

## E-Content of INTERNET TECHNOLOGY AND WEB DESIGN

### Chapter : 4.2 Network Definition

#### Topic : 4.2.1 Network Definition

##### Network Definition

- A network is any collection of independent computers that communicate with one another over a shared medium.
- A computer network is a collection of two or more connected computers.
- When these computers are joined in a network, people can share files and peripherals such as modems, printers and tape backup drives.
- The computers on a network may be linked through cables, telephone lines, radio waves, satellites etc.



**FIG 4.1: Network**

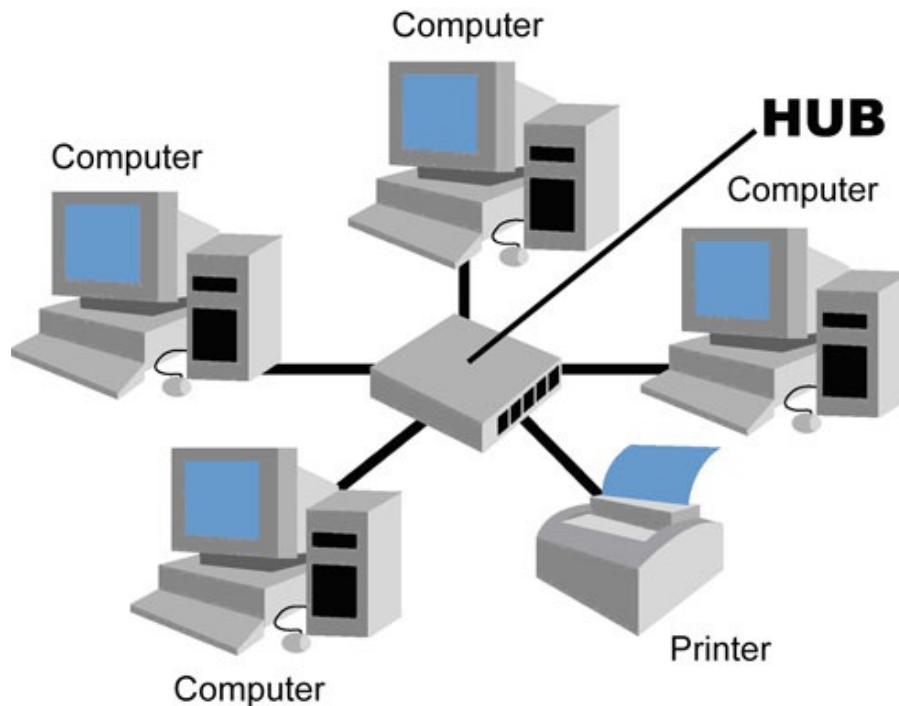
## E-Content of INTERNET TECHNOLOGY AND WEB DESIGN

### Chapter : 4.3 Common Terminologies

#### Topic : 4.3.1 Local Area Network (LAN)

##### Local Area Network (LAN)

- LAN is a group of computers and network communication devices within a limited geographical area such as home, school and office building.
- The devices used in this network can be connected via wired cable or wireless links.



**FIG 4.2: Local Area Network**

- Depending on the needs of an organization and the type of technology used, a LAN can be as simple as two PCs and a printer in someone's home office or it can extend throughout a company and include audio and video peripherals.
- Currently, LAN size is limited to a few kilometers.
- LANs are designed to allow resources to be shared between personal computers or workstations.

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- The resources to be shared can include hardware (e.g., a printer), software (e.g., an application program), or data.
- The most common LAN topologies are bus, ring, and star. Early LANs had data rates in the 4 to 16 megabits per second (Mbps) range.
- Wireless LANs are the newest evolution in LAN technology.
- LANs are configured in any one of two basic structures. Such as
  - Peer-to-Peer
  - Client/Server

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### Chapter : 4.3 Common Terminologies

#### Topic : 4.3.2 LAN Applications

#### LAN Applications

- LANs are mostly used in office environment.
- In an office environment it is mainly used for three purposes.
  - Sharing
  - Interoffice Communication
  - Internet Communication
- **Sharing**
  - **Sharing Hardware**
    - ❖ Users can be connected through Local Area Network to the single printer or data storage.
    - ❖ Jobs from each user are queued in that single printer.



**FIG 4.3: Hardware Sharing**

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### ➤ **Sharing Software**

- ❖ Through LAN connection users can share programs such as accounting programs, which is stored in a single machine.



**FIG 4.4: Sharing of Software in LAN Network**

### ➤ **Sharing Data**

- ❖ Sharing of large database between the users is also another big advantage.

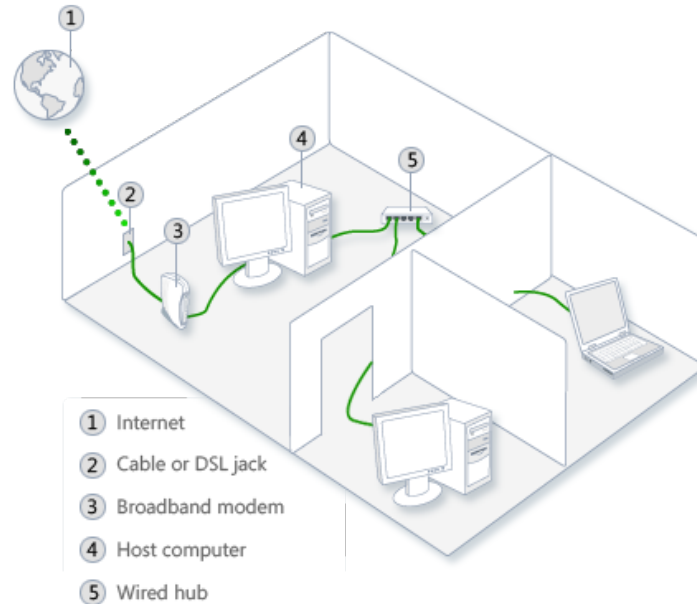
### • **Interoffice Communication**

- The employee of a company can communicate with each other using this network.
- Some of the LAN messenger is used within the office area are,
  - ❖ Tonic
  - ❖ CD Messenger
  - ❖ Squiggle - A free, open source LAN Messenger
  - ❖ Outlook Messenger
- These types of communication are sometimes more effective than voice communication by phone, where users can save money.

### • **Internet Communication**

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- Another usage of LAN in an office environment is external communication, via the internet.
- Each employee can use the LAN for the connection to the internet.



**FIG 4.5: Sharing of Internet connection in office**

- In the FIG 4.5 Host computer is connected to the modem and hub, through hub. Now all the systems in the office get access to the internet.