DISTRICT PUBLIC SCHOOL & COLLEGE DEPALPUR

E-Learning Project

Summer Task

Tutorial Video Links

Home Assignments, Worksheets and Activities

Academic Session 2020-2021

Subject: Computer Science

Class: 7

Student's Name: _____

Father's Name: _____

DISTRICT PUBLIC SCHOOL & COLLEGE DEPALPUR

Summer Pack (Computer Science)
Class 7th

Week # 3 (6th July, 2020 to 11th July, 2020)

(Day 1)

Unit 1: "Hardware Basics"

Web Link (Lecture # 5): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Objective: 1. **To enable the students to know about the control Unit**

   2. **You will also to know about memory and its types**

Control Unit:

The control unit controls, co-ordinates and directs all the operations performed by the computer. It does not execute any Instruction itself but directs the other parts of the computer to carry them out. It works like a traffic policeman who controls the movement and flow of traffic. Similarly, Control Unit maintains the sequence and flow of instructions which are to be processed.

Memory:

Memory consists of electronic chips. Memory stores instructions and data so that CPU can process them. It is the working space of the computer.

Memory has two types.

- ✓ RAM (Random Access Memory)
- ✓ ROM (Read Only Memory)

RAM (Random Access Memory)

RAM stands for Random Access Memory. It is a temporary storage area for data before and after it is processed. It is attached to the motherboard. RAM is volatile, i.e. information is lost when the power is switched off. For example, someone is typing a letter on the computer and the power goes off, the contents of the letter will be erased from RAM if it is not saved.

Fig. 1.1.3a RAM is plugged in a socket

When someone tells you that your computer does not have enough memory, it means that your computer does not have enough RAM.
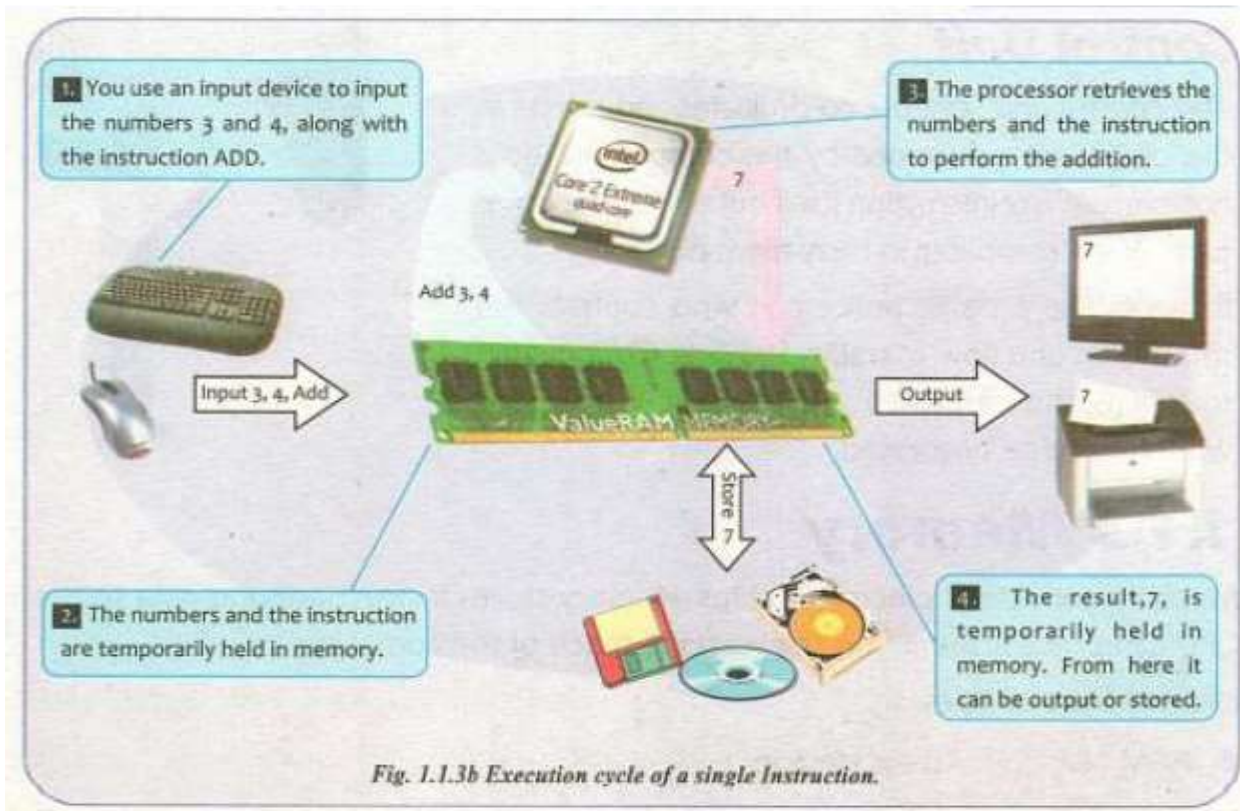
1. You use an input device to input the numbers 3 and 4, along with the instruction ADD.

3. The processor retrieves the numbers and the instruction to perform the addition.

Add 3, 4

Input 3, 4, Add

Output

Store 7

2. The numbers and the instruction are temporarily held in memory.

4. The result, 7, is temporarily held in memory. From here it can be output or stored.

Fig. 1.1.3b Execution cycle of a single Instruction.

Unit 1: "Hardware Basics"

Objective: 1. **To enable the students to know about the ROM**

   2. You will also to know about Expansion Cards

ROM (Random Only Memory)

ROM stands for Read Only Memory. It is a permanent storage area. It contains start up instructions of the computer and information about its hardware devices. It is fixed on the motherboard.

ROM is nonvolatile, i.e. information is not lost when the power is switched off. Data cannot be changed or removed from the ROM, that is why it is called read only memory.

Expansion Cards:

An expansion card is a small circuit board. It gives a computer the capability to control a storage device, an input device or an output device. Basic purpose of an expansion card is to enhance the capability of the computer.

There are four major types of expansion cards.

1) Sound Card:
A sound card allows a computer to receive sound in digital form and reproduce it through speakers.

Speakers, headphone and microphone are attached here.

Fig. 1.1.4a Sound Card

2) Graphics Card:
A graphics card enables a computer to display output images on the monitor screen.

Monitor is attached here.

Fig. 1.1.4b Graphics Card

3) Network Interface Card:
A network interface card enables a computer to connect and communicate with other computers.

Network cable is attached here.

Fig 1.1.4c Network Interface Card

4) Modem:
Modem is used to transmit digital data over telephone wires. Usually it is used for *dial-up* Internet connections.

Telephone cable is attached here.

Fig 1.1.4d Modem

Assessment of Week # 3 (6th July 2020 – 11th July, 2020)

Multiple Choice Questions

1. There are _____ types of memory.
   (a) Two   (b) three   (c) Four   (d) Five

2. Which one of the following parts of the CPU controls the sequence of the instructions?
   (a) AU   (b) CU   (c) LU   (d) ALU

3. RAM stands for _____.
   (a) Random access memory   (b) Random analysis memory
   (c) Read able memory   (d) random available memory

4. ROM stores data _____
   (a) Permanently   (b) Temporarily   (c) Partially   (d) Fully

5. Identify the part of system unit.
   (a) RAM   (b) ROM   (c) CD ROM   (d) All of these

6. All the given devices are types of memory except:
   (a) SRAM   (b) RAM   (c) ROM   (d) HDD

7. A video game is played by using _____ card.
   (a) sound   (b) modem   (c) graphics   (d) NIC

Fill in the blanks

1. RAM is used for_____.

2. ROM is _____memory

3. Memory consists of _____chips.

4. _____is faster slot used for sound, graphics, modem, and NIC.

5. _____ works like a traffic policeman.

6. CU stands for _____

7. NIC stands for _____.

Answer Question

Question # 1: Define Memory.
Answer:

_____
_____
_____
_____
_____
_____
_____

Question # 2: Write the names of major Expansion Cards and explain two of them.
Answer:

_____
_____
_____
_____
_____

Question # 3: Why RAM is called Volatile Memory?
Answer:

_____
_____
_____
_____
_____
_____
_____

Question # 4: What is the difference between RAM and ROM?
Answer:

_____
_____
_____
_____
_____

Question # 5: What is Read Only Memory?
Answer:

_____

_____

_____

_____

_____

_____

Week # 4 (13th July, 2020 to 18th July, 2020)
(Day 1)
Unit 1: "Hardware Basics"

Web Link (Lecture # 8): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Objective: 1. **To enable the students to recognize the expansion slots**

        2. **You will also learn about cutting edge technology**

Expansion Slots:

An expansion slot is a long narrow socket on the Motherboard into which different expansion cards can be plugged in. There are three different types of expansion slots. i.e.

- ✓ **ISA (Industry Standard Architecture)**

  It is a slow speed slot used for modems (Rare to find in modern computers).

- ✓ **PCI (Peripheral Component interconnect)**

  It is faster in speed than ISA slot. It is used for sound cards, graphic cards, network cards and Modems.

- ✓ **AGP (Accelerated Graphics Port)**

  It is a high speed slot used only for graphics/3D graphics cards.

Labels: PCI Slots, AGP Slot, Fan, Processor, Sockets for RAM
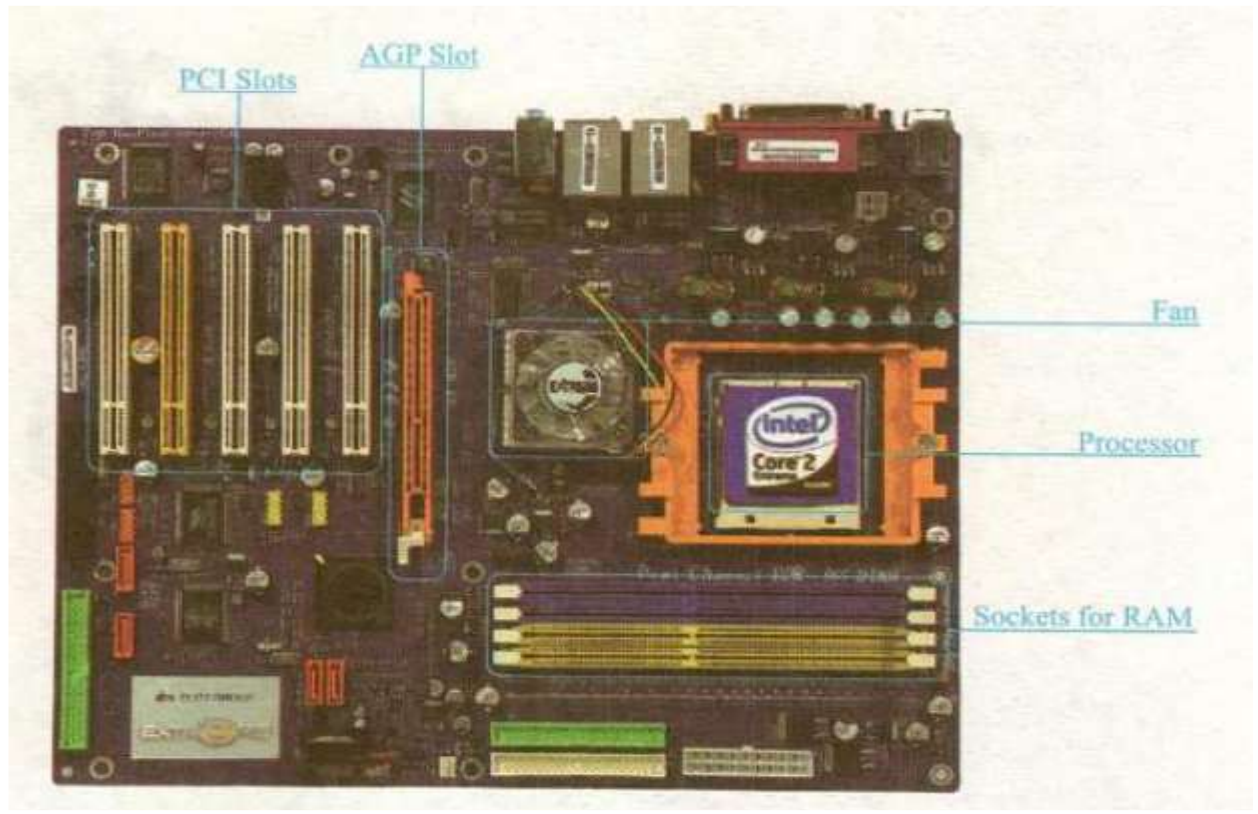
Cutting Edge Technology

The latest or the 'most' advanced stage in the development of the computer technology is known as cutting edge technology.

Barcode Reader

Barcode is a set of light and dark bars (lines) with different width pasted on different products. Barcode Reader is an input device. It gathers information by reading a barcode.

Barcode Reader is a laser scanning device. Usually, a Barcode Reader is attached to a computer. It translates the information stored in the form of a barcode. This information includes batch number and product name etc. Barcode readers are mostly used in supermarkets, pharmacy, libraries, etc.

Terminal-Fixed Barcode Reader

Laser beamed Barcode Reader

Hand handled Barcode Reader

Unit 1:   "Hardware Basics"

Objective: 1. **To enable the students to know about the fingerprint reader**

2. You will also to know about the security by fingerprint

Fingerprint Reader:

A fingerprint is an impression left by a finger or thumb. Fingerprint Reader is a device that captures a fingerprint and translates it into a digital code This code is compared with the already stored information in the computer.

Fig. 1.2.2a Thumb Impression

Fingerprint reader is mostly used for criminal investigations and security systems. Some computers use it for login and user's authentication.

Fingerprint reader is used to login a computer.

Fingerprint reader is used in a car security system.

Fingerprint reader is used for employee's attendance.

Fingerprint reader is used in a door lock for home security.

Assessment of Week # 4 (13th July 2020 – 18th July, 2020)

Multiple Choice Questions

1. Barcode reader is a/an _____ device.

   (a) Output   (b) input   (c) display   (d) storage.

2. _____ is used in security systems and criminal investigations.

   (a) Fingerprint reader   (b) Robots   (c) Sound card   (d) Barcode reader

3.   Which is the following is the highest speed slot?

    (a) ISA   (b) AGP   (c) PCI   (d) APG

4. _____ is the place where you can place VGA card, sound card, fax modem etc.

   (a) RAM Slot   (b) Expansion Slot   (c) Processor Slot   (d) none of these

Fill in the blanks

1. _____ slot is a long narrow socket fixed on the motherboard.

2. _____ slot is hard to find in modem computers.

3. Barcode reader is a _____ scanning device.

4. _____ is a device that captures a fingerprint.

5. _____ technology is the latest and most advanced stage in the development of the computer technology.

6. Barcode reader gathers information by reading _____.

Answer Question

Question # 1: Define Barcode Reader.
Answer:

_____

_____

_____

_____

_____

_____

Question # 2: What is the difference b/w Expansion Cards and Expansion Slots?
Answer:

_____

_____

_____

_____

_____

Question # 3: Write down the three main uses of the Fingerprint Reader.
Answer

_____

_____

_____

_____

_____

Question # 4: What is the main function of a Robot?
Answer

_____

_____

_____

_____

_____

Question # 5: What information is gathered from barcodes?
Answer

_____

_____

_____

_____

_____

Question # 6: What is cutting edge technology? Give some examples.?
Answer

_____

_____

_____

_____

_____

Unit 1: "Hardware Basics"

Web Link (Lecture # 11): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Objective: 1. **To enable the students to recognize the robot control working**

   2. **You will also to know about Robot and its types**

Robot:

Robot is a machine which is controlled by a software contained in a chip. Robots are made to help human beings. It is an electronic machine which has the ability to interact with physical objects. They are also known as mechanical agents.

Robots can perform tasks accurately and efficiently. They are classified on the basis of their design and the work they do.
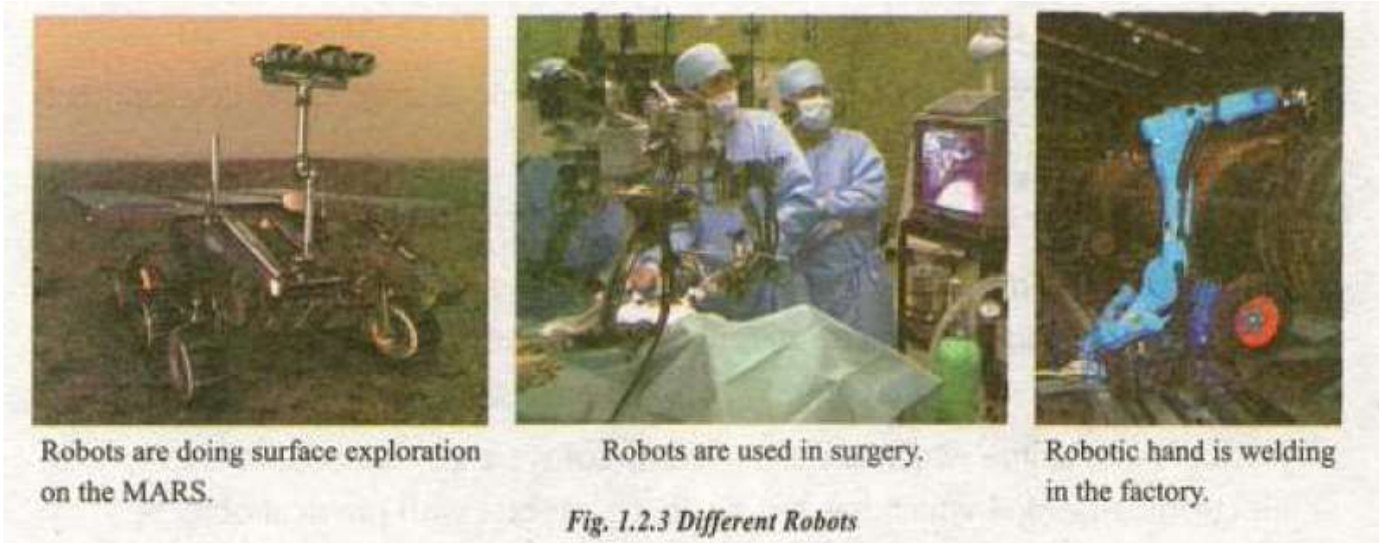

A dishwasher Robot   A domestic Robot   A Robot is playing music

A military Robot

Robots are used in different fields such as car manufacturing, medicine, military, transportation, etc. Many factory jobs are now performed by robots. Robotic hands are widely used in factories. NASA is using robots for space exploration.

Robots are doing surface exploration on the MARS.

Robots are used in surgery.

Robotic hand is welding in the factory.

Fig. 1.2.3 Different Robots

Week # 5 (20th July, 2020 to 25th July, 2020 (Day 2)

Unit 1: "Hardware Basics"

Web Link (Lecture # 12): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Objective: 1. **To enable the students to know Hardware Basics**

 2. **After completing this lecture students will enable to recognize all hardware**

Review of Complete Summary of Unit # 1

- System Unit is a box where processing takes place.

- Motherboard is a main circuit board. All the computer components are plugged or connected with it.

- Processor carries out set of instructions and processes the data efficiently and accurately. It is also known as CPU. The two main components of a processor are ALU (Arithmetic and Logic Unit) and CU (Control Unit).

- Arithmetic and Logic Unit solves the mathematical and logical problems.

- Arithmetic Unit performs addition, subtraction, multiplication and division.

- Logic Unit compares two quantities and gives answer in the form of true or false.

- Control unit fetches the instructions, interprets them and directs the ALU to perform action. It also maintains the sequence of instructions to be processed.
- Memory consists of electronic chips. It stores instructions and data so that CPU can process them. It is the working space of the computer.
- RAM stands for Random Access Memory. It is a temporary storage area for data before and after it is processed. It is attached to the Motherboard.
- ROM stands for Read Only Memory. It is a permanent storage area. It contains start up instructions of the computer and information about its hardware devices.
- An Expansion Card is a small circuit board. It gives a computer the capability to control a storage device, an input device or an output device.
- Expansion Slot is a long narrow socket on the Motherboard into which different Expansion Cards can be plugged in.
- Cutting Edge Technology is the latest or most advanced stage in the development
- of the computer technology.
- Barcode Reader is an input device. It gathers information by reading barcodes.
- Fingerprint Reader is a device that captures a fingerprint and translates it into a digital code. This code is compared with the already stored information in the computer:
- Robots a machine which is controlled by software contained in a chip. It is an electronic machine which has the ability to interact with physical objects.

Assessment of Week # 5 (20th July 2020 – 25th July, 2020)

Web Link (Lecture # 13):   https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Fill in the blanks

1. The two main components of a processor are _____ and _____ .
2. RAM is used for_____ .
3. ROM is _____ memory.
4. _____ slot is a long narrow socket fixed on the motherboard.
5. Memory consists of _____ chips.
6. _____ is faster slot used for sound, graphics, modem, and NIC.
7. _____ slot is hard to find in modem computers.

8. Barcode reader is a _____scanning device.

9. _____ is a device that captures a fingerprint.

10. _____ works like a traffic policeman.

11. CU stands for _____

12. System unit is a _____ where processing take place.

13. _____ technology is the latest and most advanced stage in the development of the computer technology.

14. Barcode reader gathers information by reading _____.

15. _____ Unit compares two quantities and give answer in the form of true or false.

Match column A with Column B and write the numbers of matching pairs in Column C (Unit # 1)

A	B	C
i) Motherboard	a) CPU	
ii) System unit	b) AGP slot	
iii) Brain	c) Security system	
iv) Libraries	d) Main board	
v) Graphics/3d card	e) CU	
vi) Fingerprint reader	f) Robot	
vii) Peripherals	g) Box	
viii) Traffic police man	h) Non volatile	
ix) Mechanical agent	i) I/O devices	
x) ROM	j) Barcode	
xi) RAM	k) Dial-up Connection	
xii) Modem	l) Volatile	

Unit 4: "Multimedia Presentation"

Web Link (Lecture # 14): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

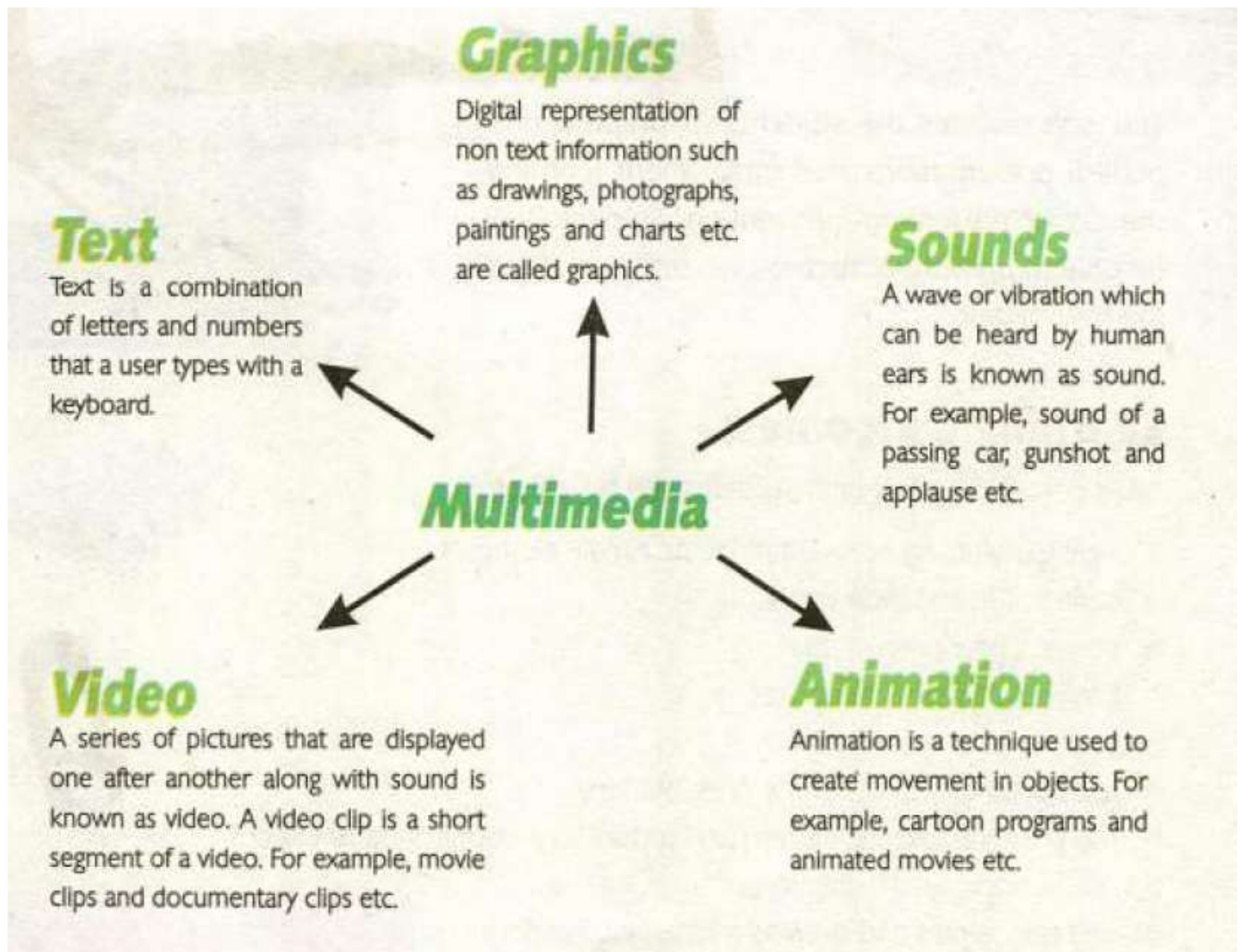Objective: 1. **To enable the students to know about the Multimedia Presentation**

2. You will also to know about the elements of Multimedia Presentation

Introduction to MS. Word:

Multimedia presentations help users to present information visually in an interactive way. They can use different media elements in their presentations to make an impact on the audience.

Multimedia:

Multimedia is a combination of all or some of the media elements. The elements of multimedia include text, graphics, audio/ video and animation.

Graphics

Digital representation of non text information such as drawings, photographs, paintings and charts etc. are called graphics.

Text

Text is a combination of letters and numbers that a user types with a keyboard.

Sounds

A wave or vibration which can be heard by human ears is known as sound. For example, sound of a passing car, gunshot and applause etc.

Multimedia

Video

A series of pictures that are displayed one after another along with sound is known as video. A video clip is a short segment of a video. For example, movie clips and documentary clips etc.

Animation

Animation is a technique used to create movement in objects. For example, cartoon programs and animated movies etc.

Unit 4: "Multimedia Presentation"

Web Link (Lecture # 15):   https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Objective: 1. **To enable the students how to create Presentation**

2. You will also to know about the interface of Presentation

Creating a Power Point Presentation:

Microsoft PowerPoint is a software that helps a user to create attractive multimedia presentations using different media elements, such as text, graphics, sound, video and animation. When we start PowerPoint, a new blank presentation begins automatically with one slide.

Fig. 4.1 PowerPoint window
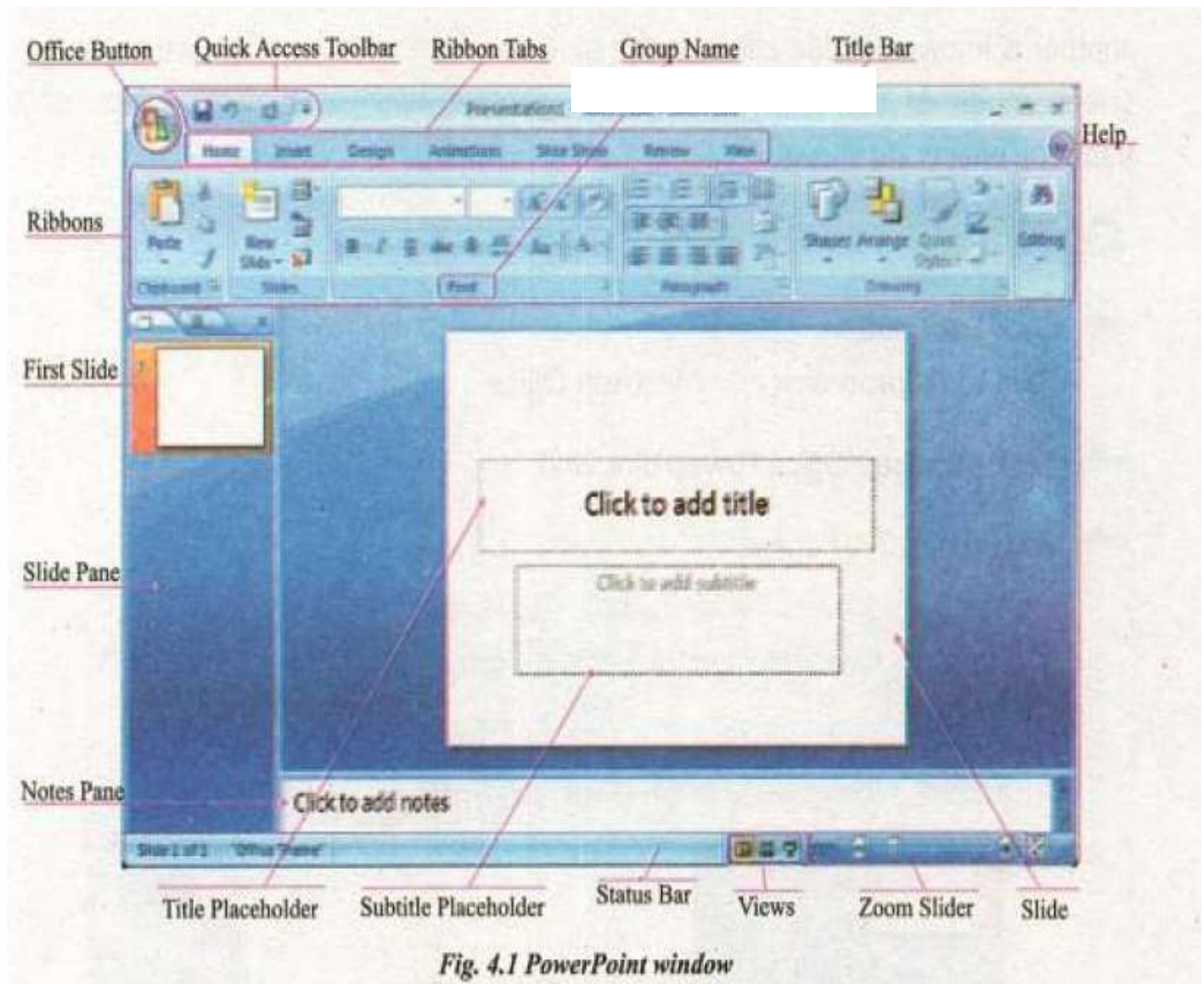
→ To exit *PowerPoint,* click close button ☒ appearing in the top right-hand corner.

Multimedia Presentation:

An orderly display of information using different media elements such as audio, video, animation, text and graphics is known as multimedia presentation. Multimedia presentations are used to present information to a group of people. It is the most comprehensive way to present information. PowerPoint and Adobe Flash are some examples of multimedia presentation software-

Assessment of Week # 6 (27th July 2020 – 30th July, 2020)

Web Link (Lecture # 16): https://www.youtube.com/playlist?list=PLvbEvN2QBJAmz2eX5iEWHF73SvdZJMg0S

Multiple Choice Questions

1. **A single page of presentation created in PowerPoint is called _____.**

   a) Slide   b) Media   c) Text   d) Slide Show

2. **There are _____ elements of multimedia.**

   a) Four   b) Three   c) Two   d) Five

3. **The combination of letters and numbers is known as _____.**

   a) Alphabets   b) Numbers   c) Symbols   d) Text

4. **Cartoon movies are the example of _____.**

   a) Painting   b) Animation   c) Drawing   d) Photograph

5. **The digital representation of non-text information is called _____.**

   a) Sound   b) Video   c) Graphics   d) Animation

6. **The movement of an object is created by using _____ technique.**

   a) Animation   b) Presentation   c) Motion   d) Execution

7. **The name of the PowerPoint file is seen on the _____ bar.**

   a) Menu   b) Title   c) Scroll   d) Status

Fill in the blanks

1. _____ is a combination of all or some of the media elements.

2. Picture is an example of _____.

3. _____ is the digital representation of non text information.

4. _____ is a short segment of a video. It is used to support information.

18

5. _____ is a wave or vibration which can be heard by human ears.

Answer Question

Question # 1: Define Multimedia.
Answer:

_____

_____

_____

_____

Question # 2: Define Text.
Answer:

_____

_____

_____

_____

Question # 3: Define animation.
Answer

_____

_____

_____

_____

Question # 4: What is multimedia? Explain its element?
Answer

_____

_____

_____

_____

_____

_____