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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1

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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.

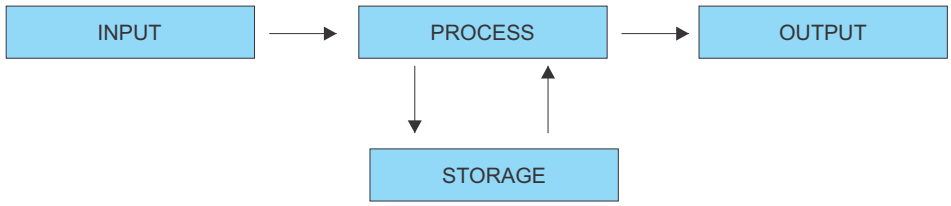
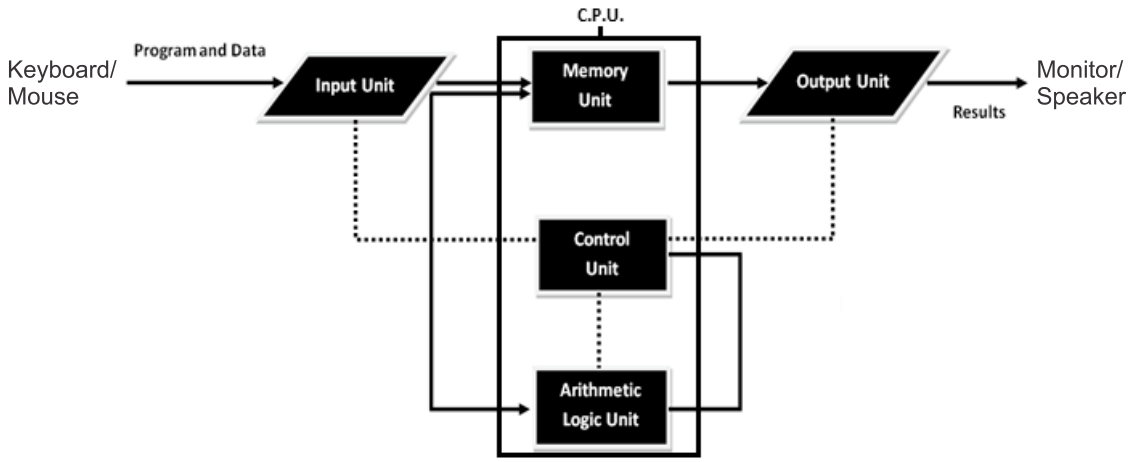


Fig. 2.1 Basic Functions of Computer

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 :

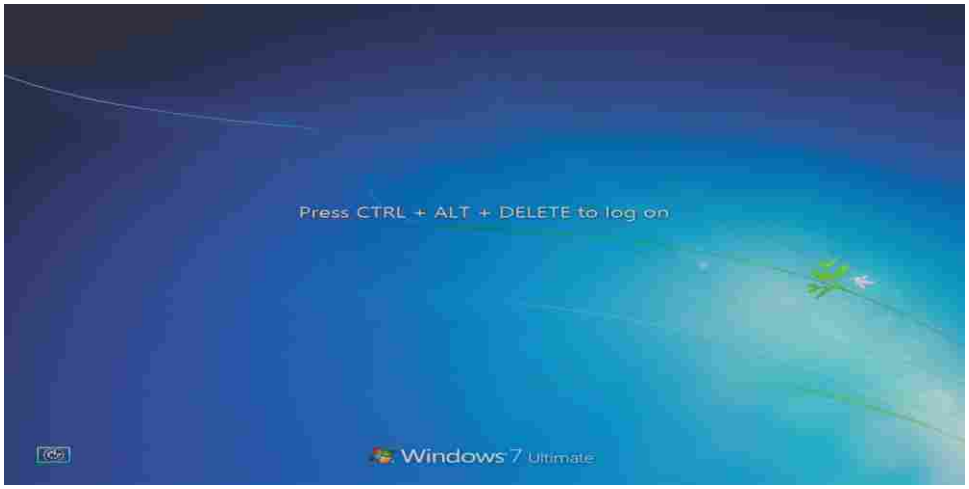


Fig. 3.2 Screen after Booting

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.

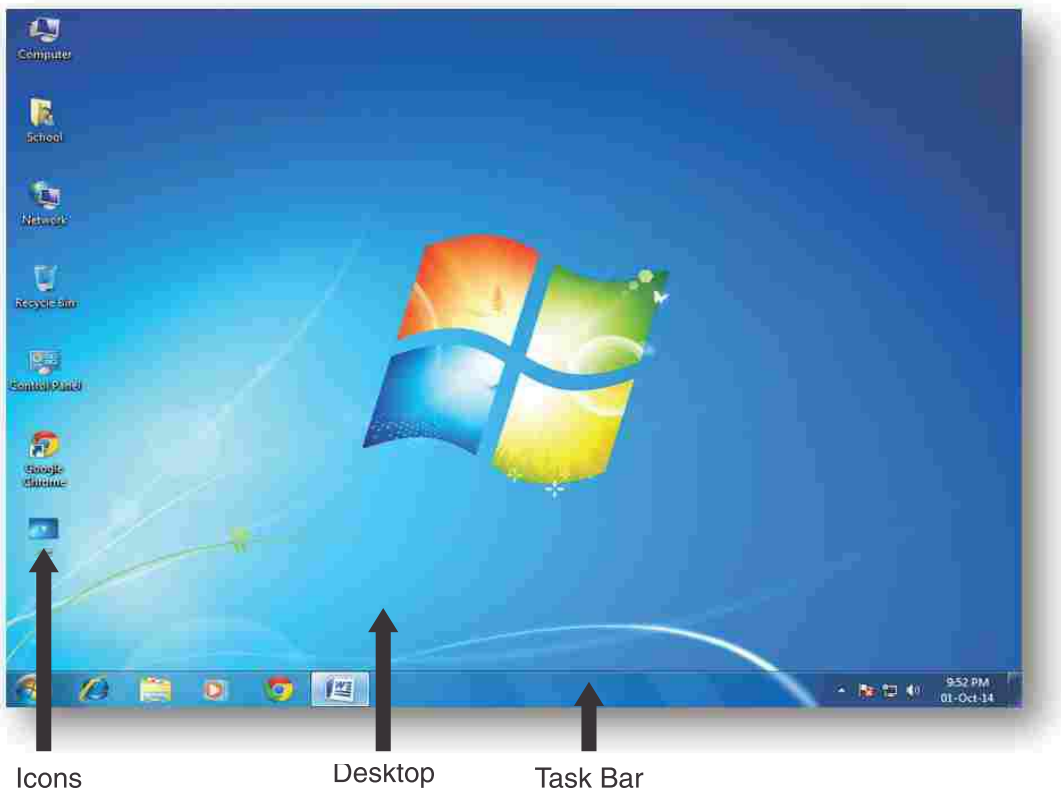


Fig. 3.3 Desktop

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 :

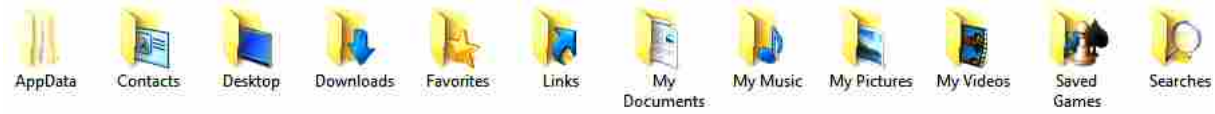


Fig. 3.5 User's Files (School)

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 :

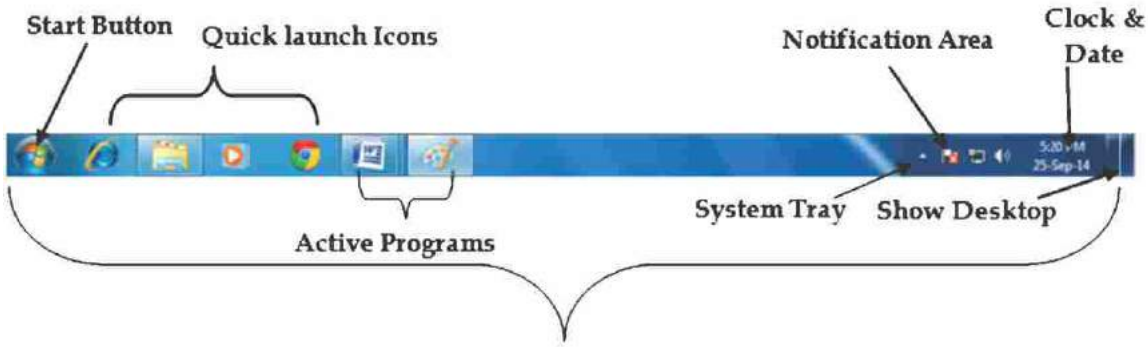


Fig. 3.7 Task Bar

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.

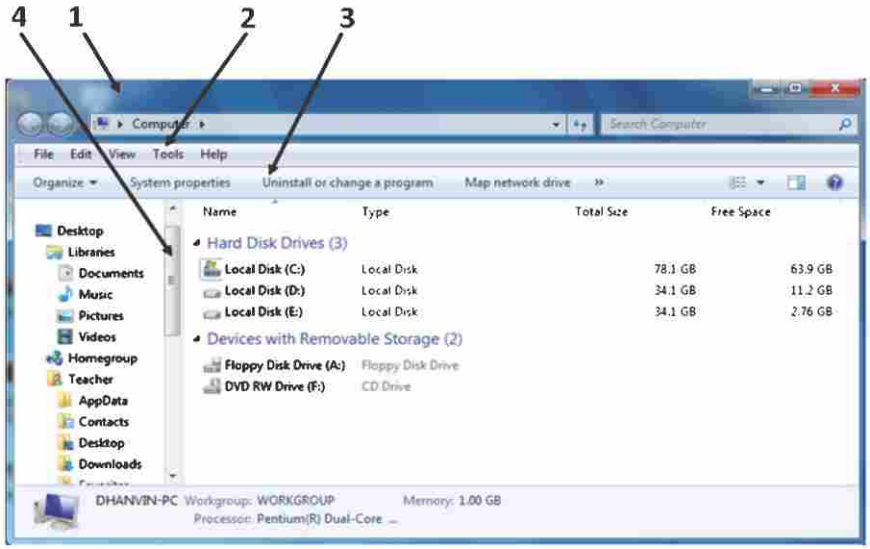


Fig. 3.9 Parts of Windows

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.

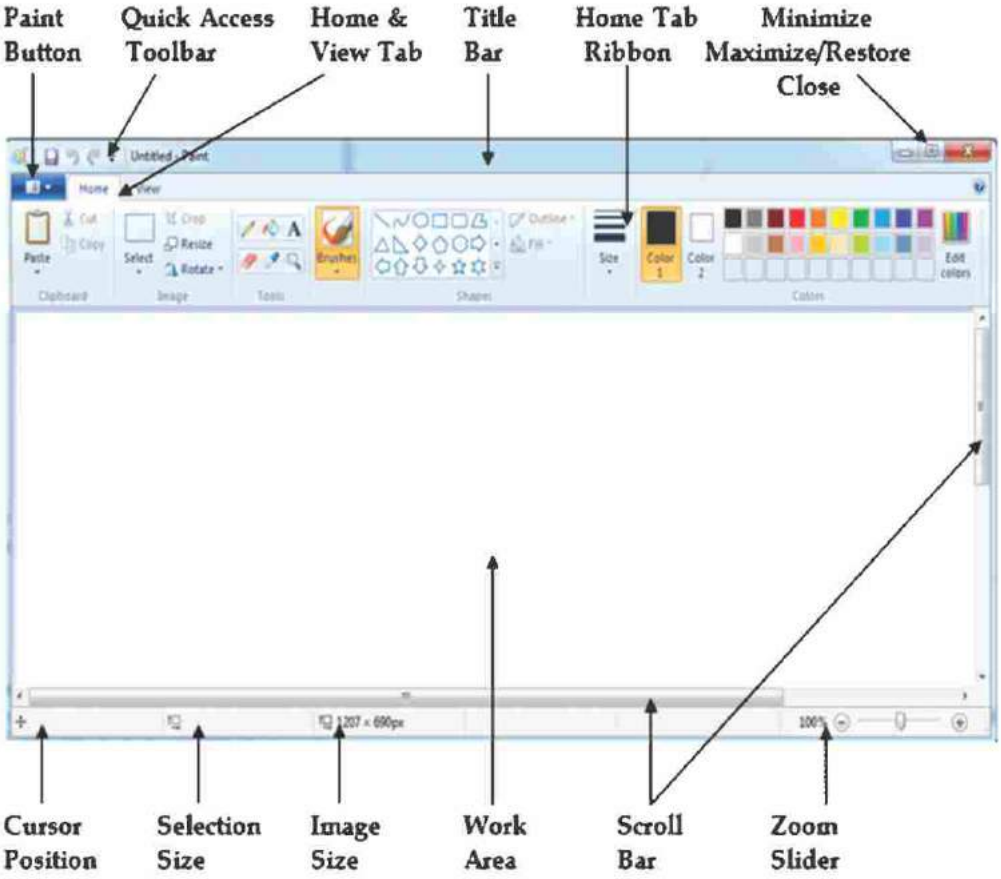


Fig. 4.1 Parts of Paint Windows

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.

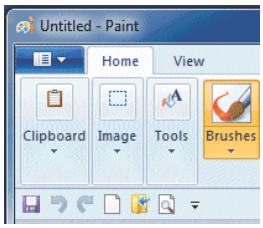


Fig. 4.5 Moving Quick Access Toolbar to below the Ribbon

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

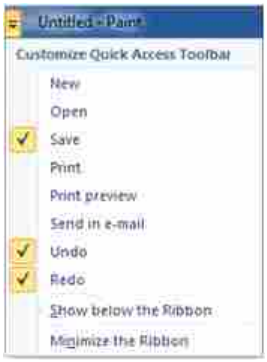


Fig. 4.6 Customize Quick Access Toolbar

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.

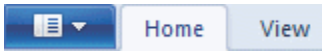


Fig. 4.8 Menu Bar

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.

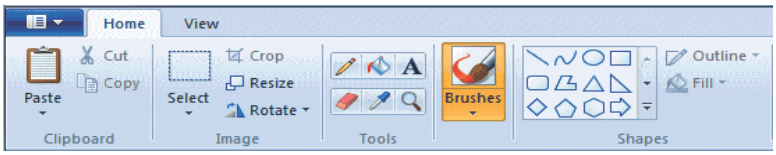


Fig. 4.10 Home tab Ribbon

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.