

1. Information Technology (IT)

IT is a technology which uses computers to gather, process, store, retrieve, protect, and transfer information. IT plays a vital role in every business type. 1958. Today, it is common to use the term Information and Communications Technology (ICT) because it is unimaginable to work on a computer which is not connected to the network. ICT is an extensional term for IT that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers.

2. Computers:

A computer is an electronic device, operating under the control of instructions stored in its own memory unit, that can accept data (input), manipulate the data according to specified rules (process), produce information (output) from the processing, and store the results for future use. The amount of work that a computer can do is dependent on the size of its memory and the speed that it can operate at. Any digital computer carries out the following five functions:-

Step 1 - Takes data as input.

Step 2 - Stores the data/instructions in its memory and uses them as required.

Step 3 - Processes the data and converts it into useful information.

Step 4 - Generates the output.

Step 5 - Controls all the above four steps.

3. Computer types:

According to their capacities and performance, they are classified into following:

1. Mainframe Computer

- ❖ Large (room size), powerful and expensive computers.
- ❖ Used within large systems (banks, government departments) & large organizations.
- ❖ Can be used by more than one user simultaneously.
- ❖ Large storage capacities.
- ❖ They are connected to a large number of terminals.



Fig.1 Mainframe Computer

2. Mini Computer

- ❖ Do the same job as a mainframe, but on a smaller scale.
- ❖ Expensive but less than mainframe.
- ❖ Big powerful. Very high speed but less than mainframe, used by mid-size companies.



Fig.2 Mini Computer

3. Personal Computer - PC

- ❖ General-purpose computer, it made up of a separate monitor, keyboard, mouse, processor unit.
- ❖ Can be set on a desk.
- ❖ Cheap and easy to use therefore they are very popular.
- ❖ A single person can execute many tasks simultaneously (multitasking).



Fig.3 Personal Computer (PC)

4. Personal Digital Assistant - PDA (Palm)

- ❖ Small handheld computer with a touch screen is called Notepad. Some have traditional keyboards behind underneath the screen. Others display a keyboard on the screen. Some use handwriting recognition software to enter text.
- ❖ Include satellite navigation facilities (GPS), mobile phone capability and versions of application software that have a limited range of functions.



Fig.4 Two types of PDA

5. Network connected computer

- ❖ Every computer (PC, notebook, PDA) connected to the network is considered a network computer; can be connected either through network cable or through a phone line (at least to one more computer).
- ❖ A large PC-type computer called a server is connected to smaller PCs (network computer) called Clients terminals. The server holds all applications and data, which it serves to the clients.

6. Super Computer

- ❖ Computers with very high speed.
- ❖ Very powerful capacity for processing data.
- ❖ Used in large scientific and research laboratories, weather forecasting space operations.
- ❖ Cost several million dollars.

7. Smart phones

- ❖ It is an advanced mobile phone with the other features: web browsers, high resolution touch screens, GPS navigation and Wi-Fi access.
- ❖ Smartphones are often used as media players and cameras.

8. Laptop computer or Notebook

- ❖ Relatively small, portable computers, easily carried around.
- ❖ Consists of LCD display and a small keyboard.
- ❖ Run on batteries.
- ❖ It is powerful as PC but more expensive.

Components of Computer System:

- Hardware refers to the physical parts of the computer, the Hardware cannot do anything without Software.
- Software refers to the code (set of commands) that runs on the computer.
- Live ware Also, Kwon as human-ware. A person who uses the software on the computer to do some tasks.

Basic Component of Hardware:

- Input device
- Output device.
- System unit.

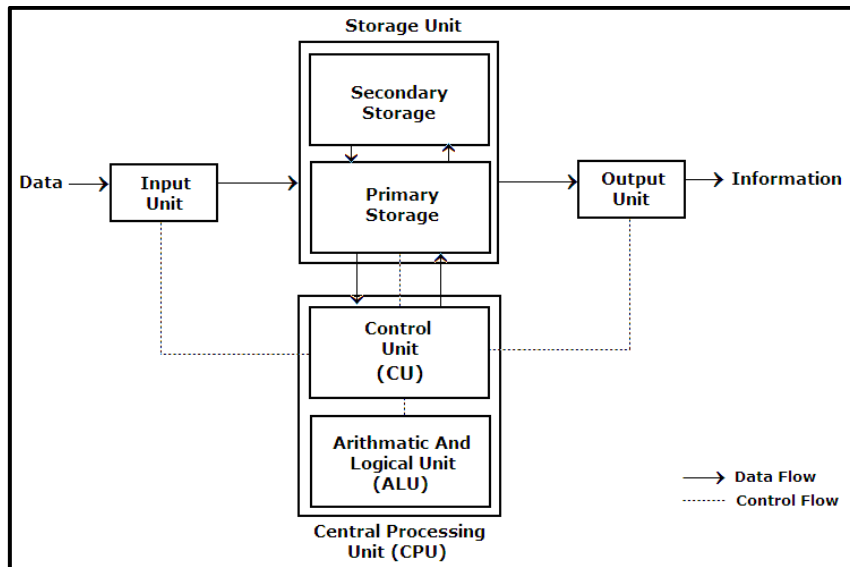


Fig.5 Basic Component of Hardware

Input device

Translate data from the human understand to one the computer can work with. For example: keyboard, mouse, joystick, screen, etc.

Output device

Is how computer sends information back to you. For example: Monitor, Printer, loud speaker, etc.

Characteristics of monitor:

Color: the color depends on type of screen if it CRT or LCD and graphic adapter.

Size: when measured diagonally, the common sizes are: 15", 17", 19", and 21".

Resolutions: the number of dots or pixels that can be deployed on screen. e.g.

- **VGA** (Video Graphics Adapter) resolution (640 × 480) pixels.
- **SVGA** (Super VGA) resolution (800 × 600) pixels.
- **XVGA** (Extended VGA) resolution (1024 × 768) pixels.
- **HDMI** (High Definition Multimedia Interface)
 - a. **HDMI 1.0** has a maximum pixel clock rate of 165 MHz, which is sufficient to allow 1080p and **WUXGA** (1920×1200) at 60 Hz.
 - b. **HDMI 1.3** increases the clock rate to 340 MHz, which allows for higher resolution such as **WQXGA**, (2560×1600) across a single digital link

(High resolutions means better quality and a clear display)