

CHAPTER 2

INPUT, OUTPUT AND MEMORY DEVICES

Review Questions

Very short answer questions:

1. What is PC?
Ans: PC stands for Personal Computer.
2. Which are the units of CPU?
Ans: Control unit, ALU and Registers
3. What is input unit?
Ans: Input unit is any hardware component that allows you to enter the data and instructions into a computer.
4. What is the use of input unit?
Ans: It helps us to transfer data to the computer.
5. What happens to the data in the input unit?
Ans: The data
6. What is the use of memory?
Ans: It helps us to store data.
7. What is ROM and RAM?
Ans: ROM: Read Only Memory
RAM: Random Access Memory.
8. Classify various unit of memory.
Ans: Primary memory, secondary memory, cache.
9. What is cache memory?
Ans: Cache memory is a temporary memory, in which the frequently used memory will be stored.
10. What does MOUSE stand for?
Ans: Mechanically Operated User Serial Engine.
11. What is MICR?
Ans: Magnetic Ink Character Recognition.
12. Define the resolution of Monitor.
Ans: Number of pixels that can be displayed vertically and horizontally.
13. What is the use of speakers?
Ans: Speakers are used to convert digital signals to audio signals.

Short answer questions:

1. Compare input and output units.

Ans:

<i>Input unit</i>	<i>Output unit</i>
<i>An input device sends data to the computer, but does not display any information.</i>	<i>An output device can print information from the computer but does not send any information to the computer.</i>

2. Compare features of micro and mini computers.

Ans:

<i>Micro computer</i>	<i>Mini computer</i>
<i>Micro computers are personal computers which are used for general purpose.</i>	<i>Mini computers are used for real-time application.</i>
<i>Micro computers are single processor system.</i>	<i>Mini computers are time-sharing systems.</i>

3. Compare mainframe and super computer.

Ans:

<i>Mainframe computer</i>	<i>Super computer</i>
<i>Mainframe computers are computers that have huge storage capacity, high processing speed.</i>	<i>Super computers are specially designed computers that are used for weather analysis, encryption, cracking, creation of animated pictures, parallel-processing application.</i>
<i>Mainframe computers are used in Banks to process cheques or high volumes of transactions.</i>	<i>Super computers are multi-processor systems.</i>

4. What is the difference between volatile and non-volatile memory.

Ans:

<i>Volatile memory</i>	<i>Non-volatile memory</i>
<i>Information written to it can be accessed as long as power is on. As soon as the power is off, it can not be accessed because it will be erased automatically</i>	<i>The information stored in it is not lost even if the power supply goes off. It's used for the permanent storage of information.</i>

<i>and made empty.</i>	
<i>EXAMPLE: RAM</i>	<i>EXAMPLE:ROM</i>

5. Compare static and dynamic RAM.

Ans:

<i>Static RAM</i>	<i>Dynamic RAM</i>
<i>Retains information only as long as power is ON.</i>	<i>Loses information in very short time, even if power supply is ON.</i>
<i>It's costlier and consumes more power.</i>	<i>It's cheaper and consumes less power.</i>
<i>Their speed is high.</i>	<i>Speed is low.</i>

6. Give different types of ROM.

Ans: PROM: Programmable Read Only Memory.

EPROM: Erasable Programmable Read Only Memory.

EEPROM: Electrically Erasable Programmable Read Only Memory.

7. Explain the different types of keyboard.

Ans:

- Standard keyboard
- Wireless keyboard
- Virtual keyboard
- Compact keyboard

8. Give the difference between hard copy and soft copy.

Ans:

<i>Hard copy</i>	<i>Soft copy</i>
<i>The programs or data present on the paper is known as hard copy.</i>	<i>The programs and data present on the memory is known as soft copy.</i>

9. Explain the different types of Printer.

The printers are classified as

1. Impact printer: Impact printers are those which produces output with the help of hammering mechanism, it makes noise while in use.
2. Non-Impact printer : Non-impact printers are those which do not produce output with a hammering device, it is noiseless.

10. Explain the different structures of CD-ROM.

Ans: CD-ROM stands for Compact Disk-Read Only Memory. CD-ROM tracks of information can be written onto them by the user. These are called read/write CD-ROM and these are becoming a popular and cheap method for storage.

Very long answer questions:

1. Explain the different functional units of computers.

Ans: The different functional units of computer are:

1. **Monitor:** It is an output device which provides a visual display of data.
2. **Keyboard:** The keyboard detects the key pressed and generates the corresponding ASCII codes which can be recognised by the computer.

Types of keyboards are:

- Standard keyboard
 - Wireless keyboard
 - Virtual keyboard
 - Compact keyboard
3. **Mouse:** Mouse is an input device that controls the movement of the cursor on the display screen.
 4. **CPU:** CPU is a part of the computer that carries out the instructions of the computer programs.
 5. **Printer:** Printer is an output device that prints text or images on paper or other media.
 6. **Hard disk:** Hard disk is a magnetic disk on which you can store computer data.

2. Write the difference between ROM and RAM.

Ans:

RAM	ROM
<i>Data is stored temporarily.</i>	<i>Data is stored permanently.</i>
<i>It is a volatile memory.</i>	<i>It is a non-volatile memory.</i>
<i>It allows direct access to a particular memory location.</i>	<i>It stores instructions which help in starting up the computer.</i>

3. Give the applications of OMR, OCR and MICR

OMR : used in objective type answer papers, time sheets of factory employees

OCR : It is used in bank to process check by scanning instantly.

MICR : used in cheque, it is high speed method of scanning.

4. Explain impact and non-impact printers.

1. **Impact printers:** Impact printers are those which produces output with the help of hammering mechanism, it makes noise while in use. EXAMPLE:

Line printer: Line printers are high-speed printers capable of printing line at a time.

Dot matrix printer: Dot matrix printer prints line of 8 or 14 points at a time.

2. **Non-Impact printers:** Non-impact printers are those which do not produce output with a hammering device, it is noiseless. EXAMPLE:

Thermal printer: Thermal printers are those that produce images by pushing electrically heated pins against special heat-sensitive paper.

Laser printer: Laser printer uses a laser beam and dry powdered ink to produce a fine dot matrix pattern.

Inkjet printers: Inkjet printers use colour cartridges which combine magenta, yellow and cyan inks to create colour tones.

Plotter printer: Plotter is an output device that draws pictures on paper based on commands from a computer.

Essay type questions:

1. Explain input unit in detail.

Ans: Input unit is any hardware component that allows you to enter the data and instructions into a computer.

EXAMPLES FOR INPUT DEVICES:

1. **Keyboard:** The keyboard detects the key pressed and generates the corresponding ASCII codes which can be recognised by the computer.

Types of keyboards are:

- Standard keyboard
- Wireless keyboard
- Virtual keyboard
- Compact keyboard

2. **Mouse:** Mouse is an input device that controls the movement of the cursor on the display screen.

3. **OCR:** Optical Character Recognition (OCR) is a input device that is used to scan the printed/handwritten text materials into computer readable text makes it easily edited and stored. It is used to read the cheque numbers in the banks and millions of magazines and letters are sorted every day by OCR machines.

4. **OMR:** Optical Mark Reader is used to recognise certain pre-specified types of marks such as marks made by pencil or pen.

5. **MICR:** Magnetic Ink Character Recognition (MICR) device is normally used to assist the banking industry in processing the cheques that are issued by the customer's everyday.

2. Explain output in detail. (S.Q.9,V.L.Q.3,4)

Ans: Output is the result obtained after processing, this should be represented in human understandable form, this task is done by the output unit.

EXAMPLES OF OUTPUT DEVICES:

a. **Monitor:** it is the commonly used output device, which is also known as display.

It provides a visual display of data. There are different types of monitors, based on size, display quality and so on. The most commonly used monitors are CRT, LCD, TFT, LED.

- b. Printers : it is an output device that prints text or images on paper or other media. This is called as hard copy (monitors give soft copy). The different classification of printers based on speed and quality of print are Impact and Non_Impact.

3. Explain Storage medium in detail. (V.L.Q.5)

A **data storage device** is a device for recording (storing) information (data). Recording can be done using virtually any form of energy, spanning from manual muscle power in handwriting, to acoustic vibrations in phonographic recording, to electromagnetic energy modulating magnetic tape and optical discs.

A storage device may hold information, process information, or both. A device that only holds information is a recording medium. Devices that process information (data storage equipment) may either access a separate portable (removable) recording medium or a permanent component to store and retrieve data.

Electronic data storage requires electrical power to store and retrieve that data. Most storage devices that do not require vision and a brain to read data fall into this category. Electromagnetic data may be stored in either an analog data or digital data format on a variety of media. This type of data is considered to be electronically encoded data, whether it is electronically stored in a semiconductor device, for it is certain that a semiconductor device was used to record it on its medium. Most electronically processed data storage media (including some forms of computer data storage) are considered permanent (non-volatile) storage, that is, the data will remain stored when power is removed from the device. In contrast, most electronically stored information within most types of semiconductor (computer chips) microcircuits are volatile memory, for it vanishes if power is removed.

The different types of storage devices commonly used are,

- a. Primary memory : RAM and ROM
- b. Secondary memory : pendrives, CD, DVD, memory cards

4. Illustrate the latest configuration of computers for today.

Ans: The computers are based on the users requirements and there are many different configurations according the usage, the latest configuration is

- a. Processor : intel series (i3, i5 , i7)
- b. CPU cabinet : a spacious cabinet which supports the requirements
- c. Monitor : LED monitors with 13 or 15inch
- d. Optical Keyboard and Mouse
- e. Network adaptor
- f. Hard disk : minimum 500GB to 1TB
- g. RAM : 4GB or 8GB
- h. Graphics card : 2Gb or 4GB