



## TOPIC-1 Computer and its Functioning

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**Question 1:**

Which part interprets program instructions and initiate control operations ?

**Answer:**

Control unit.

**Question 2:**

What is primary memory ?

**Answer:**

Primary memory : This is the storage section of computer which is used to store data or instructions or both for processing purpose. This is non-volatile in nature.

**Question 3:**

What is RAM ?

**Answer:**

RAM : RAM stands for Random Access Memory.

This is the main memory of computer used to retain user's instructions and data for processing purpose. This is volatile in nature .

**Question 4:**

What is ROM ?

**Answer:**

ROM : ROM stands for Read Only Memory. ROM applies to semiconductor memory whose contents cannot be altered, once they have been set. So non-volatile in nature.

**Question 5:**

What is PROM ?

**Answer:**

PROM : PROM stands for Programmable Read Only Memory. A control memory in which stored contents can be altered once after they have been set.

**Question 6:**

What is EPROM ?

**Answer:**

EPROM : EPROM stands for Erasable Programm able Read Only Memory. It can be erased and programmed with a special type of equipment. If it is exposed in ultraviolet light, it allows data to be erased and reprogrammed.

**Question 7:**

What is EEPROM ?

**Answer:**

EEPROM : EEPROM stands for Electrically Erasable Programmable Read Only Memory. This type of ROM can be erased and programmed with the help of electric pulse.

**Question 8:**

Give three examples of both input devices and output devices.

**Answer:**

**Input Devices :**

1. Keyboard
2. Mouse
3. Scanner

**Output Devices :**

1. Monitor

2. Speaker
3. Printer

### Short Answer Type Questions – I [2 mark each]

#### Question 1:

Name the components of a computer system.

#### Answer:

The computer system consists of two parts :

1. Hardware.
2. Software.

#### Question 2:

Explain functional components of a computer system.

#### Answer:

A computer system contains many different objects such' as a CPU, memory, disks, etc. These all must be connected for the system to function.

#### Question 3:

Explain volatile and non-volatile memory.

#### Answer:

The memory in which data is lost when power is removed is called volatile memory. The memory in which data is not lost when power is removed is called non-volatile memory.

#### Question 4:

What are the basic units of computer ? Give two names of sub-units of CPU and also give the functions of each unit

#### Answer:

The computer consists of the following basic units :

1. Input unit
2. Central Processing Unit (CPU)
3. Output unit
4. Memory unit

The CPU has two sub units :

(A) Control Unit (CU) : Control unit controls the entire operation being carried out.

(B) Arithmetic Logic Unit (ALU) : It performs the arithmetic and logical operations.

#### Question 5:

What is data ? What is the output of data processing system ?

#### Answer:

Data is derived from a word 'datum' i.e. a fact. Data is a collection of raw facts and figures. Data processing system is a computer based system which converts data into information.

#### Question 6:

What is the difference between data and information ?

#### Answer:

Data : Data means facts and figures. Data is unprocessed information. For example : Siddharth, 40400195, M.

Information : Information means what we get after processing data i.e., processed data. In other words, information is processed data

#### Question 7:

What is the function of memory ? What are the types of it ?

#### Answer:

The memory stores data temporarily or permanently.

Computer memory is of two types :

1. Primary Memory (Main Memory) : The primary or main memory holds the data and information during processing. It holds data temporarily, as we switch off computer the information vanishes.  
For example : RAM.
2. Secondary Memory : It can store data permanently on the computer but it cannot process data. It is meant for permanent storage of data and information.  
For example : CD-ROM, DVD-ROM.

**Question 8:**

What is a bit ? How bit, byte and nibbles are related to each other ?

**Answer:**

Bit (Binary Digit) : A bit is the smallest elementary unit of memory, which can store one binary signal either 0 or 1. A group of 8 bits is called a byte. A group of 4 bits is called a nibble.

**Question 9:**

What do you mean by Input Unit ? Give the examples of Input Unit.

**Answer:**

Input Unit : An input unit takes the input and converts it into binary form so that it can be understood by CPU for processing accordingly. For example : Keyboard, Mouse, Joystick, Scanner, Camera, Magnetic Ink Character Reader (MICR), Bar Code Reader (BCR) etc.

**Question 10:**

What is the function of CPU in a computer system ?

**Answer:**

The CPU is the control center for a computer. It controls, directs and manages the entire performance of the computer. The CPU has two different parts which are responsible for different functions.

**Question 11:**

What do you understand by IPO cycle ?

**Answer:**

IPO cycle refers to the Input Process Output cycle where every operation undergoes the phases namely input, process and output.

**Question 12:**

Differentiate between source program and object program.

**Answer:**

**Source Program** : A program which is written by the programmer in high level language or in assembly language, which is to be converted into machine language by the compiler is known as source program.

**Object Program** : The source program is converted into machine level instruction for execution. This converted program (in the machine language) is known as an object program.

**Question 13:**

Draw the labeled diagram, representing the basic structure of a computer system.

**Answer:**

Refer to Quick Review diagram to show Basic Computer System.

**Question 14:**

Mention any two limitations or weaknesses of a computer ?

**Answer:**

Any two limitations or weaknesses of a computer system are as follows :

1. Lack of intelligence/Lack of decision making power : No doubt, computer is a powerful machine but cannot decide on its own that what it is supposed to do as a machine. This is a serious limitation of a computer system and it is an artificially intelligent machine.
2. Need of special language : A computer can understand only the binary language, in which the information is represented in terms of only two symbols, namely 0 and 1. This is not the natural language of human beings and learning of the binary language is not an easy task.

## Questions Answer [3 mark each]

### Question 1:

Explain Primary Memory Unit.

#### Answer:

Memory Unit stores the data, instructions, intermediate results and output temporarily, during the processing of data. This memory is also called the main memory or primary memory of the computer. The input data that is to be processed is brought into the main memory before processing.

### Question 2:

Explain what is a computer and write its advantage.

Or

Define computer. Give its characteristics.

#### Answer:

A computer is an electronic device which can perform various operations correctly and fast. For example data processing, huge calculations etc. Characteristics of computer :

1. **Speed** : Its speed is very fast. A modern computer can execute millions of instructions in one second.
2. **Accuracy** : A computer can give accurate results up to 20 to 30 places of decimal.
3. **High storage capacity** : A computer can store large amount of data in very small space.
4. **Versatility** : A computer can do different types of tasks like data processing, graphics, audio and visual effects.
5. **Repetitive**: A computer makes no mistake in repeating anything as many times.

## Long Answer Type Questions

### Question 1:

Explain four characteristics of computer.

#### Answer:

Speed, accuracy, diligence, storage capability and versatility are some of the key characteristics of a computer. A brief overview of these characteristics are :

1. **Speed** : The computer can process data very fast, at the rate of millions of instructions per second. Some calculations that would have taken hours and days to complete otherwise, can be completed in a few seconds using the computer.
2. **Accuracy** : Computer provides a high degree of accuracy. For example : the computer can accurately give the result of division of any two numbers up to 30 decimal places.
3. **Diligence** : When used for a longer period of time, the computer does not get tired or fatigued. It can perform long and complex calculations with the same speed and accuracy from the start till the end.
4. **Storage Capability** : Large volumes of data and information can be stored in the computer and also retrieved whenever required. A limited amount of data can be stored temporarily in the primary memory. Secondary storage devices like DVD and compact disk can store a large amount of data permanently.

### Question 2:

Compare human beings with computer.

Or

What is the difference between man and computer ?

#### Answer:

A computer is an electronic device which can process data to give meaningful information with the help of a set of instructions called 'Program'.

In computer, following are the advantages as compare to man :

1. It is faster as compared to human beings
2. It is more accurate in comparison to human being. "
3. It can store a huge amount of information that can be retrieved instantly as compared to the human beings.
4. It is immune to boredom and tiredness.
5. It is versatile, can do different types of work with same accuracy and speed.

**A computer has following disadvantages :**

1. A computer does not have its own intelligence that a man has.
2. A computer cannot work without power (electric or battery)

**Question 13:**

Expand the following terms :

1. CPU,
2. ALU,
3. VLSI,
4. MSI,
5. LSI,
6. SSI,
7. IC,
8. IPO,
9. HLL,
10. MB.

**Answer:**

1. CPU → Central Processing Unit
2. ALU → Arithmetic Logic Unit
3. VLSI → Very Large Scale Integration
4. MSI → Medium Scale Integration
5. LSI → Large Scale Integration
6. SSI → Small Scale Integration
7. IC → Integrated Circuits
8. IPO → Input Process Output
9. HLL → High Level Language
10. MB → Mega Byte