

Computer System

Date :- 22/6/2023



#RoadMap

- 📍 Explain the working of a computer system
- 📍 Discuss the use of various input and output devices
- 📍 Explain the role of CPU
- 📍 Explain the different types of computer memory
- 📍 Discuss the significance of motherboard

Classify the following as Hardware or Software.

Word, Mouse, Printer, Windows, Speakers, Excel, PowerPoint, Keyboard, Monitor, Paint, macOS, Headphones

I am part of a computer that you can touch and feel.

I am a set of instructions that tell the computer how to work.

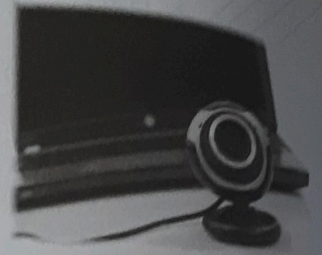


Hardware	Software
1. Mouse	1. Word ✓
2. Speakers	2. Windows
3. Printer	3. Excel ✓
4. Monitor	4. Power Point ✓
5. Headphones	5. Paint ✓
6. Keyboard	6. macOS ✓



Web Camera

A webcam or web camera is a digital camera usually connected to a computer through a USB cable. Webcams come with software that allows the user to record or send the video on the Web. Many laptops come with an in-built web camera and microphone.



▲ Fig. 1.14
Web camera



▲ Fig. 1.15
Biometric devices

Biometric Devices

Biometric devices are the devices that are capable of identifying a person's identity on the basis of his/her distinctive physical characteristics. These days many biometric devices are available that can scan and detect a person's fingerprints, face, iris, voice, etc. These devices are used for identification and access control at various places such as schools, offices and airports.

Biometric devices help in enhancing security as compared to the system of Login IDs and passwords. Following are some of the places where biometric devices are being used:

- At workplaces, for marking attendance.
- At airports, for enabling quick recognition of passengers.
- At banks, for accessing safe vaults and lockers.
- At offices, for accessing secured areas like server rooms.
- For unlocking mobile phones.



#SnapCheck

Suggest suitable devices for the following:

1. A journalist has to type a long article. Keyboard ✓
2. An employer wants to restrict access to a secure area such as the boardroom. Biometric ✓
3. A shopkeeper wants to generate bills by quickly entering the information of products into the computer. Barcode Reader ✓
4. Arjun has drawn a beautiful card on a paper. He now wants to send it to his grandparents through an email. Scanner ✓
5. An artist wants to draw a digital illustration. He is not very comfortable using a mouse. Graphic Tablet ✓



Plotter

Plotters are a special type of printers which are able to draw high quality images. They are used by engineers, architects and map makers to print architectural plan of buildings, large scale maps, etc. A plotter interprets commands from a computer to print drawings on a paper or any other media.



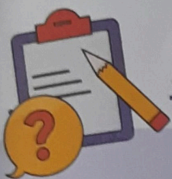
▲ Fig. 1.21 Plotter



▲ Fig. 1.22 Projector

Projector

Projectors are used for displaying videos, images or computer data on a big screen or other flat surfaces. Projectors are widely being used in schools and offices for giving presentations.



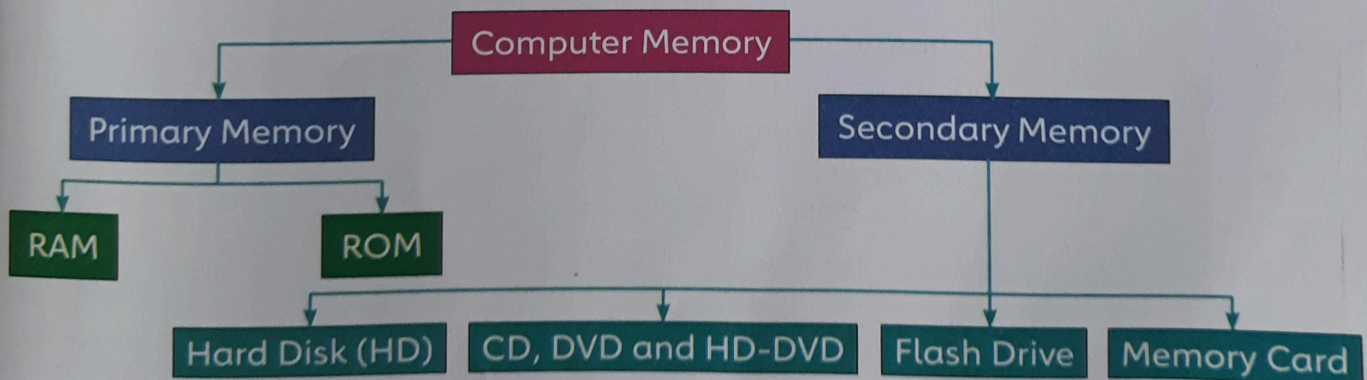
#SnapCheck

Suggest suitable devices for the following:

1. A teacher wants to deliver a presentation on a large screen to the entire class. Projector
2. An architect wants to print the map of a huge shopping complex. Plotter
3. A printer for an office where hundreds of letters have to be printed on a daily basis. Laser Printer
4. An economical printer for home where printouts have to be taken out occasionally. Inkjet Printer

COMPUTER MEMORY

Computers use memory for storing programs, data and instructions. Computer memory can be of two types: (i) primary memory and (ii) secondary memory.



▲ Fig. 1.23 Types of computer memory

A. Tick (✓) the correct answer.

- Which of the following devices is capable of recognising a person's identity on the basis of his/her distinctive physical characteristics?
a. Barcode reader b. Biometric device c. MICR d. Joystick
- Which of the following is not a feature of RAM?
a. RAM is volatile.
b. Information can be written onto and read from RAM.
 c. RAM stores a special piece of software called BIOS.
d. The size of RAM installed in a computer decides the number of programs that the system can run simultaneously.
- Which of the following devices can be used to display the output on a big screen or other flat surfaces?
 a. Projector b. Plotter c. Printer d. Monitor
- RAM is not a secondary storage device.
a. DVD b. CD c. RAM d. Hard disk
- Which of the following components of the CPU uses electrical signals to direct the various parts of the computer system to carry out or execute, stored program or instructions?
a. ALU b. CU c. Memory unit d. ROM

B. Fill in the blanks.

motherboard dot-matrix MICR
laser touchpad scanner digital camera

- A device that is used for converting printed documents or photos into electronic format is called a scanner.
- A touchpad is an input device usually on a laptop and works by sensing the user's finger movement and the applied pressure.
- MICR is used in banks to read the code on cheques written using magnetic ink.

4. Dot-matrix is an impact printer whereas Laser is a non-impact printer.
5. A digital camera is used to capture images and store them in a digital format.
6. Mother board is the main circuit board of a computer which holds the components like CPU, RAM and ROM, is connected to the other components of the computer through connectors and slots.

C. Find the odd one out.

1. RAM, CD, DVD, Pen drive
2. Touchscreen, Projector, Scanner, Biometric device
3. Plotter, Printer, Touchpad, Monitor
4. Dot-matrix printer, Inkjet printer, Laser printer
5. Scanner, Barcode reader, Digital camera, Plotter

D. Answer the following questions.

1. What is the use of Scanner?
2. Give few uses of Biometric Devices.
3. Why is SSD preferred over HDD?
4. Differentiate between RAM and ROM.
5. What are the various functional components of a CPU? Discuss them briefly.
6. Write the difference between Primary Memory and Secondary Memory.



Lab Activity

Visit the computer lab:

- Prepare a list of the input, output and secondary storage devices.
- Note the processor configuration details of the computer on which you work in the lab.

Project

Prepare a PowerPoint presentation on input, output and secondary storage devices.



A discussion on the latest input and output devices such as motion sensors and 3D printers can be taken up in the class.

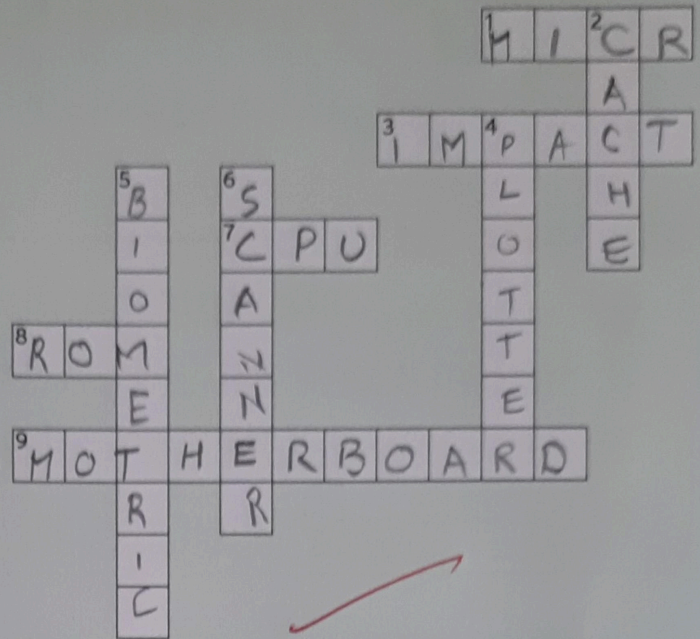


#ScreenShot

Solve the crossword using the clues given below.

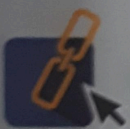
Across

1. A device used to read characters printed in a special font using magnetic ink.
3. Type of printer in which ~~no~~ mechanical contact is required between the print head and the paper.
7. Brain of the computer.
8. Type of memory used for storing a special piece of software known as BIOS.
9. The main circuit board of a computer.



Down

2. Memory that is faster than the RAM.
4. Special type of printers which are able to draw high quality images.
5. Input devices used for identifying a person's identity on the basis of his/her distinctive physical characteristics.
6. Device for converting printed documents or photos into electronic format.



#HyperLink

General Awareness

Find out information about companies who manufacture the following components/ devices:

1. Processor
2. Printer
3. Pen Drive
4. Web Camera