

UNIT #2

Classification Of Computers

★ Generation of Computers:-

First Generation (1942 - 1953):-

⇒ Generation of computer shows the growth of computer industry based on important technological developments. There are five computer generations known till today. The first computer generation is start from (1942 - 1953). In first generation computers used vacuum tubes and electronic switches. A vacuum tube was a glass device and was very fragile. Due to this vacuum tube and electronic switches the first generation computers were large in size and requires large rooms for their installations. Each vacuum tube consumes half watt of power since each computer used more than 1000 vacuum tubes. Therefore, These consumes large volume of electricity. These computers were difficult to program and use and have limited commercial use.

Second Generation (1955 - 1964):-

⇒ with the invention of transistors the second generation computers were much more improve than first generation computer. The transistors were highly reliable, very small in size and light in weight and consumes very-very less

electricity. Therefore Second generation Computers were smaller in size faster in performance and consumed less electricity than the first generation Computers. The Second generation Computers were 10 times faster than first generation Computers. They were easier to Program and use and had wider commercial use.

Third Generation (1964 - 1975) :

⇒ The Third Generation Computer were more powerful, smaller in size and consumed less electricity than Second Generation Computers. The ^{Third} Second Generation Computers were more reliable, had faster and larger Primary and Secondary Storage. In Third generation Computer languages like Fortran, COBOL, Pascale, Basic high level Programs were developed and widely used. The Third generation Computers were much cheaper for even smaller Companies to buy and effort it.

Fourth Generation (1975 - 1984)

⇒ With the development of Large Scale Integration (LSI 30000 electronic components) & very large Scale Integration (VLSI 100000 electronic components) a single chip is able to have from 10000 to 100000 of components on it. This further reduces the size, lessens the weight and consumption of electricity. It improved its speed and efficiency remarkable. In fourth generation GUI came it also witness operating system like windows and mac os based on GUI technology.

The Price of fourth generation Computers decrease to such a level that even individual is able to afford it.

Fifth Generation (1989 to Present) :-

- => In fifth generation Portable PC's (Laptops) are started using widely. It allows the user to use his computer even during travelling. In fifth generation more powerful work stations, main frames were developed. In this generation Super Computers were started using. The hardware in fifth generation Computers are more reliable and require minimum maintenance cost. They have faster and larger Primary and Secondary Storage. More user friendly interfaces and more powerful applications make the system more useful for everyone in any occupation. In fifth generation the market is flooded with various types of Computers. Its Price ranges from few thousands to Lacs and Crores.

☆ Digital Computer :-

- => Digital Computer works on the latest technology. It is modern generation Computer. It uses digital pulses for transmission and communication from one computer to another. These digital pulses are represented by binary number system using digits 0 & 1.

☆ Analog Computer :-

- => Analog Computers are used in specific applications

Where we require continuous data. Analog Computer uses continuous wave form for its communication from one computer to another. It is most often represented by sine wave forms.

★ Micro-Computer:-

⇒ It is the most fundamental and primary calculating device. It is used for simple mathematical calculations. It is widely used in our day to day life by general person and shopkeeper.

★ Mini-Computer:-

⇒ These are the most commonly used computers having generally a single processor. It is having large amount of data storage capacity which ranges from 200 GB (Giga bite), 500 GB, 1 TB (Ter bite) - - - etc. It is having 'RAM' in the range of 1 GB, 2 GB, 3 GB and 4 GB. It supports latest operating system and having rich graphic support. It is able to execute all the latest and advanced application software. Its price ranges from 10-15 thousands to 50 thousands and few lacs.

★ Mainframe-Computer:-

⇒ These computers are large and very powerful computers. These computers are having huge data storage capacity. Powerful processors, one or more than one are present for all operations. It is having powerful 'RAMs'. These computers are used for processing very huge amount of

data. It finds its application in large universities, big organizations (government or private). It is very costly to purchase and requires good technical knowledge to operate it properly.

☆ Super-Computer:-

⇒ Super Computers are the most latest and highly advanced computer in latest time. These computers are used for end technical research and development works. These computers are very expensive and owned by government organizations and government recognized and satisfied organizations. Some of the few well known super computers are PARAM, AKASH... etc.

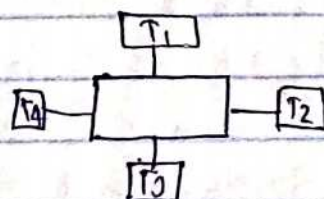
☆ Single User System:-

⇒ It supports only one user at a time. It is having general configuration as mini computers and normal operating systems are required.

☆ Multi user System:-

⇒ Multi user system supports two or more users at a time. It requires special hardware configuration. Sometimes, it may have more than one processor. It requires networking supported operating system.

Exa:- Windows NT, Linux, Unix etc.



T₁, T₂, T₃, T₄ are called 'Dumb' Terminals

The Host Computer is having all the required data and information. The networking operating systems are installed on 'Host' computer. The 'Host' computer governs and controls all the works of Dumb terminals.