

## Parts of a Computer Hardware.

Date

No

### Hard Disk Drive (HDD)

- \* A hard disk drive also known as hard drive, HD or HDD is a non-volatile data storage.
- \* It is usually installed internally in a computer, attached directly to the disk controller of the computer's motherboard.
- \* It connected to the motherboard using an ATA, SCSI, or SATA cables.
- \* They're powered by a connection to the computer's PSU (Power Supply Unit)

### Solid State Drive (SSD)

- \* A solid state drive is a new generation of storage device used in computers.
- \* SSDs replace traditional mechanical hard disks by using flash-based memory, which is significantly faster.
- \* SSDs speed up computers significantly due to their low read-access times and fast throughputs.

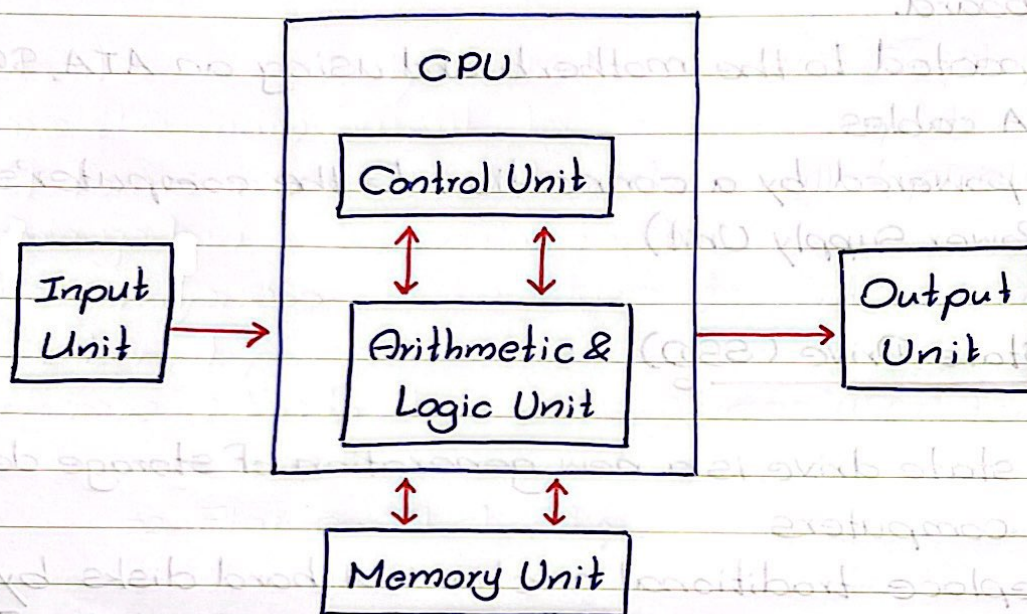
### Central Processing Unit (CPU)

- \* A central processing unit, also called a central processor or main processor, is the electronic circuitry within a computer that executes instructions that make up a computer program.
- \* The CPU performs basic arithmetic, logic, controlling and input/output operations specified by the instructions.



- \* The speed and power of a computer significantly depend on the CPU
- \* CPU is placed on the motherboard.

### \* Architectural Diagram of CPU.



### 9) Memory or Storage Unit.

- \* This unit can store instructions, data and intermediate results.
- \* This unit supplies information to other units of the computer when needed.
- \* It is also known as internal storage unit or the main memory or the primary storage or RAM.



### \* Responsibilities:

- 01) Stores all the data and the instructions required for processing.
- 02) Stores intermediate results of processing.
- 03) Stores the final results of processing before these results are released to an output device.

### b) Control Unit

\* This unit controls the operations of all parts of the computer, but does not carry out any actual data processing operations.

### \* Responsibilities:

- 01) Control the transfer of data and instructions among other units of a computer.
- 02) Manages and coordinates all the units of the computer.
- 03) Communicates with input/output devices for transfer of data or results from storage.

### c) Arithmetic Logic Unit (ALU)

#### \* Arithmetic Section.

- \* Function of arithmetic section is to perform arithmetic operations like addition, subtraction, multiplication, division.
- \* All complex operations are done by making repetitive use of the above operations.



## \* Logic section.

- \* Function of logic section is to perform logic operations such as comparing, selecting, matching and merging of data.

## Monitor.

- \* Monitor, commonly called as Visual Display Unit (VDU) are the main output device of a computer.
- \* It forms images from tiny dots, called pixels that are arranged in a rectangular form.
- \* The sharpness of the image depends upon the number of pixels.
- \* There're 2 kinds of viewing screen used for monitors.
  01. Cathode Ray Tube (CRT) Monitors.
  02. Flat panel display.

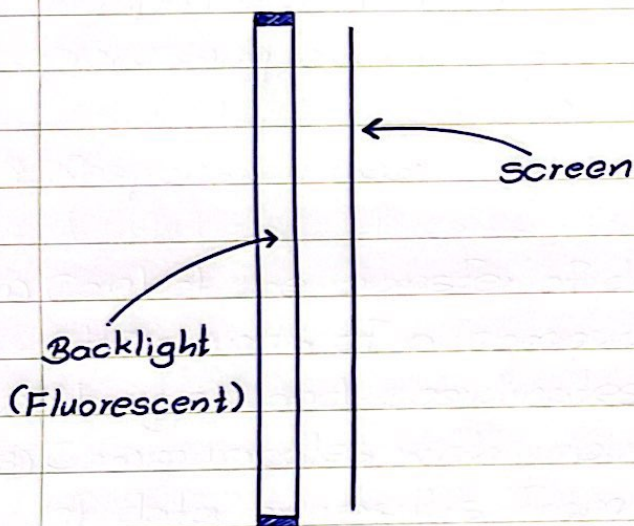
### a) Cathode Ray Tube (CRT) Monitors.

- \* It uses a beam of electrons to create an image on the screen.
- \* It comprises the guns that fire a beam of electrons inside the screen.
- \* The electron beams repeatedly hit the surface of the screen.
- \* These guns are responsible for generating RGB colors and more other colors can be generated with the help of combining these 3 colors.



## b) Liquid Crystal Display (LCD) Monitors.

- \* LCD screens contains a substance known as liquid crystal.
- \* The particles of this substance are aligned in a way that the light located backside on the screens (backlight which is fluorescent), which allow to generate an image or block.
- \* LCD offers a clear picture as compared to CRT monitors.



## c) Light Emitting Diode (LED) Display.

- \* As the source of light, it uses a panel of LEDs.
- \* In modern day wide number of electronic devices use LED displays.