

# CLASS - VIII SUBJECT - COMPUTER APPLICATION

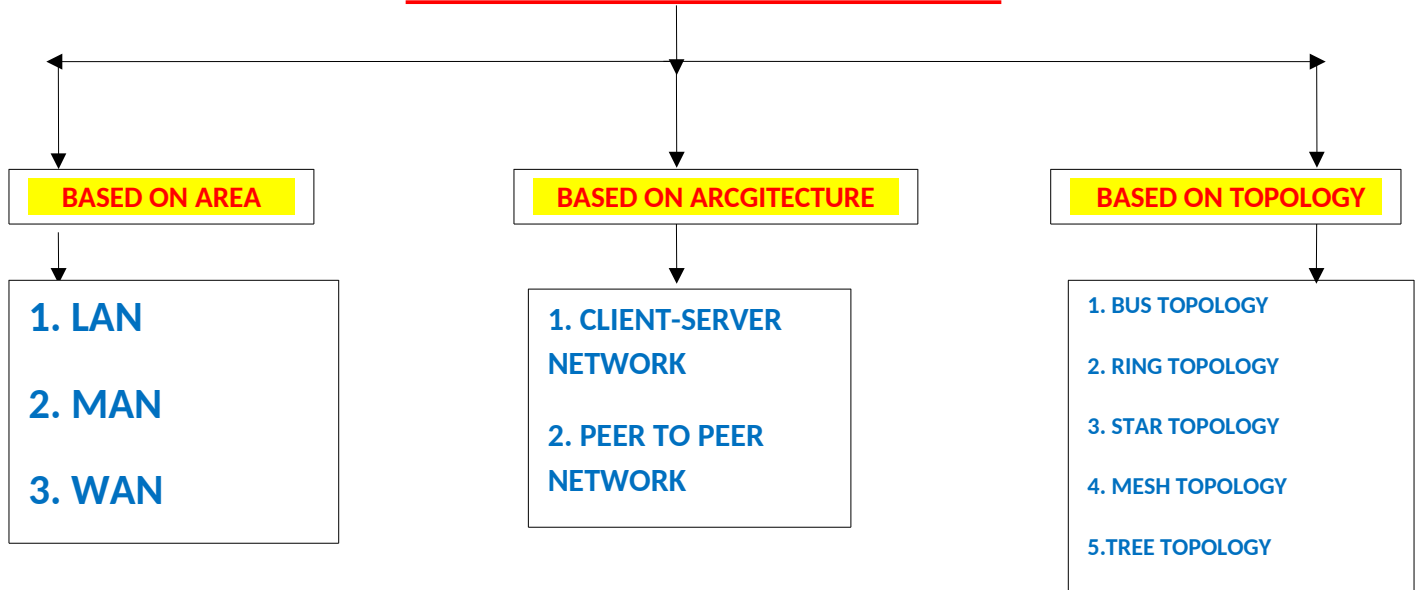
## CHAPTER -1 COMPUTER NETWORKS

**COMPUTER NETWORK** - When more than one computer are connected together for the purpose of sharing data or resources.

**ADVANTAGES-**

1. Reduces expenditure by sharing hardware resources such as printer, scanner.
2. Helps to communicate among the systems
3. Sharing of expensive software

### CLASSIFICATION OF NETWORKS



### DIFFERENCE BETWEEN LAN MAN AND WAN

	LAN	MAN	WAN
<b>1.Area</b>	Connects two or more network within a limited area such as office or school ( 1km –10 km)	Confined to a city or a town ( within 100 km)	Covers a large geographical area such as a state, country or a continent. (More than 100km)
<b>2.Transmission media</b>	coaxial cable or wifi	telephone line	Satellite
<b>3. Data transferring speed</b>	High	Moderate	Low
<b>4. Application</b>	Network in a home or office	Cable TV network or telephone network in town	Service of internet

**Different network topology**

**1. Bus topology**

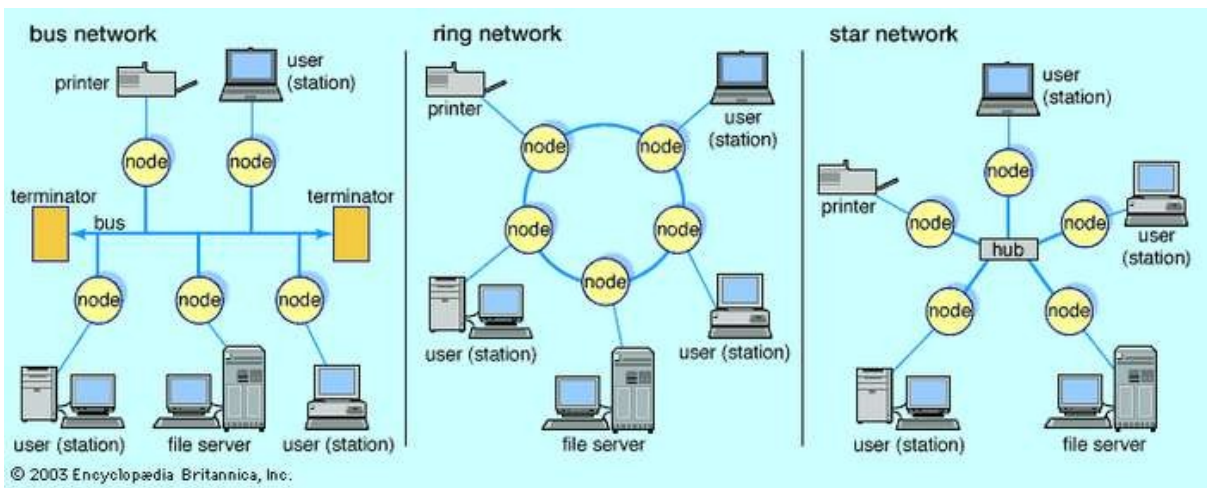
1. All the computers are connected to a single central cable.
2. If anyone node fails, the network will still run.
3. It is easy to install.
4. Requires minimum cable to setup the network.

**2. Ring topology**

1. All the computers and others devices are connected to one another in a circle.
2. If any one cable or node fails the entire network will be disrupted.
3. Easy to install.
4. Requires more cable than bus topology.

**3. Star Topology**

1. All the devices are connected to the central hub.
2. If anyone cable fails it will affect only the particular computer.
3. If the hub fails the total network will stop.
4. Requires more cable than bus and ring topology.



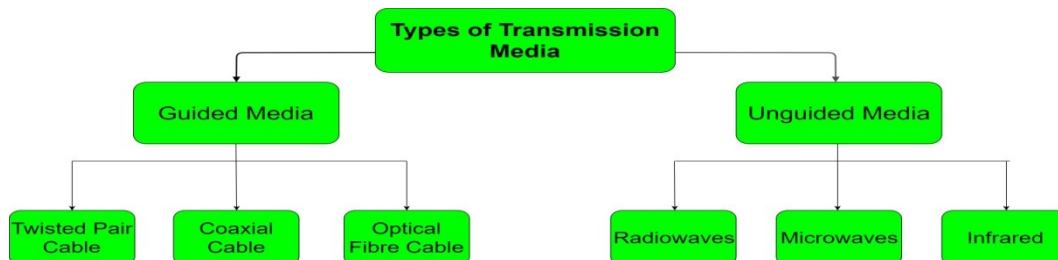
#### 4. Mesh topology

1. All the devices are connected to all the other devices in the network.
2. If any node fails it will not affect the network.
3. Length of cable required is very large.
4. Messages can be received more quickly.
5. Installation and configuration is difficult. (Diagram on page no 14)

#### 5. Tree topology

1. It combines the network of bus and star topology.
2. It is mainly dependent on the main bus cable if it breaks the whole network will collapse.
3. Easy to expand but hard to configure and maintain. (Diagram on page no 15)

**Transmission Media** - It refers to the devices or technology used to transfer data from one computer to other in a network.



#### Twisted Pair Cable -

- It is a type of wiring in which two conductors of a single circuit are twisted together for the purpose of preventing disturbance from outside and to improve transmission.
- It is used in telephone networks.

(Diagram on pg no 16)

#### Coaxial cable -

- It is a type of cable consisting of a four layer covering - outer plastic covering, a inner copper covering, a insulator then the final copper core.
- It provides high speed transmission and protection from external disturbance.
- Used in cable TV network.

(Diagram in pg 16)

#### Fiber optic cables -

- The two main materials used are plastic and glass which transfer data at the speed of light in glass.
- Used for high speed data transfer in medical and defense industry.

(Diagram in pg 16)

## Networking devices

1. **Hub** – A hardware device that is used for connecting all computers in the network.

2. **Switch** – A hardware device that is used to send data from one computer to particular computer in a network.

3. **Router** – A hardware device that is used to transfer data from one network to another by finding the shortest path.

4. **Bridge** – It is also a hardware device to connect two different types of network.  
(Diagrams on page – 16)

### Answer the following questions

1. Define a. Node b. Network Interface Card c. Hub
2. Write two difference between a. Stand Alone and Networked Environment  
b. Client Server and P2P Network Architecture.  
c. Ring topology and bus topology.  
d. Wi-Fi and Bluetooth
3. What are Network operating Systems?
4. What is data sharing?
5. What is the use of Modem?

**\*\* Children are requested to go through the notes thoroughly and write down the notes and questions - answers in your copies\*\*\***

