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DEPARTMENT BS RADIOLOGY.

PAPER COMPUTER SKILLS.
(Summer Fall).

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Q.1 (A) In your opinion, what are the three most important characteristics of computer. Explain each characteristic.

Computer.

An electronic device for storing and processing data, typically in binary form. According to instruction given to it in a variable programme.

Explanation:

A computer is a machine that can be instructed to carry out sequence of arithmetic or logical operation automatically via computer programming. Modern computers have the ability to follow generalized set of operation called program. These program enable computer to perform an extremely wide range of tasks.

Function

Taking Data and instruction from user, processing the data as per instruction and displaying or storing the processed data are the four main function.

of a computer. These functions are also known as the input function, process function, output function and storage function respectively.

What are the five basic parts of a computer.

- A motherboard
- A central processing unit (CPU)
- A graphics processing unit (GPU) also known as video card.
- Random Access memory (RAM) also known as volatile memory.
- Storage: solid state device (SSD) or Hard Disk Drive (HDD)

Characteristics of Computer -

1) Speed:

to day the speed is over 80,000 MIPS

2) Accuracy

ALL computer systems beside having amazing speed have nearly 100% accuracy.

3)

3) Reliability.

Reliability of any computer system is typically as high as 99.99%.

4) Memory

is the electronic holding place for data and instructions.

5) Storage.

Various computer media can hold billion of bytes of data.

important characteristics of computer.

1)

Diligence.

it does not get tired or Fatigue. It can perform long and complex calculation with the same speed and accuracy from the start to the end.

2) storage Capability.

large volume of a data can be stored and retrieved whenever required.

3) versatility. It can perform different types of tasks with the same ease.

(B)

Part "B"

Write key characteristics of Fourth Generation of Computer.

- 1) Microprocessor based system that uses very large scale integrated (VLSI) circuits.
- 2) Microcomputer become the cheapest at this generation.
- 3) Hand - Held Computer devices become more popular and affordable.
- 4) Networking between the system was developed and become of every day use in this generation.
- 5) Storage of memory and other storage device has increased in big amount.
- 6) Output are now more reliable and accurate.
- 7) Processing Power or speed has increased enormously.
Example: IBM 3033, Sharp PC-1211 etc.

Q No 2

Discuss the importance of arithmetic logic unit and control unit of a computer system.

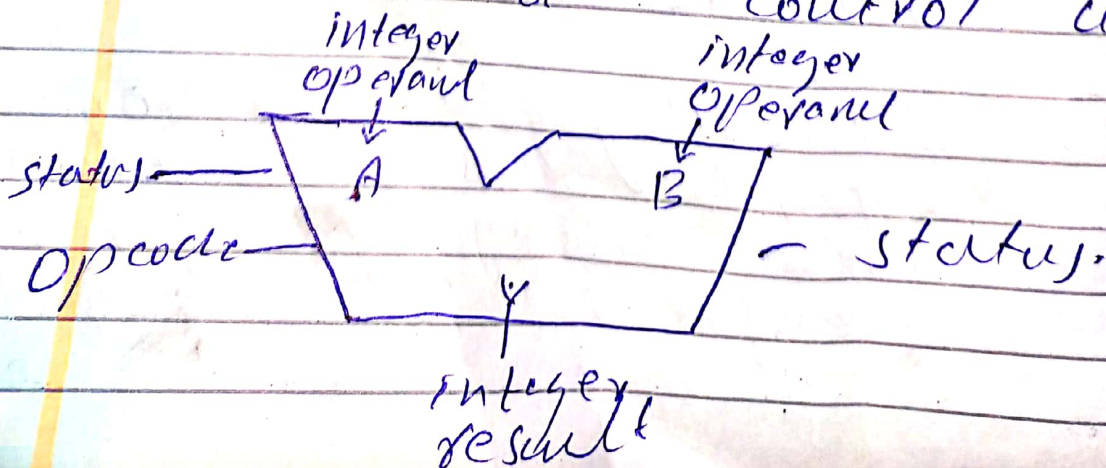
Ans: arithmetic Logic Unit.

Definition.

A unit in a computer which carries out arithmetic and logical operation.

Explanation.

An arithmetic Logic unit (ALU) is a digital circuits used to perform arithmetic and logic operation. It represent the fundamental block of the central Processing unit (CPU) of a computer (CPU) modern (CPU) contain very powerfull and complex ALU. In addition to ALU, modern CPU contain a control unit.



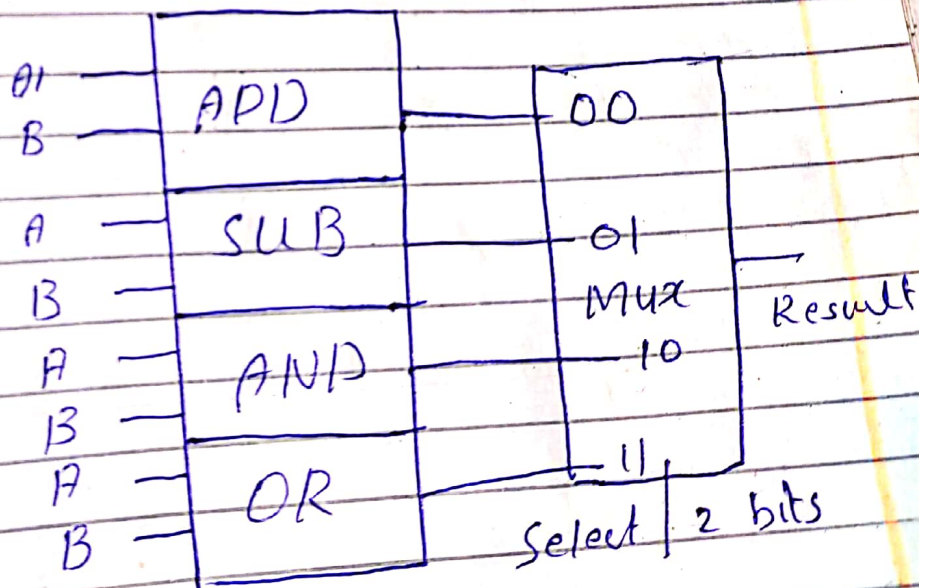
Function of arithmetic Logic system.

(1) An arithmetic Logic unit computes arithmetic or Logic Function.

(2) We designed a two Function arithmetic unit to perform ADD/SUB.

(3) we can add two Logical Function to it. AND and OR.

4) A Four Function (ALU) will have two bits to specify Function.
- 00 (add), 01 (SUB), 10 (AND), 11 (OR)
Then the following set up will work.



Control unit.

The control unit (CU) is a component of a computer central processing unit (CPU) that directs the operation of the processor. It tells the computer memory arithmetic and logic unit and input and output devices how to respond to the instructions that have been sent to the processor.

types of control units.

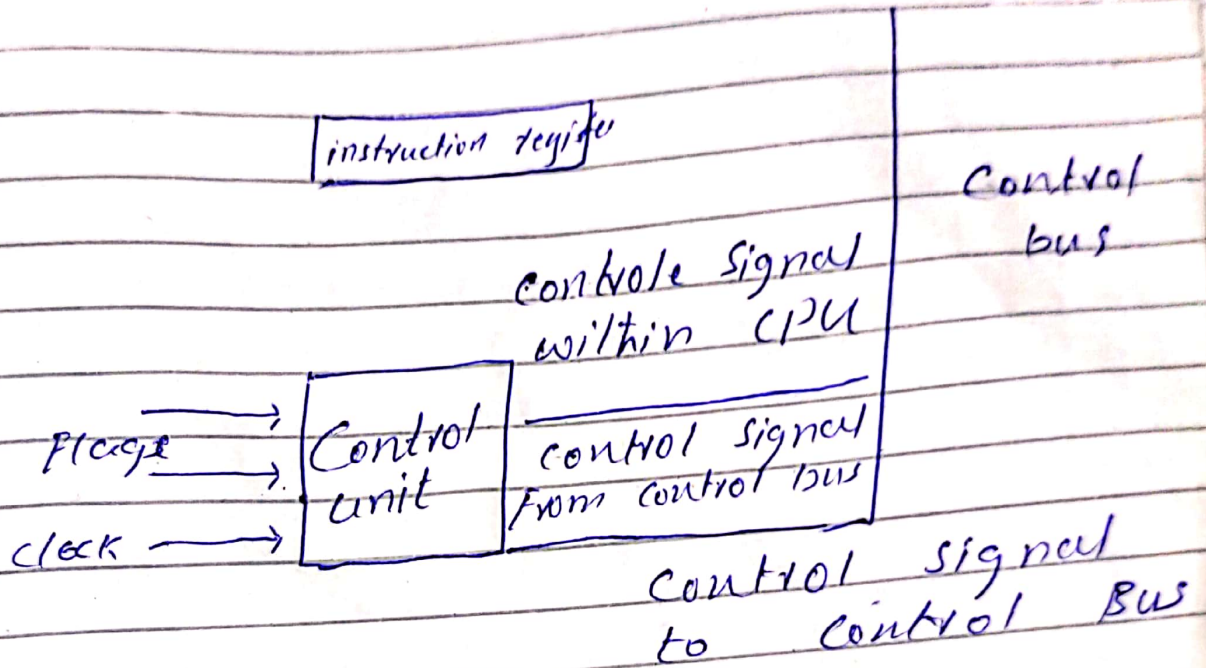
There are two types of control units.

- 1) Hardwired control unit.
- 2) Microprogrammable control unit.

what is control unit And ALU

An arithmetic logic unit ALU is a digital circuit used to perform arithmetic and logic operations. The control unit tells the (ALU) what operation to perform on that data and the ALU store the result in

in out put registers
 the control unit the moves
 the data b/w these
 registers the ALU and memory



Block diagram of the
 control units.

PART (B)

write a detailed note on
importance of RAM (Random
Access Memory)?

Ans:- Random Access Memory;

Definition:-

Random Access mem-
-ory is a form of
computer memory that can
be read and changed in
Any order called as
Random Access memory.

Explanation:-

Random Access
memory can be changed in
Any order and read in
any order typically used
to store working data
and machine code. A rand-
-om Access memory device
allow data items to be
read / written in almost
the same amount of time
irrespective of the physical
location of data inside
the memory.

P.T.O

→ Random Access Memory Imp- -ortance:-

The more (RAM) your (CPU) has access to, the easier its jobs become which enables a faster computer. If you do not have sufficient amount of (RAM) than your (CPU) has to work much, much harder to transfer data which severely damages the computer's performance. Random Access memory also helps your system support software.

F Function:-

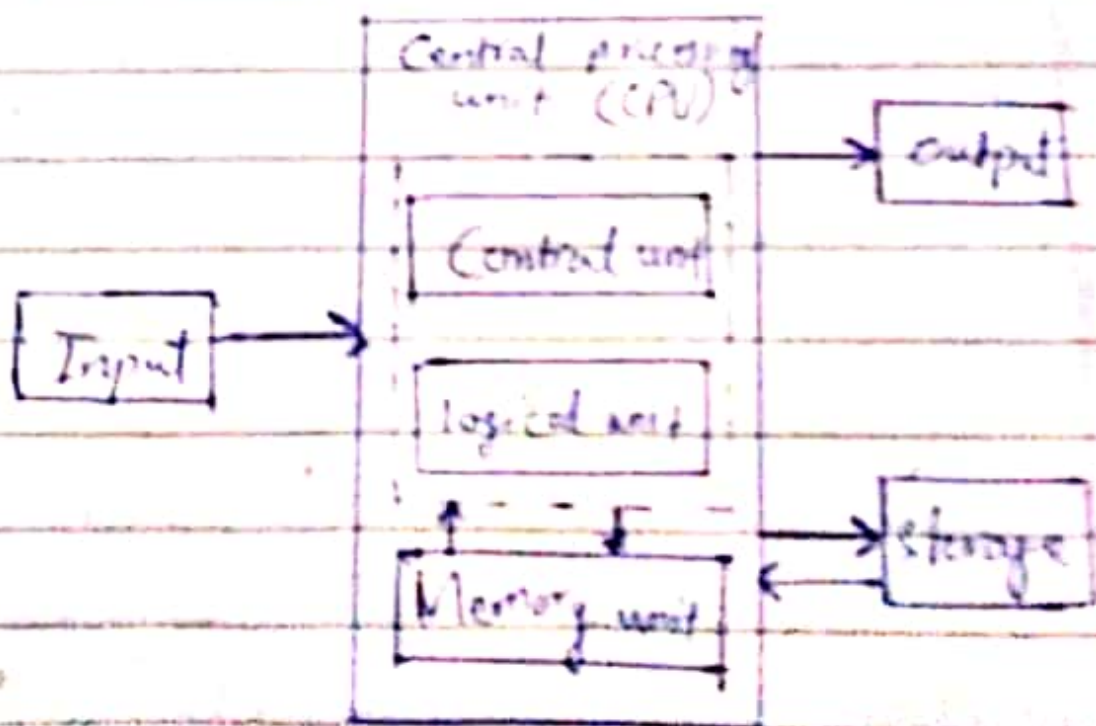
Computer memory or random access memory is your system's short term data storage. It stores the information which your computer actively uses so that it can be accessed quickly. The more programs your system is running, the more memory you'll need.

III

III

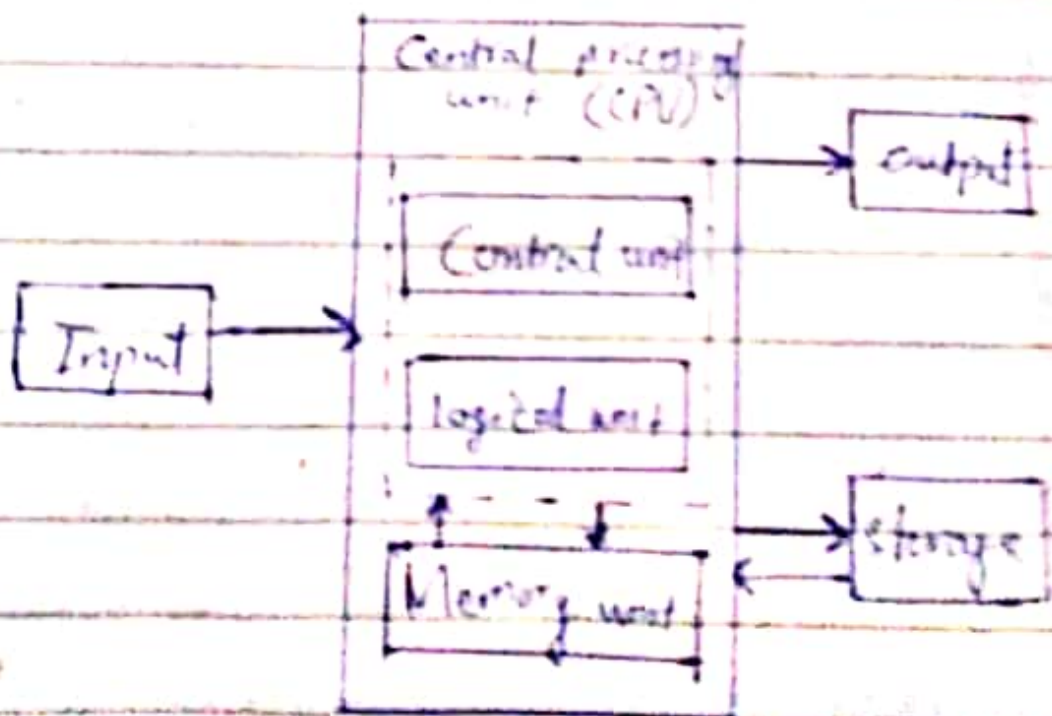
Basic Organization of a Computer system

Any computer can perform the four basic operations of input, processing, output and storage (IPOS). These operations constitute the (IPOS) cycle. The internal design or structure of computers may differ from one system to another though the basic operations remain the same.



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Various form depending on the type of input devices. For instance, a key board can be used to enter the data by input characters, numbers and certain symbol; a mouse is a device that has an on-screen pointer that enables the users to select items and choose options. a microphone can be used if the user wishes to enter instructions by making a voice entry.

* Central processing Unit (CPU):

The actual process of

The figure illustrate all the functional unit of computer operations. The lines in the figure indicate the flow of instructions and data, while the control unit and logical unit together direct the flow of control in the central processing unit.

* Input Unit:-

Data and instructions are entered into the computer through the input unit to get processed into information. Input devices like keyboard, mouse or the micro-phones are used to enter the data. The data is entered in

* data is carried out by CPU which is the brain of computer. The CPU stores the data and instructions in the primary memory of computer called the Random Access memory (RAM) and process them from their location. The CPU also consists of circuitry devices called cache and registers.

* Arithmetic Logic Unit.

The data and instructions stored in the RAM are transferred to the ALU for processing. The ALU performs the

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* Arithmetic Logic Unit.

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stored in the RAM
are transferred to
the ALU for processing.
The ALU performs the

The logical and the arithmetic operations on the data and the results are temporarily stored in the RAM. After processing the final results are stored in secondary memory.

Control Unit:-

The CU obtains the program instructions stored in the primary memory of the computer, interprets them. It helps in maintaining order and directs the operations of the entire system. It selects, interprets and ensures the proper execution

of the program instructions

Processors:-

Some computer use more than one processor for processing in order to reduce the load on single processor.

Output Unit:-

The output unit passes on the final results of computation to the users through the output devices like the monitor, printer etc.

A monitor displays the final result of the processed data on the screen while a printer can be used for

of the program instructions

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obtaining the output
in a printed form

* Storage Units:-

Before the actual
processing takes place
the data and
instructions that enter
the computer system
have to be stored
internally. The storage
unit of computer
system is designed
to store the data
generated at various
stages of processing.