
# Victoria University of Bangladesh

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# CSE - 108

## Ans: to the Q: no: (1) (a)

RAM, which stands for random access memory, and ROM, which stands for read-only memory are both present in your computer.

RAM is volatile memory that temporarily stores the files you are working on. ROM is non-volatile memory that permanently stores instructions for your computer.

**What is ROM:** ROM stands for non-volatile memory in computers. which means the information is permanently stored on the chip. The memory does not depend on an electric current to save date, instead, data is written to individual cells using binary code. Non-volatile memory is used for parts of the computer that do not change such as the initial boot-up ~~pro~~ portion of the software on the

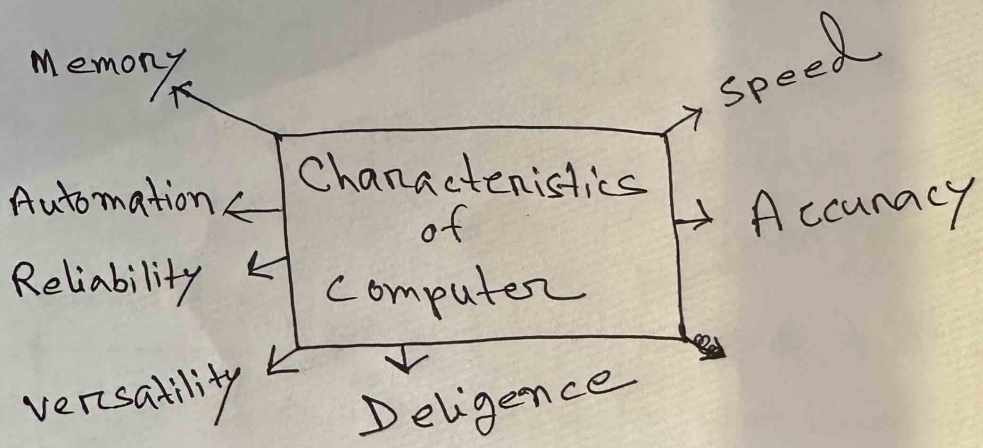
Firmware instructions that make your printer run. Turning off the computer does not have any effect on Rom. Non-volatile memory cannot be changed by users.

What is computer RAM?: RAM is valatile memory, which means that the information temporanily stored in the module is erased when you restart or shut down your computer. Because the information is stored electrically on transistors, when there is no electric current, the data disappears. Each time you request a file or information it is retrieved either from the computer's storage disk or the internet. The data is stored in RAM, so each time you switch from one program or page to another the information is instantly available. When the computer is shut down, the memory is cleared until

the process begins again. Volatile memory can be changed, upgraded, or expanded easily by users.

Ans. to the Q. NO. (1) (b)

The characteristics of the computer system are as foollow




Speed: A computer works with much higher speed and accuracy compared to humans while performing mathematical calculations. Computers can process millions (1,000,000) of instructions per second. The time taken by computers of their

operations is microseconds and nanoseconds.

Accuracy: Computers perform calculations with 100% accuracy. Errors may occur due to data inconsistency or inaccuracy.

Diligence: A computer can perform millions of tasks or calculations with the same consistency and accuracy. It doesn't feel any fatigue or lack of concentration. Its memory also makes it superior to that of human beings.

Versatility: Versatility refers to the capability of a computer to perform different kinds of works with same accuracy and efficiency.

Reliability: A computer is reliable as it gives consistent result for similar set of data i.e., if we give same set of input any number of times we will get the same result. Automation computer

Manual intervention.

Memory: A computer has built in memory called primary memory where it stores data. secondary storage are removable devices such as CDs, pen drives, etc, which are also used to store data.

Ans. to the Q:NO! (2) (a)

~~SECOND~~

2nd Generation computer VS 3rd Generation computer

Difference between second generation computer and third generation computer?

| 2nd Generation | 3rd Generation |
|---|---|
| (1) The period of second generation computer was 1959 - 1965. | (1) The period of third generation computer was 1965 - 1974. |
| (2) Transistors were used as the main component. | (2) Integrated circuit (Ic) were used as the main component. |

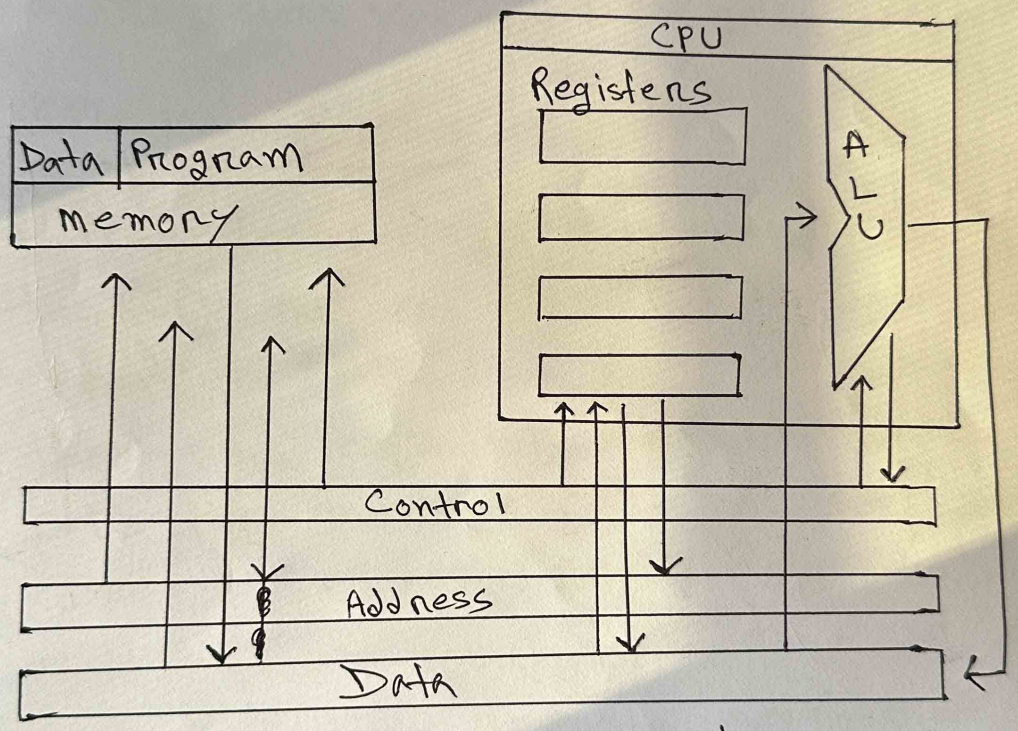
(3) The size of the computer was larger, like refrigraton.
(4) Speed is slow
(5) The computers were expensive
(6) Power Consumption is high.
(7) Storage capacity is low
(8) They generated a lot of heat.
(9) The computers used assembly and high level language as the programming language like FORTRAN COBOL etc.
(10) Magnetic tape Punch cards, Magnetic dise were used as

(3) The size of the computer was smaller compared to 2nd generation computer.
(4) Speed is faster compared to 2nd generation computer.
(5) The computers were cheaper compared to 2nd generation computer.
(6) Power consumption is low compared to 2nd generation computer.
(7) storage capacity.
(8) They generated less amount of heat.
(9) The computers used high level language as the programming language like - NOVA, DEC, HP 3000, etc.
(10) Magnetic tape. Key board, mouse, monitor

| | |
|---|---|
| input, output and storage devices. | were used as input, output and storage devices. |

⑦

Ans: to the Q: NO: ② ⑤




what is a CPU? At the heart of computer there is a unit called the central Processing unit (CPU). You've probably heard of CPUs before. They're made by companies like Intel, AMD, Fujitsu,

Zhaoxin and Qualcomm and have technical data associated with them such as Quad Core 3.2 GHz with 6MB of cache. The CPU can be further divided into three main parts: the arithmetic logic unit (ALU) the control unit (CU) and what are known as registers. You will look at these first.

CPU main Parts:

① Registers: Registers are parts of the CPU that can store data. They operate a little like RAM, but rather than use capacitor-based memory cells the memory cells are only composed of logic gates. Registers can't hold as much data as RAM can but they operate considerably faster.

② The Arithmetic Logic Unit:
The ALU is the core of the CPU.

It is made up of all those logic circuits that you have been learning about for the past three weeks.

(3) Memory:

The Ram stores both the instructions that the computer needs to perform and the data on which to perform it. The idea of storing both data and instructions in the same memory is the basis of what is known as the stored-program computer.

(4) Buses:

All of these components are connected together by bundles of wires that are collectively know as buses.

(5) Input and Output:

Additionally a computer would usually have some input and output devices that can receive external data and then output the results of the calculation.

Ans: to the Q: No: (2) (c)

## Difference between Primary and Secondary Memory comparison Table.

| Comparison Parameters | Primary Memory | Secondary Memory |
|---|---|---|
| storage validity | Primary memory is the main memory and stores data temporarily. | Secondary memory is the external memory and stores data permanently. |
| Access | The CPU can directly access the data. | The CPU cannot directly access the data. |
| Volatility | Primary memory is volatile It loses data in case of a power outage. | Secondary memory is non volatile data is stored even during a power failure. |
| Storage | Data is stored inside costly semiconductor chips. | Data is stored on external hardware devices like hard drives, floppy disks, etc. |
| Division | It can be divided into RAM and ROM | They do not have such a classification. Secondary memories are permanent storage devices like CDs, DVDs, etc. |
| Speed | Faster | slower |
| Stored Data | It saves the that the computer is currently using. | It can save various types of data in various formats and huge sizes. |

(10)

Ans: to the Q. NO: (4)(a)

Some devices use a MSB and LSB cc system which might be somewhat confusing for new users. The MSB and LSB gives you more resolution when controlling the parameters. MSB stands for most significant bit, while LSB is least significant bit. In binary terms, the MSB is the bit that has the greatest effect on the number and it is the left most bit. For example for a binary number 01101101, the most significant 4 bits would be 0011. The Least Significant 4 bits would be 0101.

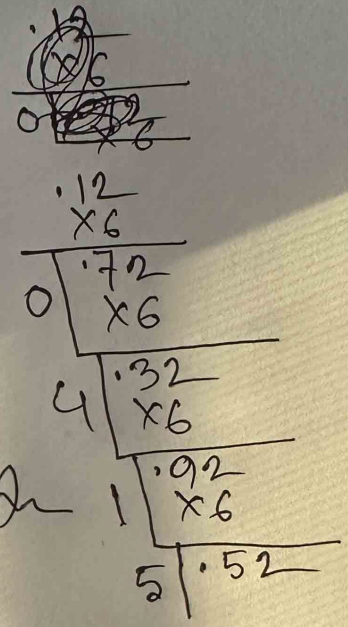
(5) (i) $(33.12)_{10} = ?_6$

$6 \mid 33$

$6 \mid 5 - 3$ ↑

$0 - 5$

$(33)_{10} = (53)_6$




$\therefore (33.12)_{10} = (53.0415\ldots)_6$

(ii) $(54.22)_6 = ?_{10}$

$(54)_6$

$= 5 \times 6^1 + 4 \times 6^0$

$= (34)_{10}$

$= (.22)_6$

$= 2 \times 6^{-1} + 2 \times 6^{-2}$

$= (0.388^{\circ})_{10}$ or $(0.388\ldots)$

$\therefore (54.22)_6 = (34.388\ldots)$