10. Information Communication Technology

- A computer is a very unique device, which can perform several functions at the same time.

- Nowadays, computers become a necessity and are being used everywhere like in schools, industries, homes, sports and for defence and agricultural purposes, etc.

- Computer can be defined as an electronic device by which we can add, process and store the data, and get the result in the desired form.

- In computers, a set of instructions is called a **programme** and a set of programmes is known as a **software**.

- Charles Babbage, a mathematician, was the person who designed the first computer.

- ABACUS was the first ancient numerical device which is used for mathematical calculations.

- **Generations of computers:**

Generation	Year	Technology
First	1946-1959	Vacuum tube based
Second	1959-1965	Transistor based
Third	1965-1971	Integrated circuit based
Fourth	1971-1980	VLSI microprocessor based
Fifth	1980 to till date	Under process

- Technically, parts of computers can be categorised into:
  - Processing Unit/device (CPU)
  - Input device
  - Output device

- **CPU** stands for **C**entral **P**rocessing **U**nit. It is the heart and brain of the computer. It consists of various smaller components such as motherboard, hard disk, random access memory (RAM), etc.

- **CPU** has three components:
  - **Storage unit:** This unit stores the information and supplies it to other units when required.
  - **Control unit:** This unit controls the working of other parts of the computer. It does not perform any kind of data processing.
  - **ALU (**Arithmetic logic unit**):** This unit performs the arithmetic calculations like addition, subtraction, multiplication and division; and logical operations.

- Input Devices are certain devices that help in providing the information to the comput. Like keyboard, mouse, scanner, bar code reader, etc.

- Output Devices are those devices that help in displaying the result of the processed data, such devices are known as output devices. For example, monitor, printer etc.

- A monitor is the main output device that displays the result.

- Basically, computers are of four types:
  - Microcomputers
  - Minicomputer
  - Main frame computer:
  - Super computers

- **Operating system:** It is a software on which other software runs. For ex: Windows XP, Windows 10 etc.
- **Application software:** This is a software which runs on the system software to perform some specific task. For ex: calculator, Microsoft office etc.
- **Microsoft Word:** It enables you to create, edit and view a document.
- **Microsoft Excel:** It is a spreadsheet which enables you to manage and visualize the data properly.
- **Microsoft Powerpoint:** It enables you to prepare presentation in a very effective and attractive way.

Steps to draw a graph using set of data available in Microsoft Excel

- **Double click** on the icon of Microsoft Excel file to open it.
- Select the **New** option in the **File** tab, and then select the **Blank** option.
- **Type the data** which is to be used to draw the required graph on the spreadsheet and go to the **Insert** tab to choose a **Chart** of choice.
- In the **Design** tab, click on the **Select Data** option.
- Select the **Add** option in the Pop-Up window **'Select Data Source'**.
- In the Pop-Up window **'Edit Series'**,
  - First define the **series name.**
  - **Then for defining the Series X Values, select one the columns (of your choice) of the data.**
  - Similarly, for defining the **Series Y Values, select the remaining column** of the data.
- Click on **OK** to get the required graph.

- With the help of internet, one can send emails, share pictures and connected with friends on social networking sites.

- Analog computers are used to keep track of vital stats of the body like heartbeat, blood pressure, etc.

- Computer solve the complex problem easily.

- Computers help in online financial transactions.

- Study materials for the various purposes are available on the internet.

- Online examinations are conducted.

- Weather analysis is done by using supercomputer.