

Marwari college Darbhanga

Subject---physics (Sub)

Class--- B. Sc. Part 1

Group—C

Topic--- Computer Fundamentals (Basic concept of Computer)

Lecture series – 41

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Computer

An electronic data processing device, which requires input raw data for processing and generates the output in desired form. It stores the data in its memory which can be accessed any number of times for reference from its memory. It is made up of a lot of electronics, software and mechanical parts.

A computer is divided into three basic units namely:

1. Input Unit
2. Central Processing Unit
3. Output Unit

These units are defined as below:

1) Input Unit

As the name suggests, this unit contains devices with the help of which the data is entered into the computer. This unit is a basic requirement for computer system. The input devices are of many types such as keyboard, mouse, joy stick, microphone, camera etc. Input devices give different set of input values converted into a form understandable to the computer.

2) Central Processing Unit (CPU)

Central Processing Unit (CPU) is known as the brain of the computer. It performs all types of data processing operations as required by a programmer. It stores all the data, intermediate results, and instructions as given by the programmer in the form of codes (program). Central Processing unit controls the operation of each part of the computer.

It has following three components:

1. Arithmetic Logic Unit (ALU)
2. Memory Unit
3. Control Unit

3) Output Unit

The devices with the help of which we get the information from the computer are known as the output devices. Output Unit is an interface between the computer and the user. Output devices notify the information displayed into a form which is understandable by the computer user.

Functions of a Computer

1. Data is entered into computer using Input Devices.
2. Data or Instructions are stored in the computer in its memory and processed or uses them as and when required.

3. Data is processed and converted into useful information.
4. Output is generated as per format.

Control Mechanism is established for controlling all the functions.

We can divide computer in Hardware and Software:

1. **Hardware:** Keyboard, mouse, joy stick, microphone, camera, printer, monitor, Hard disk, CD, DVD, CPU, motherboard, RAM etc are known as Hardware.
2. **Software:** System Software & Application Software.

Advantage of Computers

A Computer has a very High Speed of processing i.e can perform large amount of data very quickly. Computers are very accurate. Computers are very fast devices. Once the correct input is given to the computers, the output is 100% accurate. It has a large memory capacity. It can store a large amount of information for a large time. It is a reliable device.

Uses of Computers

Nowadays it is used in every walk of life. It has an important role industrial automation. Computers are playing very important role in Medical science, Engineering, General Education, Government and Private organizations, Film and Entertainment. It is at the top of making DIGITAL INDIA.

Types of computer

A computer is a general purpose device which can be programmed to carry out a finite set of arithmetic or logical operations. There are different types of computer system: Personal computer, Workstation, Minicomputer, Mainframe and Supercomputer.

Personal computer :- A personal computer can be defined as a small, relatively inexpensive computer designed for an individual user.

Workstation :- It is a type of computer used for engineering applications, desktop publishing, software development, and other types of application that require a moderate amount of computing power and relatively high quality graphic capabilities.

Minicomputer:- It is a mid size computer. In general, a minicomputer is a multiprocessing system capable of supporting from up to 200 users simultaneously.

Mainframe:- Mainframe computers are powerful computers used primarily by corporate and governmental organizations for critical applications, bulk data processing such as census. In some ways, mainframes are more power than supercomputers because they support more simultaneous programs.

Supercomputer :- supercomputer is a board term for one of the fastest computer currently available. Supercomputers are employed for specialized application that requires immense amounts of mathematical calculations.