Fundamentals of IT & Programming

Assignment - 1

Q.1 what are the four fundamental part of computer? Explain it ~~whi~~ with the help of diagram.

Ans The fundamental part of computer :-

1. Keyboard => keyboard is an input for entering data and instructions A keyboard is similar ~~o~~to the keyboard of a typewriter. It contains normally 104 keys. But nowadays more key keyboards are also available in the market. These keys can be divided into the following categories :-

(a) Alphabetic keys :- A to Z

(b) Numeric keys :- 0 to 9

(c) Function keys :- F_1 to F_{12}

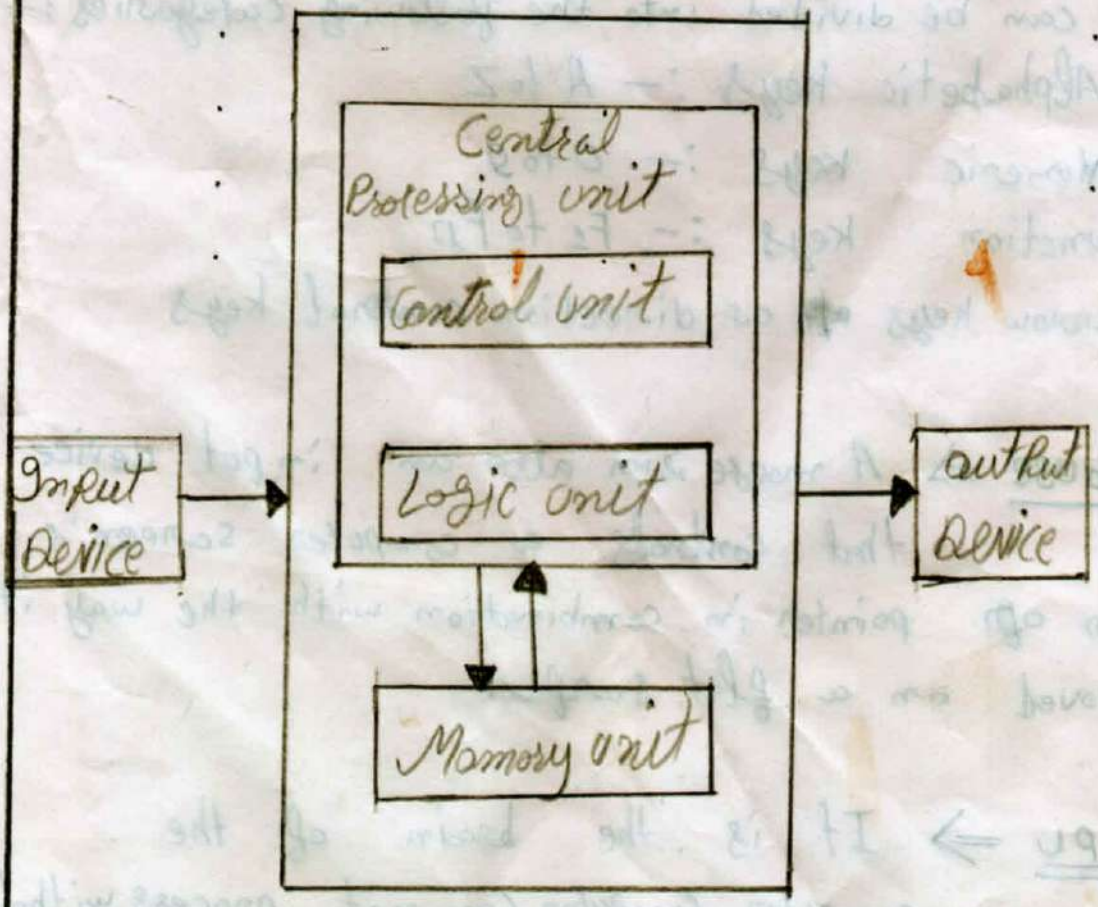
(d) Arrow keys ~~or~~ or direction control keys

2. Mouse => A mouse is ~~in~~ also an input device that controls a computer screen's cursor or pointer in combination with the way it is moved on a flat surface.

3. CPU => It is the brain of the computer Computer can not process without it.

4. Monitor => Monitor is the most popular and commonly used output device. It displays the visual output from the computer on the video screen. It is just like a picture on the TV screen and works the same way. Monitors differ in size, resolution and the number of colors displayed. The most popular sizes of monitor are 14", 15", 17", 19", and 21".

Organization of a Computer



Q2. Discuss about the classification of computers based on size and capacity.

Ans Based on size and capacity, computers are classified as follows:

(i) Super computers :- Supercomputers are the most powerfull and physically the largest by size. These are systems designed to process huge amounts of data and the fastest supercomputers can perform over one trillion calculations in a second. super computers have thousands of processors. Because of their extraordinary speed, accuracy and processing power. Supercomputers are well suited for solving highly complex problems and performing tasks that demand huge amounts of calculations.

(ii) Mainframe Computer :- Mainframe Computers are very large often filling an entire room and can process thousands of millions instructions per second. In a mainframe computer environment, users connect to the mainframe through the many terminals wired to the mainframe. Mainframes are capable of supporting hundreds to thousands of user simultaneously. Some of the functions performed by a mainframe include: flight scheduling, reservations and ticketing for an airline etc

(iii) Minicomputers :- Minicomputers are much smaller than mainframes. These computers are also also less expensive. Sometimes referred to as midrange computer, they are typically larger, more powerful and more expensive than deskatop computers. Midrange computers are usually used by small and medium-sized businesses on their servers. Users connect to the server thorough a network by using deskatop computers.

(iv) Microcomputers :- Microcomputers are the most frequently used type of computers Also known as personal computer (PC), a microcomputer is small computer system designed to be used by one person at a time.

Q3. What is the meaning of computer generations? How many computer generations are defined? What technologies were/are used?

Ans Each generation is characterized by dramatic improvements over the previous generation in the technology used to build computers, in terms of the internal organization of computer and programming languages,

⇒ First Generation :- Vacuum Tubes (1940 - 1956) :

- The first computers systems used vacuum tubes for circuitry any magnetic drums for memory
- These computers were very expensive to operate
- computers of this generation consumed a lot of electricity
- First generation computers relied on machine language, the lowest-level programming language understood by computers to perform operations
- They could only solve on problem at a time. It would take operators days of even weeks to set-up a new problem
- Input was based on punched cards and paper tape, and and output was displayed on printouts

⇒ Second Generation :- Transistors (1956 - 1963) :

- Transsitors replaced vacuum tubes in the second generation of computers.
- The transsitor was far superior to the vacuum tube allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation predecessors
- Second-generation computers and printouts for output

• second-generation computers moved from binary machine language to symbolic, or assembly language

Third Generation: Integrated Circuits (1964-71)

• The development of the integrated circuit was the hallmark of the third generation of computers.
- Transistors were replaced by integrated circuits, which drastically increased the speed and efficiency of computers.
- Instead of punched cards and printouts, users interacted with third generation computers through keyboards and monitors.
- Computers for the first time became accessible to a mass audience because they were smaller and cheaper than their predecessors.

Fourth Generation: Microprocessors (1971-Present)

- The microprocessor brought the fourth generation of computers as thousands of integrated circuits were built onto a single silicon chip.
- what in the first gen filled an entire room could now fit in the palm of the hand.

- In 1981, IBM Introduced its first computer for the home user.
- In 1984, Apple introduced the Macintosh.
- Fourth gen computer also covered the development of graphical user interface, mouse & handheld devices.
- Quantum computer and nanotechnology will radically change the face of computers in years to come.
- The goal of fifth-generation computing is to develop devices that respond to natural language input & are capable of learning and self-organization.

Q4. Differentiate between Volatile & Non-Volatile memories.

Ans (1). Primary memory / Volatile memory :- Volatile memory is a computer storage that only maintains its data while the device is powered

Example :- RAM (Random access memory) is volatile. When we are working on a document, it is kept in RAM, and if the computer loses power, your work will be lost.

(2). Secondary memory / Non-Volatile memory : Non-Volatile memory is a type of computer memory that has the capability to hold saved data even if the power is turned off.

Exaple : Read-only memory (Rom), Hard disk, Floppy disks, etc

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Equations

$X_2+Y_5=30$

$Z^3+Q^4=50$

$A_2+B^8=X_2+Y^8$

TEXT TO TABLE

Select the text you want to convert.

Select the **insert** tab.

Click on **Table** command. A dialogue box appears.

Click on **Convert Text to Table, a new** dialogue box appears.

Here set number of columns.

Click on OK Finally Selected text convert in a table.

Select the text you want to convert.	Select the **insert** tab.
Click on **Table** command. A dialogue box appears.	Click on **Convert Text to Table, a new** dialogue box appears.
Here set number of columns.	Click on OK Finally Selected text convert in a table.

Roll No	Name	marks
1	n1	60
2	n2	70
3	n3	80
4	n4	90
5	n5	40
6	n6	50
7	n7	77
8	n8	44
9	n9	88
10	n10	55

average	65.4
SUM	654
Maxi	90
min	40