

**12.1 History of Internet :** Internet means inter national network of networks. The first form of Internet is ARPANET(Advanced Research Project Agency Network) started by US Department of Defence for their military during 1970's. In 1989 a team lead by Tim Berners Lee introduced WWW(World Wide Web) by using the protocol HTTP. In 1998, Internet Corporation for Assigned Names and Numbers (ICANN) was established.

**Internet :** It is a network of networks. It means that international network. We can transfer information between computers within nations very cheaply and speedily.

**Intranet:** A private network inside a company or organisation is called intranet.

**Extranet :** It allows vendors and business partners to access the company resources.

**12.2 The hardware and software requirement for internet.**

- a. A computer with a modem (internal/external)
- b. A telephone connection
- c. An account with an ISP
- d. A browser S/W eg: Internet Explorer or Mozilla...

**12.3 Types of connectivity**

There are two ways to connect to the internet. First one dialing to an ISP's computer or with a direct connection to an ISP.

**12.3.1 Dial up Connection :** Here the internet connection is established by dialing into an ISP's computer. If ISP is not busy they verify the user name and password if it is valid they will connect our computer to the internet. It uses Serial Line Internet Protocol (SLIP) or Point to Point Protocol (PPP). It is slower and has a higher error rate.

**12.3.2 Direct connection :** In direct connection there is a fixed cable or dedicated phone line to the ISP. Here it uses ISDN (Integrated Services Digital Network) a high speed version of a standard phone line. Another method is leased lines that uses fibre optic cables. Digital Subscribers Line (DSL) is another direct connection, this uses copper wires instead of fibre optic for data transfer. Direct connection provides high speed internet connection and error rate is less. Fibre To The Home(FTTH) uses optical fibers for data transmission.

**12.3.3 Wireless broadband connectivity**

- a) Mobile broadband : Accessing Internet using wireless devices like mobile phones, tablet, USB dongles.

- b) **Wi MAX(Wireless Microwave Access)** : It uses micro waves to transmit information across a network in a range 2 GHz to 11 GHz over very long distance.
- c) **Satellite broadband** : Accessing internet through satellite. A Very Small Aperture Terminal(VSAT) dish antenna and transceiver and modem, are required at the user's location. Expensive and high speed.

#### **12.3.4 Internet access sharing methods:**

One Internet connection can be shared among several computers using a LAN, Wi Fi or Li Fi

- a) **Using LAN:** The Internet connection in a LAN can be shared among other computers in the network
- b) **Using Wi Fi(Wireless Fidelity)** : It uses radio waves to transmit information across a network in a range 2.4 GHz to 5 GHz in short distance. Nowadays this technology is used to access internet in campuses, hyper markets, hotels by using Laptops, Desktops, tablet, mobile phones etc
- c) **Using Li-Fi(Light Fidelity) network** : It is a fast optical(uses visible light for data transmission) version of Wi Fi. Its main component is a LED lamp that can transmit data and a photo diode that acts as a receiver.