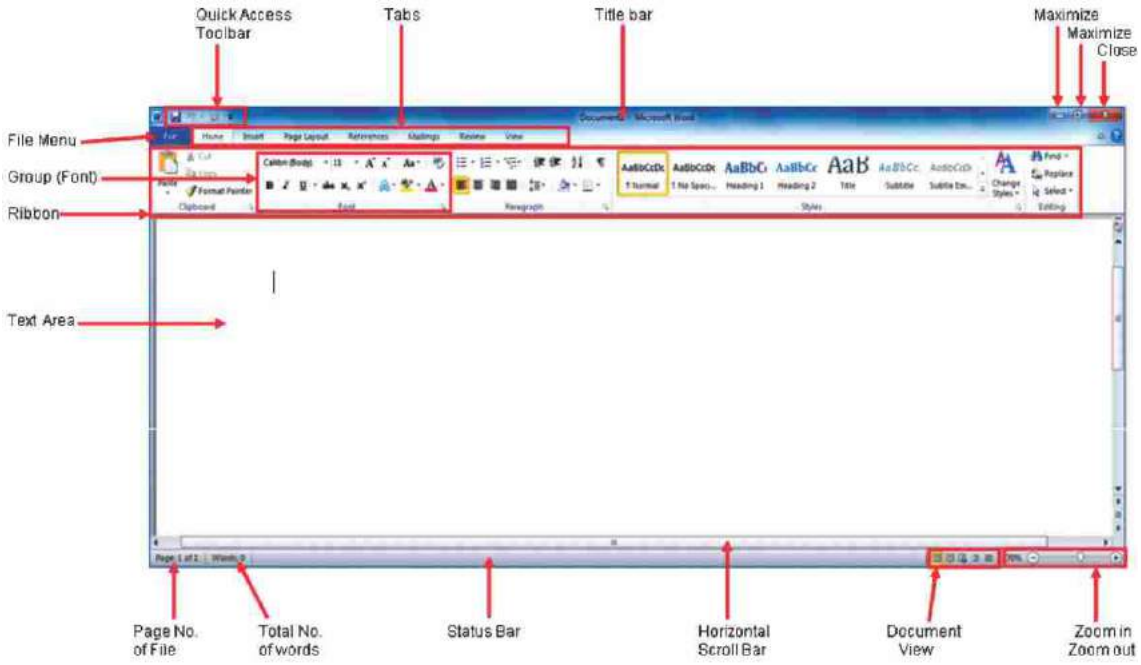

Fig. 9.6 Parts of Ms Word Window

9.7.3.1 File Menu

In the upper-left corner of the Word window is File Menu. Whenwe click File Menu, a dropdown , a file menu appears. We can use this menu to create a new file, open an existing file, save a file, and perform many other tasks.

Fig. 9.7 File menu

9.7.3.2 The Quick Access Toolbar

Above File Menu is the Quick Access toolbar. The Quick Access toolbar provides us with access to commands we frequently use. By default Save, Undo, and Redo appear on the Quick Access toolbar.

Fig. 9.8 Quick Access Toolbar

9.7.3.3 The Title Bar

The Title bar displays the title of the document on which we are currently working. Word names the first new document as Document1. As we open additional new documents, Word names them sequentially. When we save our document, wecan assign the document a different name.

Fig. 9.9 Title Bar

9.7.3.4 Tabs

Tabs are similar to the menu system of MS Word 2003, instead of having dropdown menus, New Version of MS office created the Tab and Ribbon system. When we select a tab it will display the Ribbon associated with that tab. Here everything has been changed into button form. Tabs are task oriented such as Home, Insert, Page Layout, References, Mailings, Review, View and within each tab, the related sub-tasks are grouped together.

Fig. 9.10 Tabs

9.7.3.5 The Ribbon

The tabs display Ribbons. In Ribbon there are many buttons that are grouped into categories such as Clipboard, Font, and Paragraph. In Microsoft Word, we use the Ribbon to issue commands to tell Microsoft Word what to do. The Ribbon is located near the top of the screen, below the Quick Access toolbar. At the top of the Ribbon there are several tabs; clicking a tab displays several related command (groups). Within each group there are related command buttons. We click buttons to issue commands or to access menus and dialog boxes.

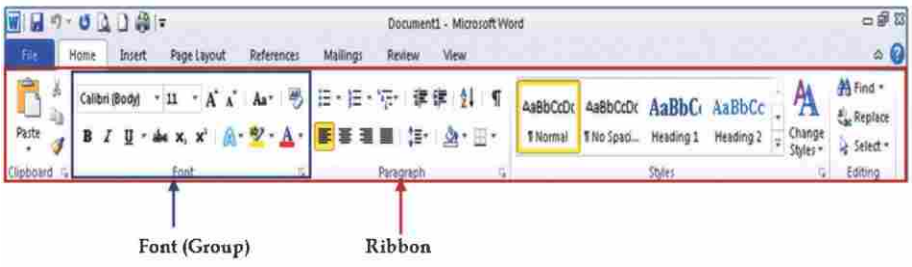

Fig. 9.11 The Ribbon

9.7.3.6 Dialog Box Launcher

We may find a dialog box launcher in the bottom-right corner of every group. Clicking the dialog box launcher gives us access to additional commands via a dialog box.

Fig. 9.12 Dialog Box Launcher

9.7.3.7 The Ruler

The ruler is found below the Ribbon.We can use the ruler to change the format of our document quickly.

Fig. 9.13 Ruler

9.7.3.8 The Text Area

Below the ruler the large area is called the **text area**. We can type our document in the text area. The blinking vertical line in the upper-left corner of the text area is the cursor. It marks the insertion point.(when you type text)

9.7.3.9 The Vertical and Horizontal Scroll Bars

The vertical and horizontal scroll bars enable us to move up- down, and across our document simply by dragging the icon located on the scroll bar. The vertical scroll bar is located along the right side of the screen. The horizontal scroll bar is located above the status bar.

9.7.3.10 The Status Bar

The Status bar appears at the bottom of our window and provides informationsuch as the current page and the number of words in our document.

Fig. 9.14 Status Bar

9.7.3.11 Document Views

In Word, we can display our document in one of the following five views :

- **Print Layout :** The Print Layout view shows the document as it will look when it is printed.
- **Full Screen Layout :** Reading Layout view formats our screen to make reading our document more comfortable.
- **Web Layout :** Web Layout view enables us to see our document as it would appear in a browser such as Internet Explorer.
- **Outline View :** Outline view displays the document in outline form
- **Draft View :** Draft view is the most frequently used view. We can use Draft view to quickly edit our document.

Fig. 9.15 Document Views

9.7.3.12 Zoom Slider

The Zoom Slider is convenient if we are working in a zoomed-in view and want to zoom out. However, we cannot zoom in on a particular spot using zoom slider, as we can do with the Magnifier.

Fig. 9.16 Zoom Slider

9.7.3.13 Work Area

Free space is called work area. It is used for typing our text.

9.8 Creating a New Document

To create a new document, follow one of the following methods :

1. Click New Option in File Menu.
2. Choose Blank Document Option.
3. Click on Create Button.

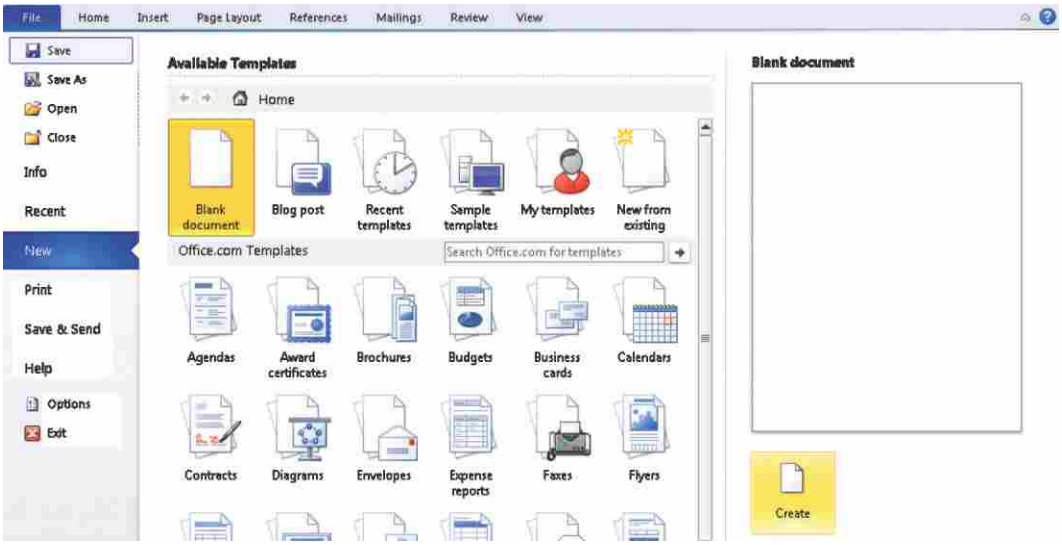

Fig. 9.17 Creating a New Document

OR

Press CTRL+N keys on the keyboard.

- **Open an Existing Document :** To open an existing documents use one of the following methods :

  Click on Open button from File Menu at the top left corner of our screen to open an existing document.

  OR

  Press CTRL+O keys on the keyboard.

  Each of the above method will show the Open dialog box. Choose the file and clickthe Open button.

9.8 Saving a New/Existing Document

To save a new or existing document that isopened, follow one of the following methods :

Click the Save Option available on File Menu.

OR

Press CTRL+S keys on the keyboard.

If the file is a new document then it will prompt us by opening Save As dialog box.

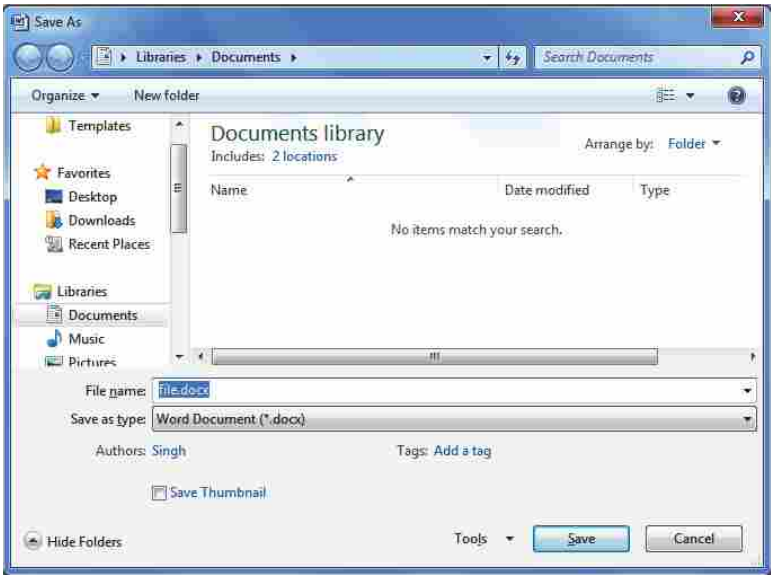

Fig. 9.18 Save As dialog box

Select the folder where we want to place ourdocument, type the name of thedocument in File Name: box and then click SAVE. On the other hand if the document is already saved with a name earlier, it will simply save the document.

Points to Remember

1. Documents need not to be typed again as in the case of a typewriter.
2. Notepad is a basic text editor that we can use to create the simple text documents.
3. WordPad allows us to format our document with different font styles, font sizes and bullet styles.
4. Tabs are similar to the menu system of Ms Word 2003, instead of having dropdown menus new version of Ms Word created the Tab and Ribbon system.
5. A dialog box launcher in the bottom-right corner of every group
6. Below the ruler the large area is called the **text area**. We can type our document in the text area.
7. The Print Layout view shows the document as it will look when it is printed.

8. Draft view is the most frequently used view. Weuse Draft view to quickly edit our document

Exercise

1. Fill in the Blanks using the right option :

1. Ctrl + S is used to …… .

   (1) Save (2) Open

   (3) New (4) Close

2. Below the ruler the large area is called the …… .

   (1) Text Area (2) Open Area

   (3) Close Area (4) All of these

3. There are two scroll bars in a word document …… and …… .

   (1) Horizontal, Vertical (2) Left, Right

   (3) Upper bar, Lower bar (4) None of these

4. To open a new document Press …… keys on the keyboard

   (1) Ctrl + O (2) Ctrl + N

   (2) Ctrl + S (4) Ctrl + V

5. The …… view shows the document as it will look when it is printed.

   (1) Print Layout (2) Draft

   (2) Outline (4) Full size

2. Write down True or False :

1. A dialog box launcher in the bottom-right corner of every group
2. Notepad is a basic text editor that we can use to create the simple text documents.
3. Title bar is the bottommost bar of the Word window
4. Outline view displays the document in outline form

3. Short Answer type Questions :

1. How to start the Notepad ?
2. List the Parts of WordPad Window.
3. What is the Office Button ?
4. Define Dialog Box Launcher
5. Define the Text Area.
6. What is the Status Bar ?

4. Long Answer type Questions :

1. Explain any 6 Special Features of Ms Word
2. Explain Document Views in Ms Word
3. How to creating and Saving New Document in Ms Word ?