Information Technology

Information Technology covers a broad spectrum of hardware and software solutions that enable organizations to gather, organize, and analyze data that helps them achieve their goals. It also details technology-based workflow processes that expand the capacity of an organization to deliver services that generate revenue. The four main focuses of IT personnel are business computer network and database management, information security, business software development, and computer tech support.

Information technology (IT) is a general term that describes any technology that helps to produce, manipulate, store, communicate, and/or disseminate information. IT merges computing with high-speed communications links carrying data, sound, and video.

Examples: Telephones, Televisions, Appliances, Various handheld devices.

The term `Information Technology' (IT) has varying interpretations. Macmillan Dictionary of Information Technology defines IT as "the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronics-based combination of computing and telecommunications."

Components of IT

- Accepting and storing data and information
- Performing mathematical calculations
- Applying logic to make decisions
- Retrieving, displaying, and sending information
- Consistently repeating the above actions many times

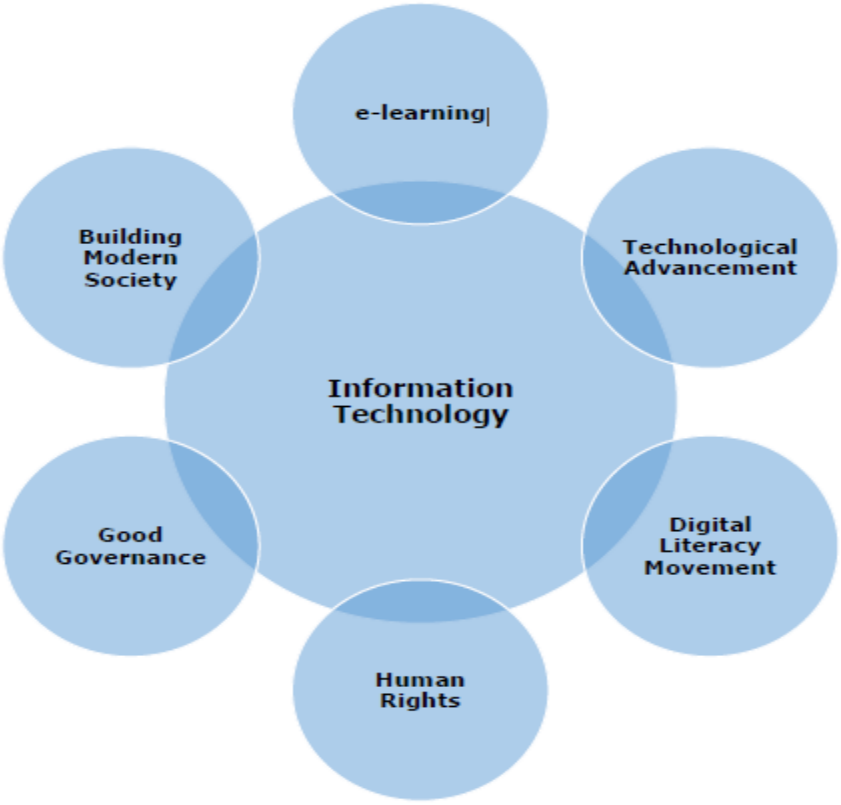
Important features of Information Technology

Following are the major features as well as advantages of Information Technology −

- The development of Information Technology has made education system simpler, easier, and widespread. Now, people of remote areas can also use technology for their children’s education and also avail the benefits of adult education.
- Diffusion of e-governance on a large scale.
- Participation of public in governance and policy making.
- Fast economic development.

- Development of remote areas.
- Technology helps the police in nabbing the criminals.
- The judiciary and other administrative services can also take the help of technology to make work easier and faster.
- Highly beneficial for the common people, as they can access their rights and can take legal action against the person who violates his/her rights.
- It increases the happiness and prosperity of not only an individual, but rather the society as a whole.

Besides, there are many other advantages too that can be availed in our everyday life only with the further development of information technology.



Demerits of Information Technology

Information Technology is like a boon on the society. However, it comes with its own disadvantages −

- As discussed above, with the help of technology, police can arrest criminals and criminal activities; at the same time, technology has also opened the door for criminals as well to practice smart criminal activity.
- There are chances that children can misuse technology and take a wrong path.
- Some distorted and perverted minds use technology to demean or defame someone unethically and also illegally.
- These are basically not demerits but rather the misuse of technology.

Importance of Information Technology

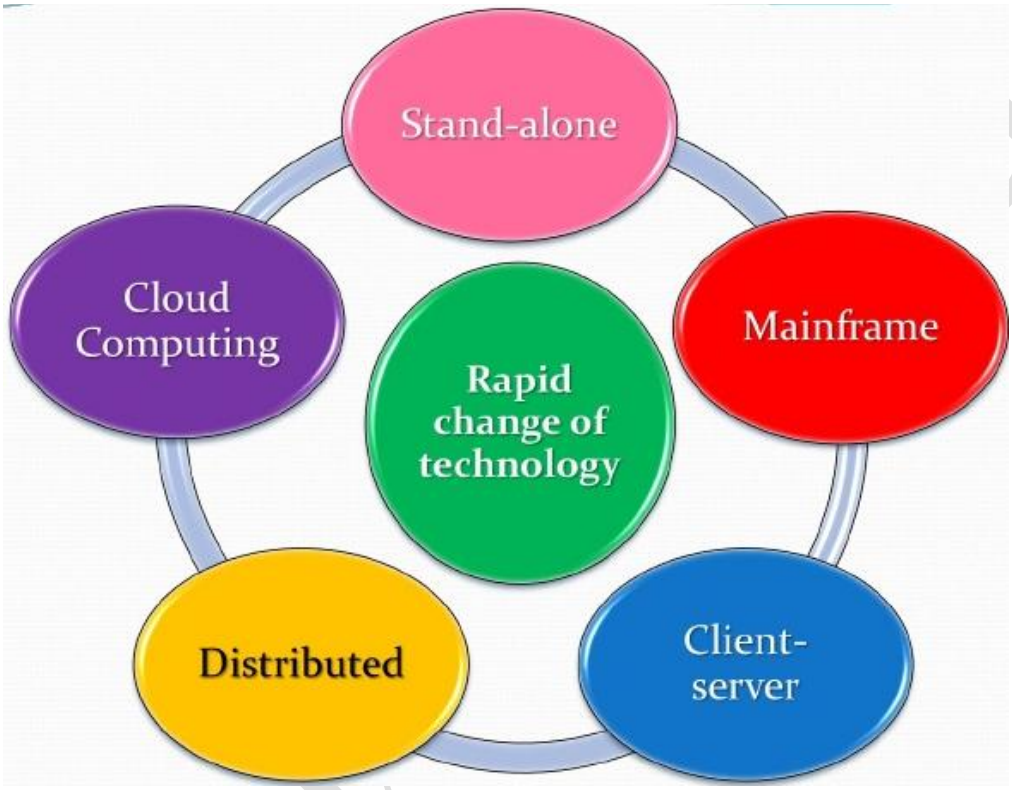
- Speed and accuracy in IT
- Global social interaction
- Entertainment
- Communication
- Economic advancement
- Education
- Health sector

When the information technology was started?

YEARS	HISTORY
1960 & 1970	•Information technology was limited to people working in the banking sector, mathematical engineers and computer scientists.
1980	•The arrival of personal computers made it possible to be used in many more sectors and gave rise to a surge in the field of information technology. •Computer has been used in the home and workplace, the world move into the information age
early 21st century	•Nearly every child in the world, knew how to use a personal computer and people have started communicating, using e-mails. •It is an industry which deals with the usage of computer hardware , software and networking

Development of Information Technology

Great technological advances have been made since the days when computers were huge pieces of equipment that were stored in big, air conditioned rooms, getting their information from punch cards. Development of IT can be seen from stand-alone computer up to the latest trend which is the cloud computing.



1. Stand-Alone Computer

- A desktop or laptop computer that is used on its own without requiring a connection to a local area network (LAN) or wide area network (WAN).
- Although it may be connected to a network, it is still a stand-alone computer as long as the network connection is not mandatory for its general use.
- A complete operating system that works on a desktop computer, notebook, or mobile computing device.
- Some are known as client operating system that can operate with/without a network.
- Examples of currently used stand-alone operating systems are: Windows 10, Mac OS X, UNIX, Linux, etc.

2. Mainframe Computers

- A mainframe is a large, expensive, powerful computer that can handle hundreds or thousands of connected users simultaneously.
- Stores tremendous amounts of data, instructions, and information.
- Mostly used by major corporations for business activities.
- Mainframes can also act as servers in a network environment.
- Servers and other mainframes can access data and information from a mainframe.
- People can also access programs on the mainframe using terminals or personal computers.

3. Client-Server Computing

- An architecture in which the user's PC (the client) is the requesting machine and the server is the supplying machine, both of which are connected via a local area network (LAN) or a wide area network (WAN) such as the Internet.
- One or more computers act as a server, and the other computers on the network request services from the server.
- The client server computing works with a system of request and response. The client sends a request to the server and the server responds with the desired information.
- Main advantage of this type of computing is its flexibility because a computer can easily be added or replaced without purchasing any additional hardware or software.

4. Distributed Computing

- Refers to the means by which a single computer program runs in more than one computer at the same time. In particular, the different elements and objects of a program are being run or processed using different computer processors.
- A type of computing in which different components and objects comprising an application can be located on different computers connected to a network.
- For example, a word processing application might consist of an editor component on one computer, a spell-checker object on a second computer, and a thesaurus on a third

computer. In some distributed computing systems, each of the three computers could even be running a different operating system.

- One of the requirements of distributed computing is a set of standards that specify how objects communicate with one another. There are currently two chief distributed computing standards: CORBA and DCOM.

5. Cloud Computing

- An internet service that provides computing needs to computer users.
- Using the Web server facilities of a third party provider on the Internet (the "cloud") to store, deploy and run applications.
- For example, an employee working during the day in Malaysia could use computing power in a Dubai network system located in an office that is closed for the evening.
- When the company uses the computing resources, they pay a fee based on the amount of computing time and other resources that they consume, much in the way that consumers pay electric company based on how much electricity they used.
- Advantages of this type of computing are: easy expansion, security, reduced cost, environment friendly and remote accessibility.