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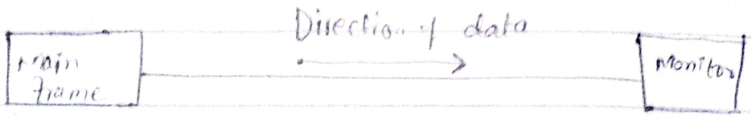
reject the ping packet.

Range
Class A = 0 - 126 — N | H | H | H
Class B = 126 - 191 — N | N | H | H
Class C = 192 - 255 — N | N | N | H

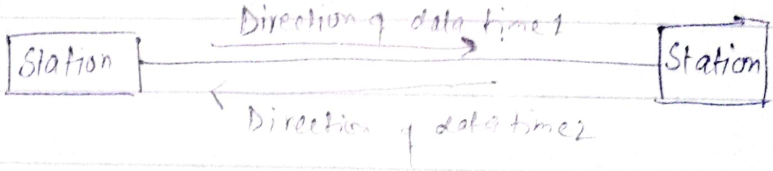
Communication b/w two devices

(a). simplex (keyboard)
(b). half-duplex (walkie talkie and CB radios)
(c). full duplex (telephone)

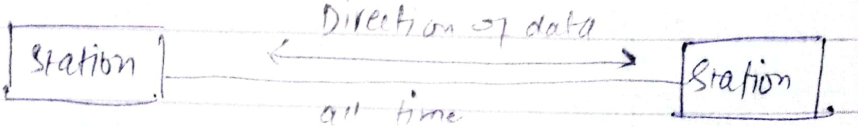
(a)



(b)



(c)



no. of connections = $\frac{n(n-1)}{2}$ (n = no. of computers)

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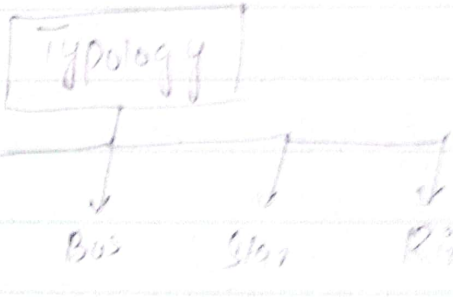
Network media depends on:
- Types of transition media
- number of users
- capabilities

[co-axial cable and RJ 45 used to connect computer together]

Physical Typology:-

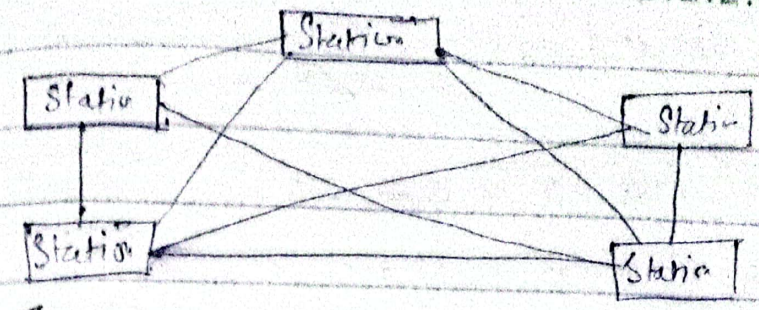
The term physical typology refers to the way in which a network is laid out physically. Two or more devices connect to a link; two or more links form a typology.

The typology of network is the geometric representation of links and linking devices to one another.



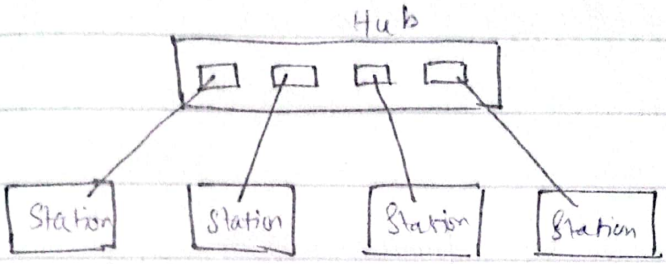
Mesh Typology:-

Mesh typology is one where every node is connected to every other node in network.



Star Typology :-

Star Typology is one of the most common network setups. In this configuration, every node connects to a central network device like hub and switch.



central network device act as server (mcq)

peripheral devices act as client (mcq)

Star typology is used in local network (LAN) (mcq)

Bus Typology :-

a line typology or bus typology is a network setup in which each computer and network device are connected to single cable or backbone. (mcq)

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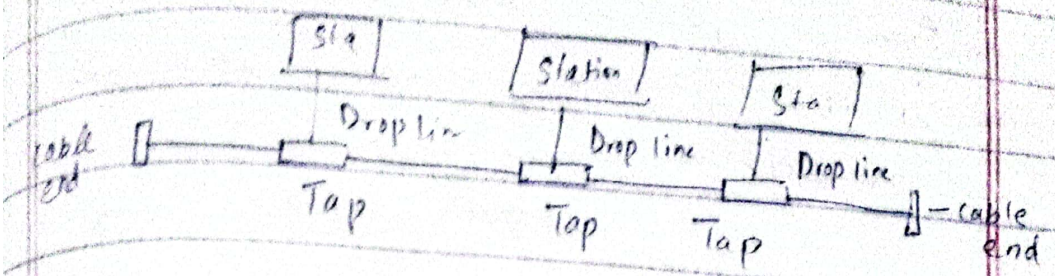
Bus Typology:-



- It requires less cable length than star typology mcq

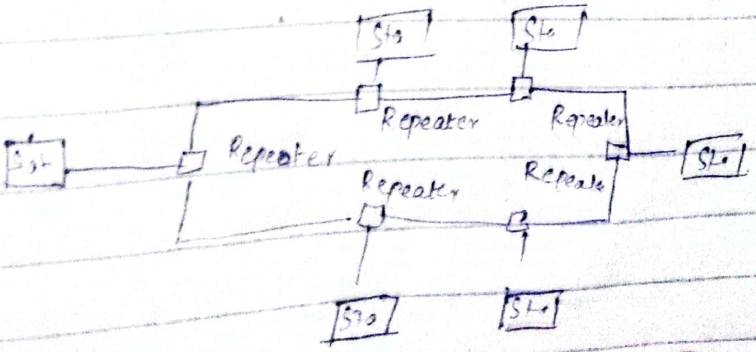
Ring Typology:-

A ring typology is a network connection configuration in which each devices connections create circular data path.

Two types:-

- Bi-directional ring
- Uni-direction ring

Ring used either in (MAN) and (LANs) mcq



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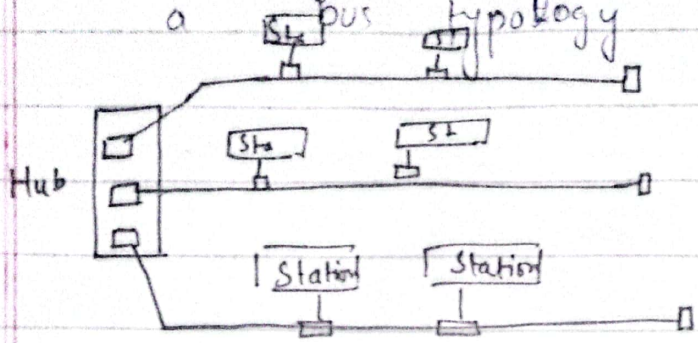
Hybrid Typology:-

A network can be hybrid. For example, we can have a main star typology with each branch connecting several stations in a bus typology as shown



Types of Networks

1- LAN (Local Area Network)

(school campus for example) are used to connecting devices within organization.

(mchs) → Coxial, Cat 5 cable used for connection

Data transfer rate is 10 to 100 mbs.

2. MAN (Metropolitan Area Network)

Design to extend over a large area.

Connecting number of LANs

to form Larger network, so resources can be shared.
Data transfer is low compare to LAN. (mbps)
Networks can be upto 5 to 50 kms. mbps

WAN (Wide Area Network)
Span large area that are used to connecting devices like city etc.
- Contains multiple LAN's and MAN's
- Uses satellites and microwaves relay
- Data transfer depends upon ISP provider.
- Internet is best example.

Other Types:-
Wireless LAN (WLAN)
A LAN that uses high frequency radio waves for communication. provides short range with high speed data transmition.

RJ stands "Registered jack".

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PAN (Personal Area Network)

Network organized by the individual user for its personal used

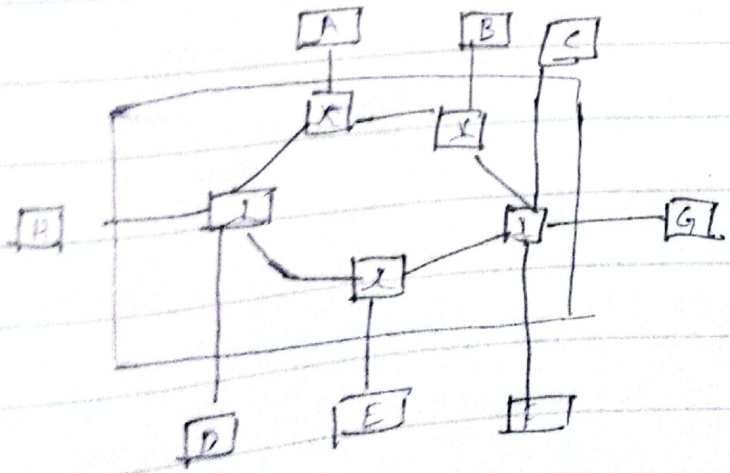
SAN (Storage Area Network)

Connects servers to data storage devices via fiber-optic cables.

Used for mirror copy.

Switched Network:-

A switched network consist of series of interlinked nodes called switches. Switches is a device capable of creating temporary connections between two devices.



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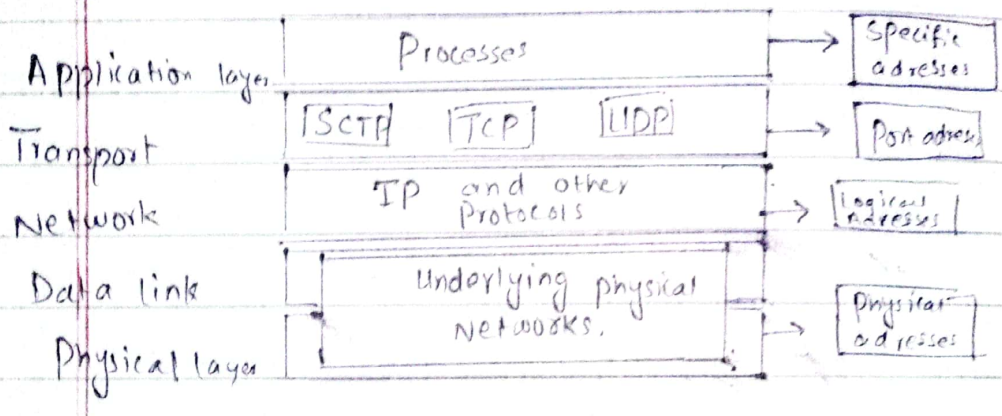
Types:-

- Circuit - Switched network
- Packets - Switched network
- Message - Switched network.

- Circuit switched network consist of set of switches connected by physical links.

Transmition control protocol/IP Model:-



Relationship of OS Layers and adresses in TCP/IP

(m(B)

Size of receiver window is same as the size of sender window 2^{m-1}.