EVALUATE

A. Multiple Choice Questions

1. A networking device which is used to connect multiple network hosts is :
   (a) CPU (b) hub (c) firewall
2. A _____ converts digital signals to analog signals and vice versa.
   (a) router (b) bridge (c) modem
3. Internet is an example of _____ Network.
   (a) Local Area (b) Campus Area (c) Wide Area
4. A topology in which every device is connected to other device is called :
   (a) ring topology (b) mesh topology (c) star topology
5. It transmits data in the form of light rather than electric signals.
   (a) Coaxial cable (b) Optical fibre cable (c) Ethernet cable

B. Fill in the blanks.

1. The process of connecting computers together into a network is called NETWORKING
2. A Protocol specifies a set of rules that governs the data communication.
3. A WAN has no geographical limit.
4. Coaxial Cable is an electrical cable with a conductor at its centre.
5. Ring topology has no start and end point.

C. State True or False.

1. Each computer in a network is called a node. TRUE
2. CAN covers an area smaller than MAN. TRUE
3. Each computer in a network must have a LAN card inside it. TRUE
4. In star topology, all computers are connected via a cable that circles in a ring. FALSE
5. Computer networking is known to be very flexible. TRUE

D. Write one word for the following.

1. Process of connecting computers together — Networking
2. The physical path through which the message travels — Transmission Medium
3. It is responsible for routing traffic — Router

4. It consists of a central glass core surrounded by several layers of protective material — Optical fibre cable

Q.1. What is networking? Explain its different parts?

Answer: - A computer network can be defined as a group of computers and other peripheral devices that are linked together for the purpose of sharing data and hardware resources.

It consists of the following parts:

- Message.
- Sender.
- Receiver.
- Transmission Medium.
- Protocol.

Q.2. List some advantages of Networking.

Answer:- 1. Efficient use of storage media.
2. Preserving information
3. Reduction in hardware costs
4. Efficiency Redundancy
5. Quickest document delivery

Q.3. Differentiable between LAN and WAN

Answer:-

- Definition LAN is a computer network that connects computers in small areas. WAN is a network that covers a broad area using private or public network transports.
- Data transfer rates LAN offers high data transfer rates. WAN has lower data transfer rates due to congestion
- LAN Speed 80-90 mbps and WAN 10-20 mbps
- LAN High bandwidth is available for transmission. WAN Low bandwidth available for transmission.
- LAN Cost Set-up costs are low as the devices required to set up the networks are cheap. WAN Set-up costs are high, especially in remote locations where set-up is not done. However, WANs using public networks are cheap.
- LAN Maintenance costs Maintenance costs are low as the area coverage is small. WAN Maintenance costs are high as the area coverage is world-wide.

Q.4. What do you understand by network security?

Answer: - Network Security means protecting data and resources from access by unauthorized persons. There are two levels of network security:

Login Security: You are given a unique login name and password.

Rights Security: Based on user name read only or read write access is given.

Q.5. Explain Clint-Server network.

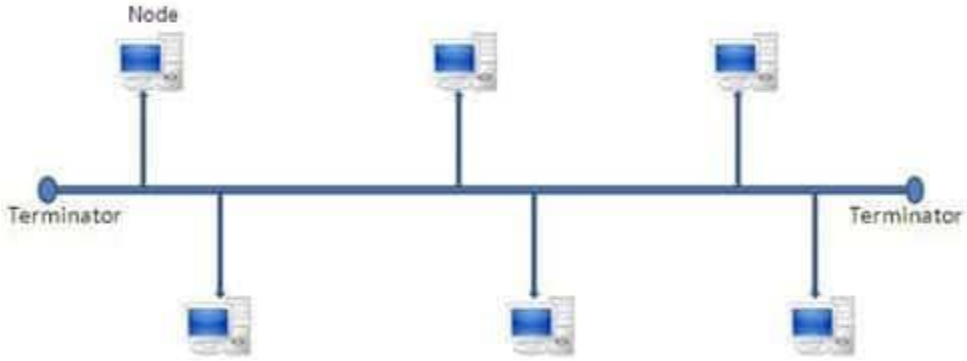
Answer:- It is a network , where several computers called clients or workstations are connected to the main computer called the server.

Q.6. Explain Topologies and their types?

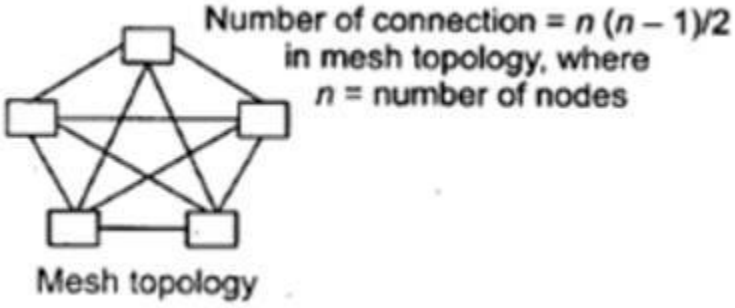
Answer: A **Network Topology** is the arrangement with which computer systems or **network** devices are connected to each other.

Types of Network Topologies:

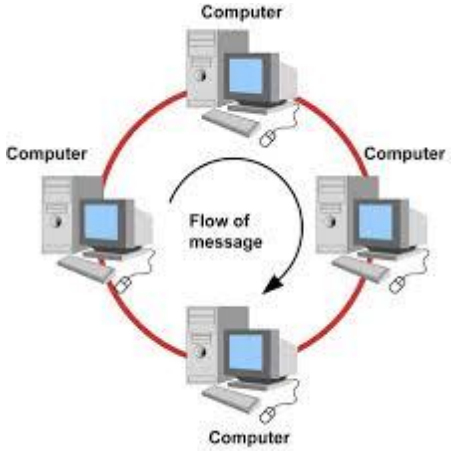
1. **Bus Topology -** A bus topology is such that there is a single line to which all nodes are connected and the nodes connect only to the bus



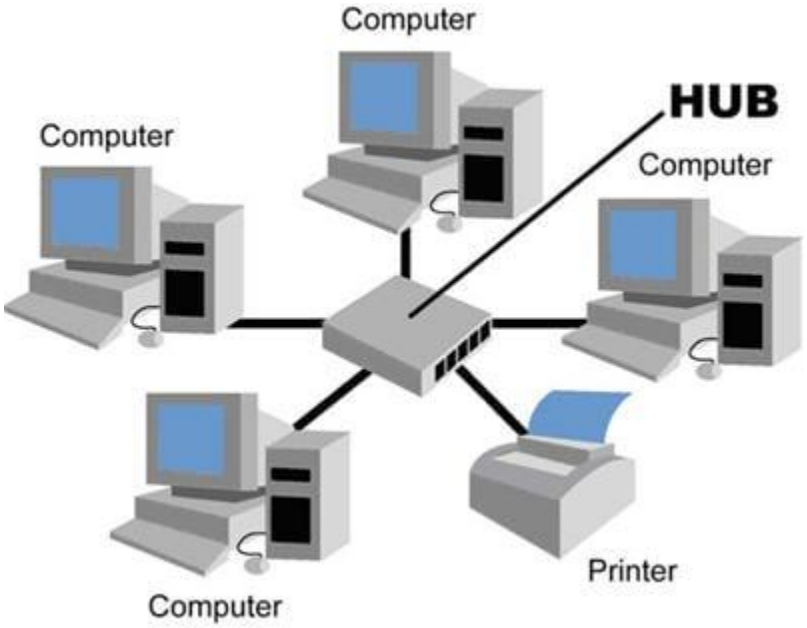
2. **Mesh Topology -** This type of topology contains at least two nodes with two or more paths between them.



3. **Ring Topology -** In this topology every node has exactly two branches connected to it. The ring is broken and cannot work if one of the nodes on the ring fails.



4. **Star Topology -** In this network topology, the peripheral nodes are connected to a central node, which rebroadcasts all the transmissions received from any peripheral node to all peripheral nodes on the network, including the originating node.



Q.7. Explain types of computer networks based on geographical area covered by them.

Answer:

- **Personal Area Networks (PAN)**
  A personal area network is a network that is based on an individual's workspace. The individual's device is the center of the network, with other devices connected to it. There are also wireless personal area networks.
- **Campus Area Networks (CAN)**
  A campus network is a LAN or set of connected LANs which is used by a government agency, university, corporation or similar organization and is typically a network across a set of buildings that are close together.
- **Local Area Networks (LAN)**
  A local area network or LAN is a network that connects computers within a limited area. This might be in a school, an office or even a home.
- **Wide Area Networks (WAN)**
  A wide area network is a network that covers a larger geographical area, usually with a radius of more than a kilometer.
- **Metropolitan Area Networks (MAN)**
  Metropolitan area networks are networks that stretch across a region the size of a metropolitan area. A MAN is a series of connected LANs in a city, which might also connect to a WAN.

Q.8. Explain Transmission Media?

There are two types of Transmission Media:

- **Wired Transmission Media.**

  Coaxial Cable: This cable contains a conductor, insulator, braiding, and sheath. The sheath covers the braiding, braiding covers the insulation, and the insulation covers the conductor.

  Fiber Optic Cable: This cable consists of core, cladding, buffer, and jacket. The core is made from the thin strands of glass or plastic that can carry data over the long distance. The core is wrapped in the cladding; the cladding is wrapped in the buffer, and the buffer is wrapped in the jacket.

- **Wireless Transmission Media.**

  Radio communication was one of the first wireless technologies developed and it is still in use. The portable multi-channel radios allow the user to communicate over short distances whereas citizen band and maritime radios provide communication services over long distances for truckers and sailors.

  Wi-Fi is a low-cost wireless communication technology. A Wi-Fi setup consists of a wireless router which serves a communication hub, linking portable device with an internet connection. These networks are limited in range due to the low power transmission, allowing the user to connect only in the close proximity.

  Infrared radiations are electromagnetic radiations with longer wavelengths than visible light. These are usually used for short-range communications. These signals do not pass through solid objects.

  Bluetooth is a short-range wireless communication technology that allows devices such as mobile phones, computers, and peripherals to transmit data or voice wirelessly over a short distance.

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