Computer Network

Q. what is a Computer Network?

Ans - A network consists of two or more computers that are linked in order to share programs, data, hardware and other resources.

* Advantages of Computer Network
→ Easy Communication
→ Resource Sharing
→ File Sharing
→ Highly Flexible
→ Cost Effective

* Disadvantages of Computer Network:
→ Security issues
→ Problem Detection
→ Management concern
→ Hacking

* Types of Computer Network
    LAN (Local Area Network)
Metropolitan Area Network (MAN)
wide Area Network (WAN)

* A Local Area Network is a private network that operates within a limited area such as a building, lab house etc.

* Metropolitan Area Network is used to connect computers at different offices of an organization in the same city.

* Wide Area Network is used to connect computers in a country or across the world.

* Internet is an example of WAN.

* Personal Area Network (PAN) is centred around an individual and covers a very small area.

* Bluetooth is an example of a short range wireless Personal Area Network.

Personal Area Network.

A wireless Local Area Network (WLAN) uses radio signals instead of cables to connect different computers in a network.

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* Models of Network

→ Client / Server model
→ Peer - to - Peer model

* In the Client / server model there is a central computer called a Server.

* A computer connected to a network is called workstation / Node.

* Client is a computer that requests information made available by a Server.

* Server is a computer that provides information to a Client.

* In Peer-to- Peer model there is no central Server in a Peer-to-Peer network. Each

* In your to-peer network where as no control
server in a peer-to-peer network. Each
workstation acts as a client as well as a
server.

* Different Network Hardware
→ Cables and connectors
→ Network Interface card (NIC)
→ Modem (Modulator-Demodulator)
→ Router

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Q- what is the use/function of MODEM?
Ans- A MODEM is a device that converts
digital information into analog and analog to
digital information.

→ A Network Interface card (NIC) is required to connect
a network cable to a computer.

Q- what is a router?
Ans- A router is used to exchange data across different
networks. This device is commonly used to connect
different networks.

Q- what is Network Topology?
Ans- The Physical layout of the connected devices
in a network is known as Network Topology.

in a 'network' is known as network Topology.

A⊕ The commonly used Network Topologies are —
Bus Topology
Star Topology
Ring Topology

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BUS TOPOLOGY

In Bus topology, all the network devices are connected to a single cable called the bus.

Advantage:
→ It is easy to set-up.

Disadvantage:

→ If the main network cable breaks down the whole network breaks down.

STAR Topology

All the Devices in Star Topology are connected to

All the devices in Star Topology are connected to a central computer called the Hub.

Advantage:

→ The failure of a single network does not affect the entire network.

Disadvantage –

If the hub fails, the entire network goes down.

RING TOPOLOGY

→ In ring Topology, each device is connected to two other devices forming a ring.

Advantages :-

→ Data gets transferred quickly.

Disadvantage :-

→ If one device fails, the entire network breaks down.

MESH TOPOLOGY

→ In this topology each node is connected to every other node in the network.