What is computer ?

- A computer is an electronic device that manipulates information or data according to the set of the instructions.

- It has ability to store, retrieve, and process data.

- The first computer has been derived from Latin language

Functions of a computer ?

(Computer performs four basic functions)

Input : Information or data that is entered into a computer is called input. It send data and instruction to the CPU.

Processing : It is the sequence of actions taken on data to convert it into a information which is meaningful to the user.

Output : It makes processed data available to the user. It is mainly used to display the result.

Storage : It stores and programs permanently. It is used to store information during the time of program execution and possible to get any type of information from it.
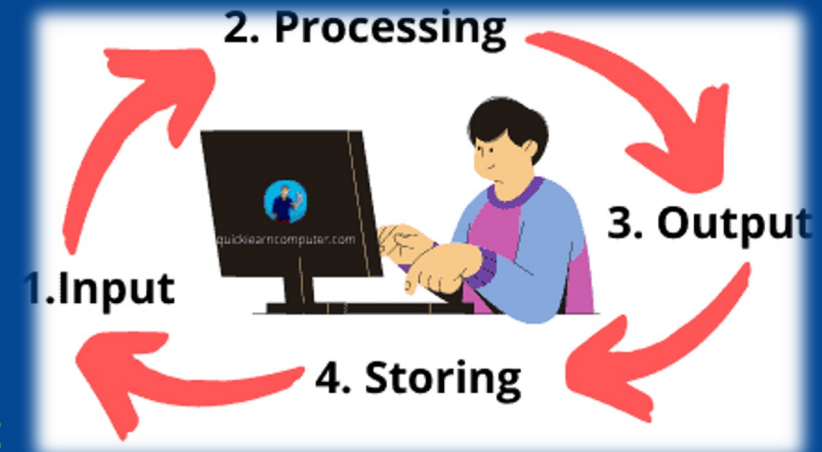
History of computer

- **Siddhartha was the first computer developed in India.**

- **Alan Turing is known as the Father of the modern computer.**

- **John von Neumann was introduced first architecture of computer in the year 1948.**

- **Transistors were invented by Bell laboratory**

- **In 1958, Jack St. Clair Kilby and Robert Noyce invented the first IC.**

Classification of Computers

By Type
- Analog
- Digital
- Hybrid

By Size
- Micro
- Mini
- Mainframe
- Super

By Purpose
- General Purpose
- Special Purpose
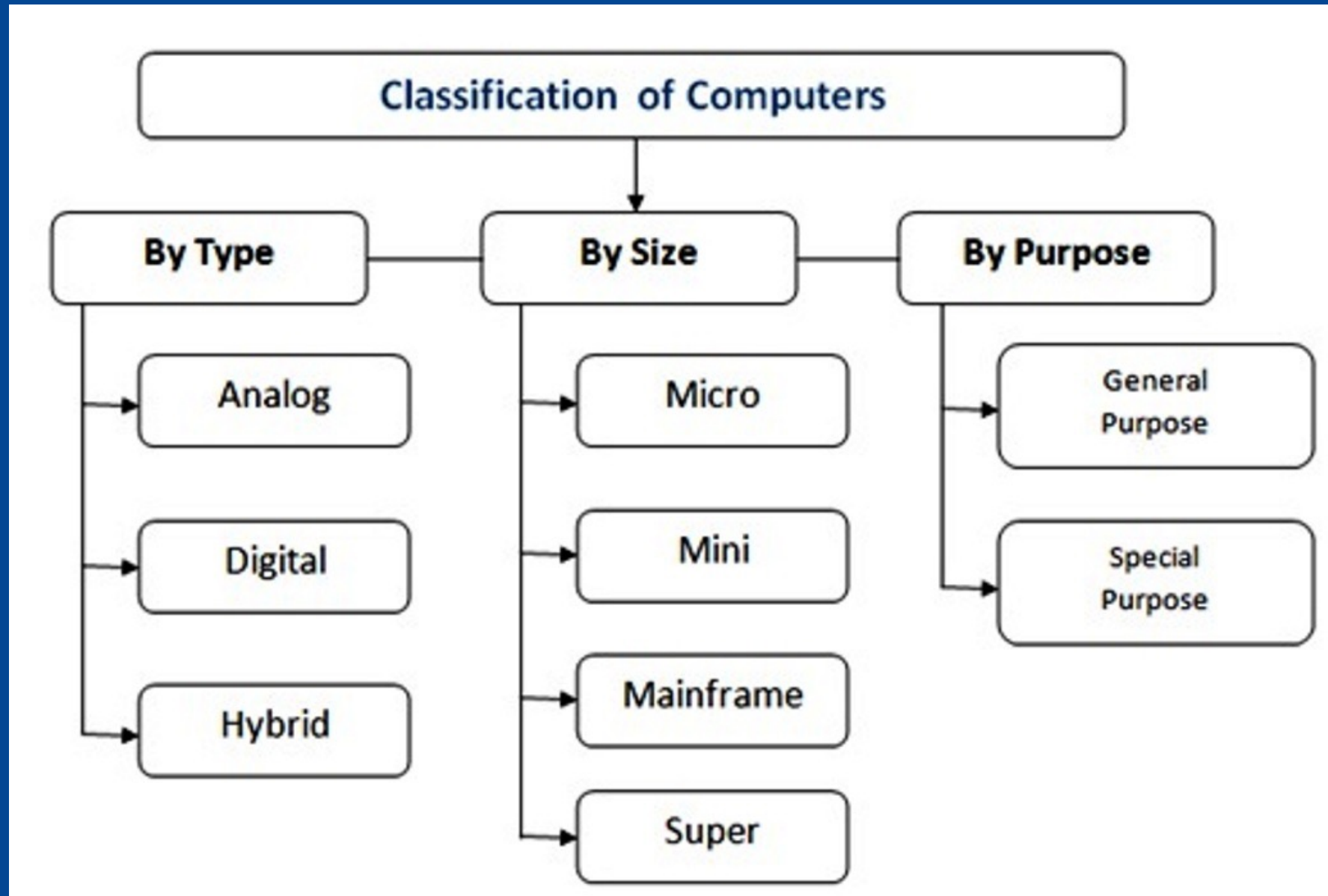
On the Basis of : Type

Analog :

These computers carry out arithmetic and logical operations by manipulating and processing of data.

Analog computer is used to measure physical quantities, temperature, pressure weight and height.

Example :

Watches , Speedometer, Mercury thermometer etc.

On the Basis of : Type

Digital Computer

These do work by calculating the binary digits. A digital computer, not only performs mathematical calculations, but also combines the bytes to produce desired graphics, sounds.

e.g. Desktop (PC).

On the Basis of : Type

Hybrid Computers

These are the combination of analog and digital computers. Machines used in hospitals like ECG and DIALYSIS are the commonly used hybrid computers.

On the Basis of : Purpose

General Purpose Computer :

General purpose computers are those computers, which are used to solve variety of problems by changing the program or instructions.

e.g. To make small database, calculations, accounting, etc.

On the Basis of : Purpose

Special Purpose Computer :

Special purpose computers are those computers which are used to solve a single and dedicated types of problem.

Example :

Automatic aircraft landing, multimedia computer, etc.

On the Basis of : Size

Micro computers :

These types of computers are the least powerful, yet the most widely used and are also called portable computers.

A microcomputer is a small, relatively inexpensive computer with a microprocessor as its CPU.

Example : Tablets, Smartwatches, PC, laptop

On the Basis of : Size

Mini Computers :

These are smaller in size, faster and cost lower than mainframe computers.

Initially, the minicomputer was designed to carry out some specific tasks, like engineering and Computer Aided Design (CAD) calculations.

But now, they are being used as central computer which is known as Server. Minicomputers are IBM-17, DEC PDP-11, HP-9000, etc.

On the Basis of : Size

Mainframe Computer

These types of computers having large internal memory storage and comprehensive range of software. Mainframe computer serves as a backbone for the entire business world. It is considered as the heart of a network of computers or terminals that allow a large number of people to work at the same time.

Mainframe computers are IBM-370, IBM-S/390, UNIVAC-1110, etc.

Supercomputer

These are the fastest and most expensive machines. They have high processing speed compared to other computers. Supercomputers are most powerful, large in size and memory, compared to all other computers. The speed of supercomputers are measured in FLOPS (Floating operations per second).

Supercomputers are used for highly calculation intensive tasks, such as weather forecasting, nuclear research, military agencies and scientific research laboratories.

- CRAY-1 was the world's first supercomputer introduced by Seymour R CRAY in 1976.

- PARAM was the first supercomputer developed in India in 1990.

- PARAM ISHAN is the latest machine in the series of PARAM made by C-DAC and IIT Guwahati on 20th September, 2016

1. The word computer has been derived from which of the following language?

A. Greek
B. English
C. Hindi
D. Latin

2. Input, output and processing devices grouped together represent a(n)

A. mobile device
B. information processing cycle
C. circuit board
D. computer system

3. Which of the following is the correct order of the four major functions of a computer?

A. Process, Output, Input, Storage
B. Input, Output, Process, Storage
C. Process, Storage, Input, Output
D. Input, Process, Output, Storage

4. Collecting the data and converting it into information is called

A. Processing
B. Compiling
C. Importing
D. exporting

5. Computer cannot perform

A. Input
B. Output
C. Thinking
D. processing

6. A computer cannot perform which of the following functions?

A. Addition
B. Subtraction
C. Bake a cake
D. Division

7. Part number, description and number of parts ordered are examples of

A. Control
B. Output
C. Processing
D. Feedback
E. Input

8. Benefits of computers are

A. very fast and can store huge amount of data
B. provide accurate output either input is correct or not
C. think about the processing
D. All of the above

9. A collection of unprocessed items is

A. Information
B. Data
C. Memory
D. Reports
E. None of these

10. Which among the following cycle consists of an input, processing, output and storage as its constituents?

A. Processing
B. Output
C. Input
D. Storage
E. Data

11. .... is data that has been organised and presented in a meaningful fashion.

A. Process
B. Software
C. Storage
D. Information
E. Data

12. Data or information used to run the computer is called

A. Hardware
B. CPU
C. Peripheral
D. Software
E. None of these

13. The steps and tasks needed to process data, such as responses to questions or clicking an icon, are called

A. Instructions
B. the operating system
C. application software
D. the system unit
E. the hardware unit

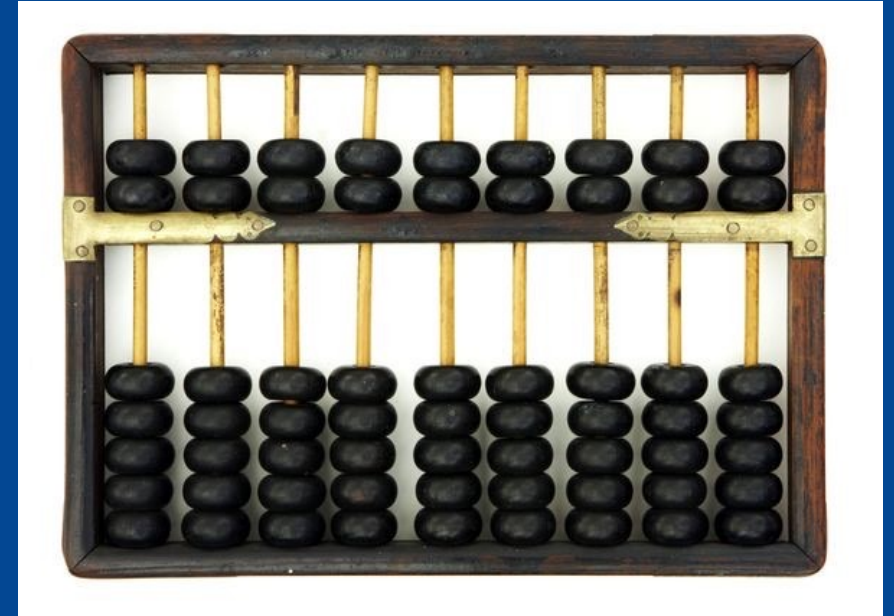**14. The earliest calculating device is**

A. Calculator
B. Abacus
C. difference engine
D. analytical engine
E. None of the above

15. Abacus can perform

A. Addition
B. Subtraction
C. Multiplication
D. All of the above

Hardware

Computer hardware refers to the physical component of a computer that can be seen and touched by the user

Input devices

An input device can be defined as an **electro mechanical device** that allows the user to **feed data** into the computer **for analysis and storage** and to give commands to the computer.

The data is entered into the main memory through the input devices. They accept instructions from the user and convert the accepted instructions into the machine language.

Some of the commonly used input devices are keyboard, mouse, trackball, joystick, light pen, touch screen, barcode reader, OMR, OCR, MICR, smart card reader, biometric sensor, scanner, Mic, web cam, PC card etc. which are described below

Keyboard

Types of Keys on Keyboard

Alphanumeric Keys include the alphabet keys (A, B, C, ..., Z) and number keys (0, 1, 2, 3, ..., 9).

Numeric Keys are located at the right hand side of the keyboard. They consist of digits and mathematical operators.

Function Keys are the programmable keys, i.e. the programs can assign some specific actions. They are numbered from F1 to F12.

Special Keys: Enter, Shift, Caps Lock, Num Lock , Tab, etc., and Print Screen

Mouse

The most common **pointing device** is the mouse. The mouse is used to move a little cursor across the screen while **clicking and dragging**.

A mouse is an input device that lets you move the mouse on a flat surface to control the coordinates and movement of the on-screen cursor/pointer..

There are three types of mouse as follows

      1) Wireless mouse

      2) Mechanical mouse

      3) Optical mouse

There are four actions of mouse as follows :

Click or Left Click : It selects an item on the screen.

Double Click : It is used to open a document or program.

Right Click : It displays a list of commands on the screen. Right clicking is used to access the properties of selected object.
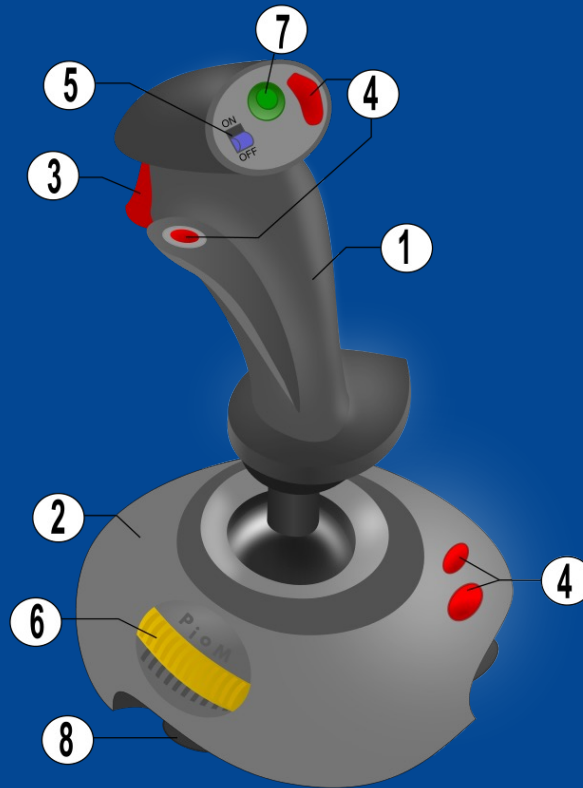
Drag and Drop : It is used to move an item on the screen

Joystick

A joystick is a pointing device that is used to move the cursor on a computer screen.

The joystick's function is comparable to that of a mouse. It is primarily used in CAD (Computer-Aided Design) and playing video games on the computer.

Light Pen

- **A light pen is a type of pointing device that looks like a pen. It can be used to select a menu item or to draw on the monitor screen.**

- **A photocell and an optical system are enclosed in a tiny tube.**

- **When the tip of a light pen is moved across a monitor screen while the pen button is pushed, the photocell sensor element identifies the screen location and provides a signal to the CPU**
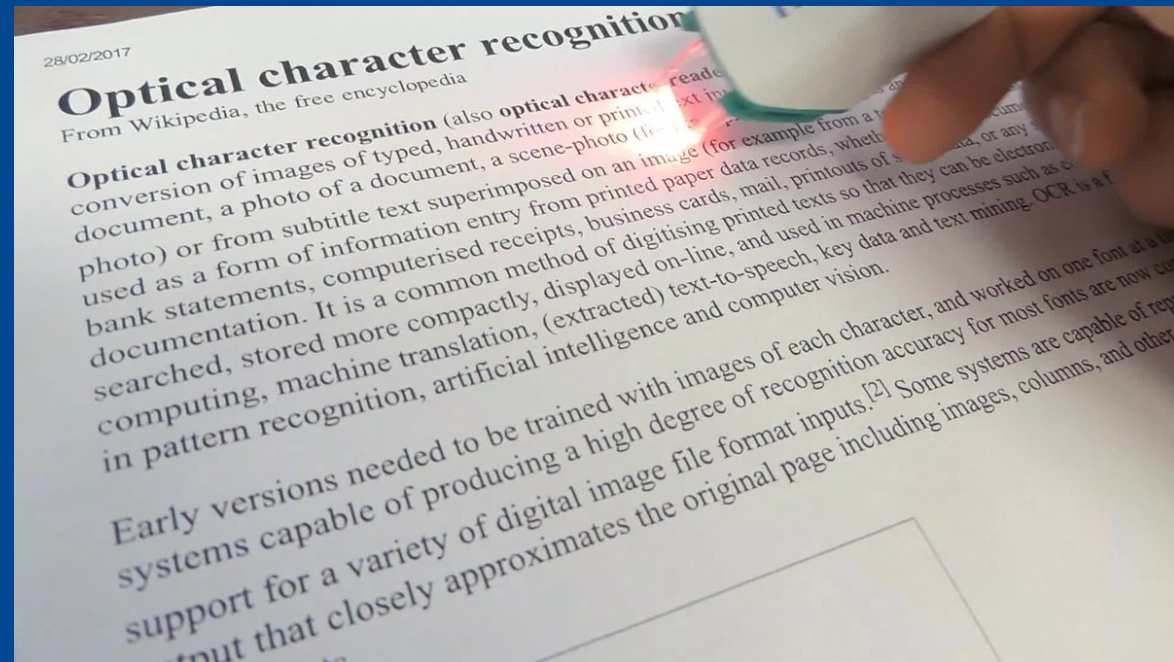
Scanner

- It is used to convert the data and image on paper into the digital form.

- Scanner is an optical input device and uses light as an input source to convert an image into an electronic form that can be stored on the computer.

- Scanners can be used for storing the documents in their original form that can be modified and manipulated later on.

- Scanner stores images in both gray scale and color mode.

OCR

- **OCR stands for optical character recognition, and it is a device that reads printed text.**

- **OCR optically scans the text, character by character, turns it into a machine-readable code, and saves it to the system memory**

Bar Code Reader

- A bar code reader is a device that reads data that is bar-coded (data that is represented by light and dark lines).

- Bar-coded data is commonly used to mark things, number books, and so on. It could be a handheld scanner or part of a stationary scanner.

Output devices

- An output device is any piece of computer hardware equipment used to communicate the results of data processing carried out by an information processing to the outside world.

- Some of the commonly used output devices are :

   monitor, printers, plotter, speaker, headphones, projector etc.

Monitor

- Monitors, also known as

Visual Display Units (VDUs),

are a computer's primary output device.

- It creates images by arranging small dots, known as pixels, in a rectangular pattern. The amount of pixels determines the image's sharpness.

Printer

- Printers are output devices that allow you to print information on paper

- There are two types of printers:

- Impact Printer:

  Characters are printed on the ribbon, which is subsequently crushed against the paper, in impact printers.

- Non-Impact Printers:

  Characters are printed without the need for a ribbon in non-impact printers.

1. Any component of the computer you can see and touch is

A. Software
B. peripheral
C. Storage
D. CPU
E. hardware

2. Which of the following is not a hardware?

A. Processor chip
B. Printer
C. Mouse
D. Java

3. A(n)...... device is any hardware component that allows you to enter data and instructions into a computer?

A. Interaction
B. Input
C. Communication
D. Output
E. Terminal

4. Computer gets...... with the help of mouse, joystick or keyboard.

A. Insert
B. delete
C. input
D. output

5. Computer keyboard is an example of

A. memory device
B. input device
C. output device
D. Both '2' and '3'

6. The most common method of entering text and numerical data into a computer system is through the use of a

A. Plotter
B. Scanner
C. Printer
D. Keyboard
E. None of these

7. Which key is also known as toggle keys?

A. Caps lock
B. Num lock
C. 'A' and 'B' both
D. None of these

8. You can use the Tab key to

A. move a cursor across the screen
B. indent a paragraph
C. move the cursor down the screen
D. Both 'A' and 'B'
E. None of the above

9. To move to the beginning of a line of text, press the....key.

A. Page up
B. Shift
C. Home
D. Enter

10. The.... key will launch the Start button.

A. Esc
B. Shift
C. Window
D. Shortcut

11. Spacebar is used for

A. giving space
B. deleting space
C. moving next line
D. All of these

12. In a keyboard, left-right-up-down set of key's facilitates which among the following functions?

A. Deleting Data or Modification
B. Page Scrolling to view a Document
C. Launching Start Menu
D. Initiating Search and Help
E. Controlling RAM or process execution

13. Shift, Ctrl, Alt are examples of which among the following category?

A. Modifier Keys
B. Primary Keys
C. Function Keys
D. Alternate Keys
E. Candidate Keys

14. Pointing device includes the following except

A. Mouse
B. Joystick
C. trackball
D. keyboard

15. What type of device is a computer mouse?

A. Storage
B. Output
C. Input
D. Input/output
E. Software

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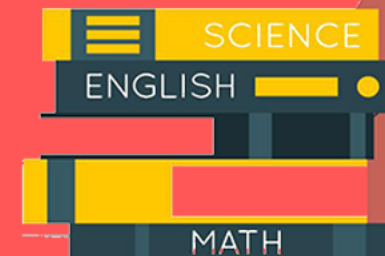JOIN US NOW

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