LIFE WELL FOUNDATION WELFARE TRUST

Kushal Yuva Program (KYP) - Bihar Skill Development Mission (BSDM)

(1) BS-CIT(120 HOURS)
(2) BS-CLS(40 HOURS)
(3) BS-CSS((20 HOURS)

D.C.A.

Diploma in computer application

Fundamental

Operating system

Ms.DOS (Microsoft Disk operating system)

Windows

(1) Paint
(2) Notepad
(3) WordPad

Ms. Office (Microsoft office)

(1) Ms. Word
(2) Ms. Excel
(3) Ms. Power point

H.T.M.L (Hypertext markup language)

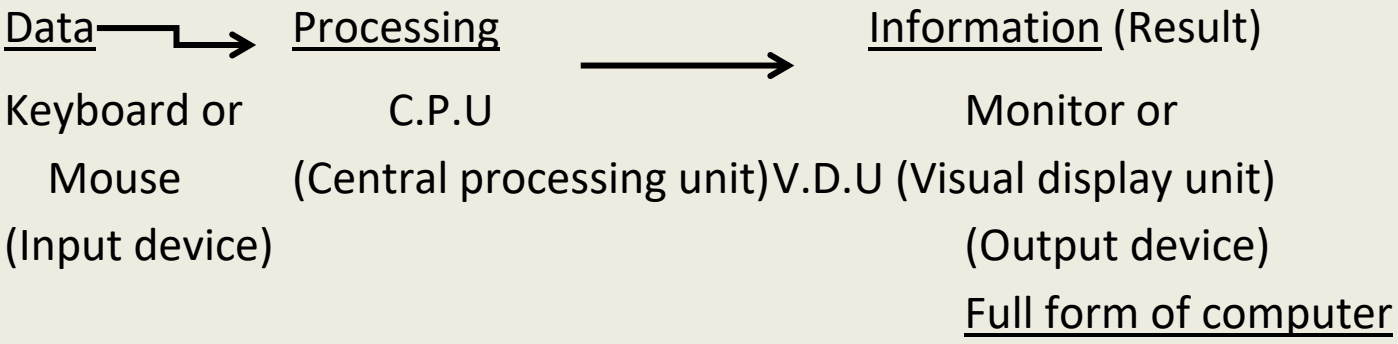
INTERNET

Basic Hardware

FUNDAMENTAL

COMPUTER: -

- ❖ Computer is an electronic device or machines which accept data then processing it after that gives the information or result.
- ❖ The word computer comes from the word “compute” which means to calculate.
- ❖ A computer cannot only store data i.e. it transfers data from its memory when desired.
- ❖ It can be used in many places such as Banks, Hospitals, Railways, Offices, Institute, Air ticket Etc.



Full form of computer

C – Common
O – Operating
M – Machine
P – Particular
U – User
T – Trade
E – Education
R - Research

Characteristic of computer

(1) Fast speed of calculation and storing information.

(2) The ability to take in information and to store that information for future use.

(3) The ability to take vanity of instruction for examination.

(4) Ability to communicate with other computer system.

(5) A set of instruction is called program.

(6) User – one who use the computer is called user

Father of computer: -Charles Babbage

- ❖ He made an engine called “Analytical engine”
- ❖ Electro mechanical device, John Von Neumann, Alan Turing is known as the father of modern computer.
- ❖ Mother of Computer: - Ada Lovelace, she is the first programmer.

Feature of computer: -

(1) Speed

(2) Versatility

(3) Strong capacity

(4) Accuracy

System hardware and software

COMPUTER

1. Hardware ***2. Software***

Based on manufacture: -

(1) Hardware: -Hardware refers to the physical elements of a computer. This is also sometime called the machinery or the equipment of the computer.

Ex: -Keyboard, Mouse, Monitor, C.P.U etc.

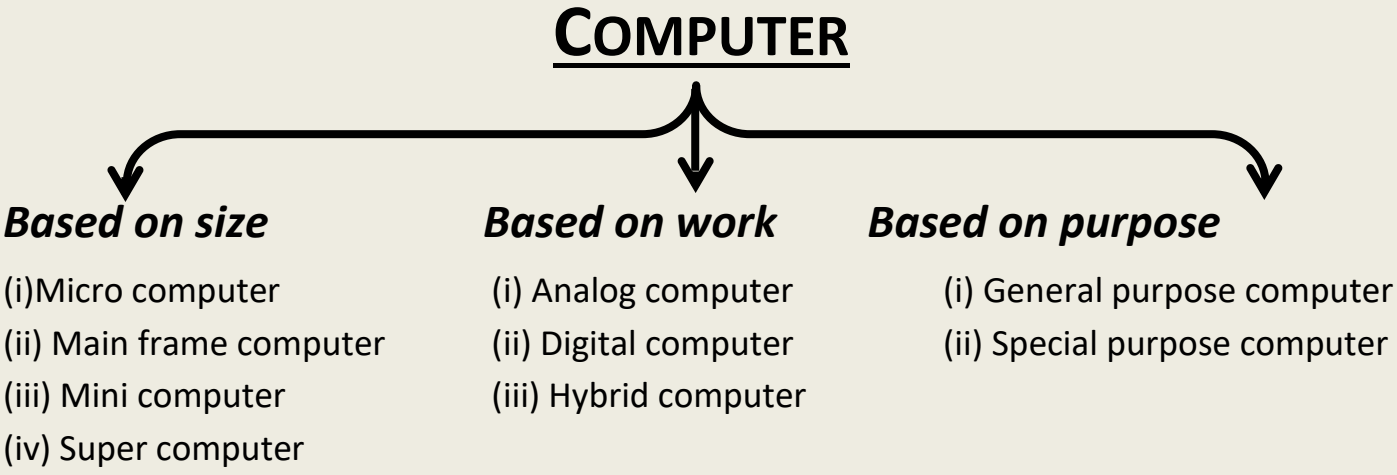
(2) Software: -Computer programs and related data that provide the instructions for telling computer hardware what to do and how to do it.

Ex:-Operating system, Device driver etc.

Two type of Software

a. System software
b. Application software

Classification of computer



On the basis of size:-

(1) Microcomputer: -Microcomputerare the least powerful yet the most widely used fastest growing type of computer.

This type of computer mostly used in homes, offices etc. and it is also called portable computer.

Ex:-Desktop or Personal Computer, Notebook, Palmtop, Tablet, Smartphone.

(2) Minicomputer: -Minicomputer are smaller in size faster coast lower them mainframe computer initially the Minicomputer was designed to carry out some specific task like engineering CAD.

CAD:-Computer aided design

(3) Mainframe computer: -Mainframe computer are these having large internal memory storage and compressive range of as a backbone for entire.

It is considered as the heart of network of computer that allows large number of people to work at the same time.

(4) Supercomputer: -Super computer are fastest and most expensive machines they have high processing speed as compared to the other computer.

The speed of supercomputer is measured in flops (floating point operation per second)

On the basis of work:-

(1) Analog computer:-The computer work on the basis of measurement comparison etc. are called analog computer.

Ex:-Temperature, seismograph etc.

Note:-Analog computer can perform several mathematical operations.

(2) Digital computer:-Digital computer work by calculating the binary digit.

A digital computer not only perform mathematical problem but also combine the bytes to produce desired graphics, sound.

(3) Hybrid computer:-Hybrid computer are the important types of computer the combination b/w analog and digital computer are called hybrid computer.

These types of computer are mostly used in hospital like ICU (Intensive care unit), petrol pump.

On the basis of purpose:-

(1)General purpose computer:-A general purpose computer is one that, given the appropriate application and required time, should be able to perform most common computing tasks.

Ex:-Desktop, Notebooks, Smartphone, Tablets etc.

(2) Special purpose computer:-A digital or analog computer designed to be especially efficient in the certain class of application.

Ex:- ATM, seismography etc.

Input and Output Devices

Input device:-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.

Ex:-Keyboard, Mouse, Touchscreen, Bar code reader

Some important input devices

Keyboard:-A keyboard is one of the most common input devices. The user can type text and command using this keyboard. Keyboard is used to enter data or information, which may be in numeric form or alphabets form, in a computer system.

Type of key of keyboard:-

(1) Alphanumeric keys include the letter keys (A, B, C,……Z) and number keys (0, 1, 2,……9).

(2) Numeric keys are located at the right hand side of the keyboard. They consist of digits and mathematical operators.

(3) Function keys are programmable keys. They are numbered from (F1, F2, F3,……..F12).

(4) Cursor control keys include four directional (Left, Right, Up, Down)

- Home:-It is usedto return the cursor to the beginning of the line.

- End:-It moves the cursor to the end of the line.
- Page up:-When it is pressed, the page view will be moved up one page and cursor goes to the back page.
- Page down:-When it is pressed, the page view will be moved down one page and cursor goes to the next page.

(5) Other keys:-A key board contain some other keys such as

- Control key (Ctrl):-it performs a special operation with the combination of other keys.
- Enter:-It is used to finish an entry and begin the new entry in a document.
- Shift:-Some key on the keyboard like numeric keys have a symbol printed on their upper portion. Shift key is used to print these symbols.
- Escape (Esc):-It allows a user to cancel or abort operation, which are accepting at present. It opens start menu with the combination of ctrl key.
- Back space:-It is used to erase any thing typed.
- Delete:-It is used to erase information from the computer's memory and characters on the screen.
- Caps Lock:-It is used to type the alphabet in capital letters.
- Num Lock:-It is used to enable and disable the numeric keypad.
- Window key:-It is used to open the start button.
- Space bar key:-It provides a space between two words. It is the longest key on the keyboard.
- Tab key:-It provides a long space between two words.

Mouse:-Mouse is a small handheld device having two or three buttons on its upper side and also has a small wheel between the buttons. The mouse may be used to position the cursor on screen, move an object

by dragging or select and object by clicking. Different types of mouse are mechanical mouse, optical mouse laser mouse and wireless mouse.

There are four action of mouse

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:-It is a device that moves in all direction and controls the movement of the cursor. Its function is similar to that of a mouse and is generally used for playing games.

Track ball:-A track ball is a pointing device and contains a ball which can rotate in any device. The user spins the ball in different direction to move the cursor on the monitor.

Light pen:-Light pen is a handheld electro-optical pointing device, which is used for making drawing, graphics and for menu selection.

Touchscreen:-Touchscreen is an input device that accepts input when the user places a fingertip on the computer screen. Touch screens have an infrared beam that cris-cross the surface of screen.

Touch screen generally used in application like ATM, Hospitals, Airline, Super markets and so on.

Digitizers and Graphic tablets:-Graphic tablets have special commands to convert drawings, photos, etc to digital signal. It allows artist to create handmade images and graphical images with motion and action.

Scanner:-Scanner is used to convert the data and image on paper into the digital form. It is an optical input device and use light as an input source to convert an image into an electronic form that can be store on the computer.

Bar Code Reader(BCR):-It is an input device used for reading printed bar codes available on product to be sold. A bar code reader emits a beam of light which reflects off the bar code image.

Optical Mark Reader (OMR):-OMR are special scanner used for recognizing a pre specified type of mark made by pen or pencil.

Ex:-In objective test

Magnetic Ink Character Recognition (MICR):-MICR detects the special encoded characters on bank cheques and deposit slips after detecting the encode characters, The MICR convert into digital data for the computers.

Optical character reader(OCR):-This device is capable of detecting alphabetic and numeric characters on a computer print-out containing complete pages of typed text or hand written text.

Webcam (Web camera):-A web camera allows a computer to accept input just by focusing on an object the camera is focused on the input object to take a picture of the object.

Voice input and recognition system:-It is an input device. Consisting of micro phone or telephone that converts human speech in to electrical signal.

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

Ex:-Monitor, Speakers, Printer, Projector

Some important output devices

Monitor:-Monitor is also known as visual display unit (VDU). The monitor is provided along with the computer to view the display result.

A monitor is of two kinds. Monochrome display monitor and color display monitor.

A monochrome display monitor uses only one color to display text and color display monitor can display 256 colors at a time. An image …on the monitor is created by a configuration of dots, also known as pixels.

The popular types of monitors are

(i) Cathode Ray Tube

(ii) Liquid crystal display (LCD)

(iii) Light emitted diode (LED)

Printer:-Printer is an output device. Printer prints information and data from the computer on a paper.

It can print the document in colors as well as in black and white.

Plotter:-It is an output device. That uses a pen, pencil or marker or other writing tools for making vector graphics.

A plotter is a special kind of output channel like a printer that produces image and a paper they are mainly used to produce large drawings or images such as construction plan etc.

Speaker:-It is an output device that receives sound in the form of electronic current. It needs a sound card connected to a CPU that generates sound via a card.

Head phone:-Headphones are a pair of small loudspeaker, held close together ears and a connected to the signal source such as audio amplifier, radio etc.

Projector:-It is an output device which used to project information form a computer on to a large screen.

C.P.U (Central processing unit)

The CPU consists of set of register arithmetic and central circuit which together interpret and execute instruction assembly language.

The primary function of CPU

(i) The CPU transfer instruction and input data from main memory to register i.e. internal memory.

(ii) The CPU executes the instruction in the stared sequence.

(iii) When necessary CPU transfer output data from register to main memory.

(iv) The CPU is fabricated as a single IC (Integrated Circuit) chip is also known as microprocessor.

(v) The CPU controls all the internal and external devices and performs arithmetic and logic operations.

- Main part of CPU is Control Unit and Arithmetic Logic unit
- CPU is also known as the brain or heart of the computer.

Computer Memory

The component in which we can stored some essential file data etc. are called memory unit.

Memory is an integral component of the CPU.

The memory unit consists of primary memory and secondary memory.

Primary memory:-Primary memory or main memory of the computer is used to store data and instruction during execution of the instruction.

Primary memory is divided in two parts

(i) RAM (Random Access Memory)

(ii) ROM (Read Only Memory)

(i) **RAM**:-It directly provides the required information to the processer. RAM is volatile type of memory. It provides the temporary storage for data and instruction.

(a)SRAM (Static RAM)

(b)DRAM (Dynamic RAM)

(ii) **ROM**:-It is generally used for storing standard processing program that permanently reside in the computer.

(a) MROM (Masked ROM)

(b) PROM (Programmable ROM)

(c) EPROM (Erasable Programmable ROM)

(d) EEPROM (Electrically Erasable Programmable ROM)

Secondary memory:-Secondary memory also known as secondary storage memory or auxiliary memory. It is used for storing data and instruction permanently.

Ex:-Hard disk, CD, DVD, Pen drive etc.

Memory Unit

- **Bit (Binary Digit):-**A binary digit is logical 0 and 1.
- **Nibble:-**A group of 4 bits is called Nibble.
- **Byte:-**A group of 8 bits is called byte. A byte is the smallest unit which can represent a data item or a character.

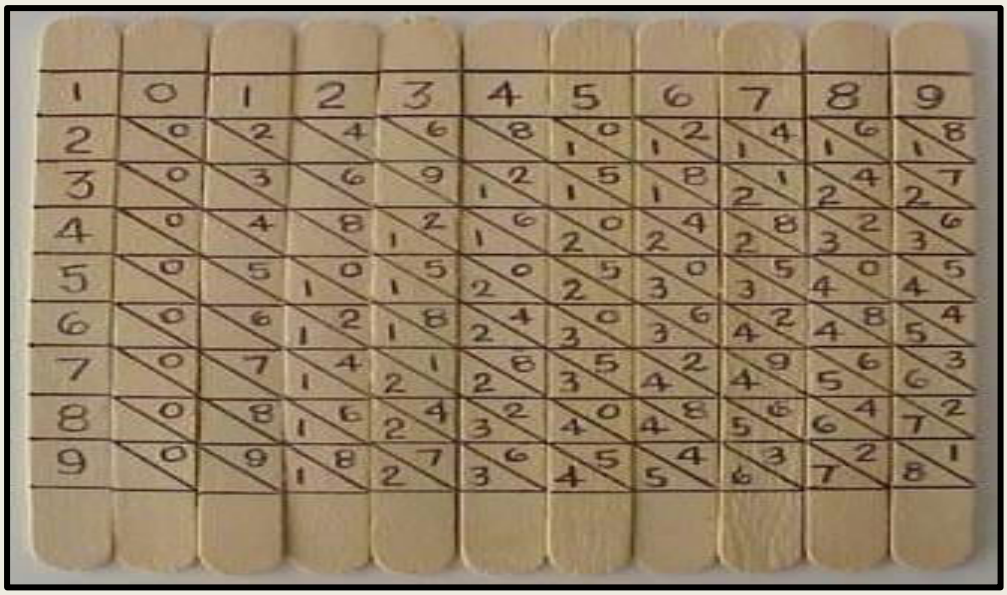
S.No	Unit	Description
1	Kilobyte (KB)	1 KB = 1024 Bytes
2	Megabyte (MB)	1 MB = 1024 KB
3	GigaByte (GB)	1 GB = 1024 MB
4	TeraByte (TB)	1 TB = 1024 GB
5	PetaByte (PB)	1 PB = 1024 TB
6	ExaByte (EB)	1 EB = 1024 PB
7	ZettaByte (ZB)	1 ZB = 1024 EB
8	YottaByte (YB)	1 YB = 1024 ZB
9	BrontoByte (BB)	1 BB = 1024 YB
10	GeopByte (GB)	1 GB = 1024 BB

History of Computer

Evolution of Computer

❖ Abacus:-Abacus was invented by Mesopotamia in around 300BC.

❖ Napier's log and Bones:-The idea of logarithm was developed by John Napier in 1617.

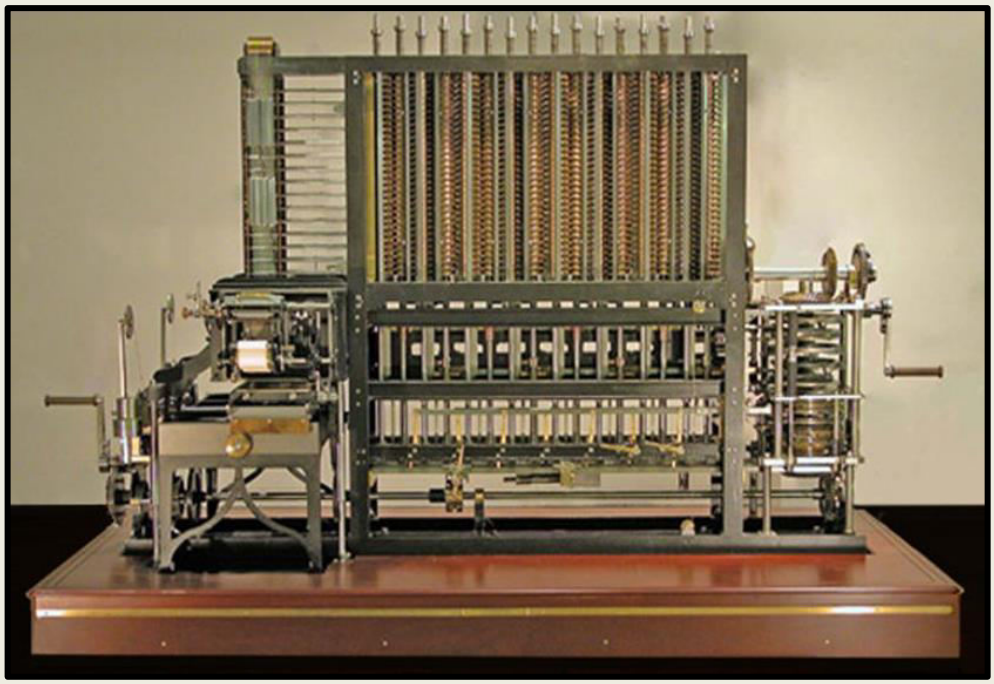


❖ Pascaline:-Blaise Pascal a French Mathematician invented and adding machine in 1642. Use clock rule in Pascaline (Gears, wheels, rods, rotating hand). These computers not only add, subtraction but also multiplication and division.

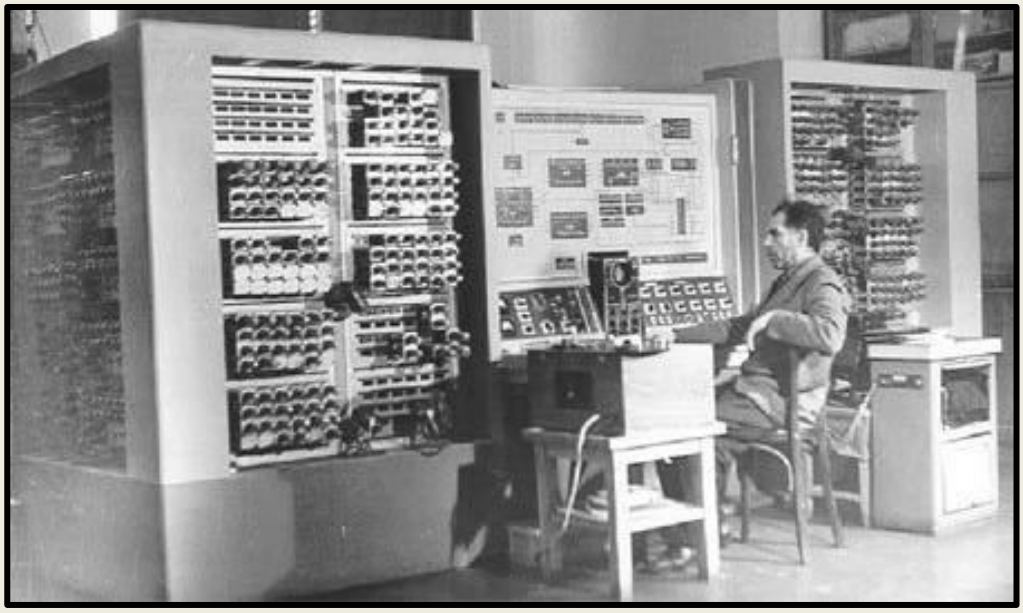
❖ Jacquard Looms:-Joseph Jacquard invented the concept of storing in 1801. Use Punch card in this.

❖ Analytical Engine:-Charles Babbage an English mathematician invented a machine (Difference engine and analytical engine) in 1833. He was the father of computer.

He gives the concept of memory storage, Input-Output even the stored information could be modified.



❖ Mark-1:-Howard Aiken in collaboration with IBM constructed an electro mechanical computer named Mark-1 in 1942 one of the first programs to run on the Mark-1 was initiated on 29 March 1944.



Generation of Computer

1st Generation(1942-1955) Vacuum tube----------

- They were the fastest calculating of this time.
- They were to badly in size, requiring large rooms for installation.
- They use thousands of vacuums tube that admitted large amount of heat and burn out frequently.
- Each vacuum tube