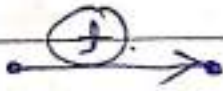



Computer networks criteria :

(i) Performance \rightarrow Transit time. 
 \rightarrow Response time. 

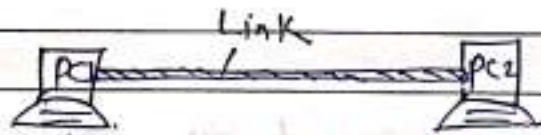
(ii) Reliability

(iii) Security

Type of Connections (Topology) :

(i) Point to point Connection :

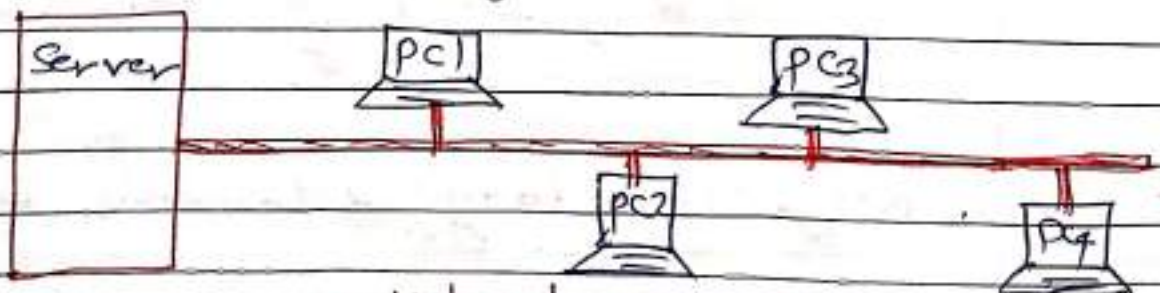
Dedicated Link b/n two devices.



point to point Connection.

(ii) Multipoint Connection : more than two

devices share a single link.



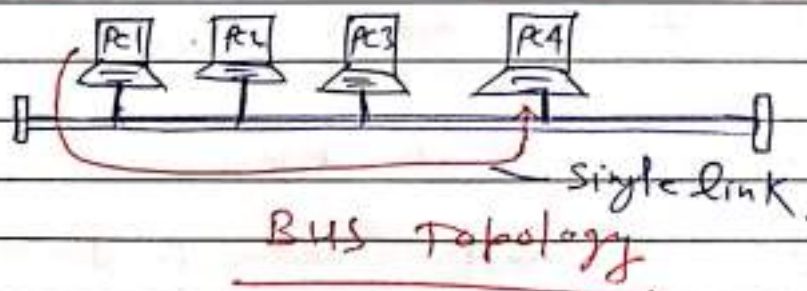
multipoint Connection.

Types of Network Topology:

Topology describes appearance of N/W.

i). BUS Topology:

- * multipoint connections
- * Easy to install, use for small N/W.
- * cheap.
- * Easy to expand.
- * slow speed as only one system can transmit at a time.
- * faulty cable bring down whole N/W.

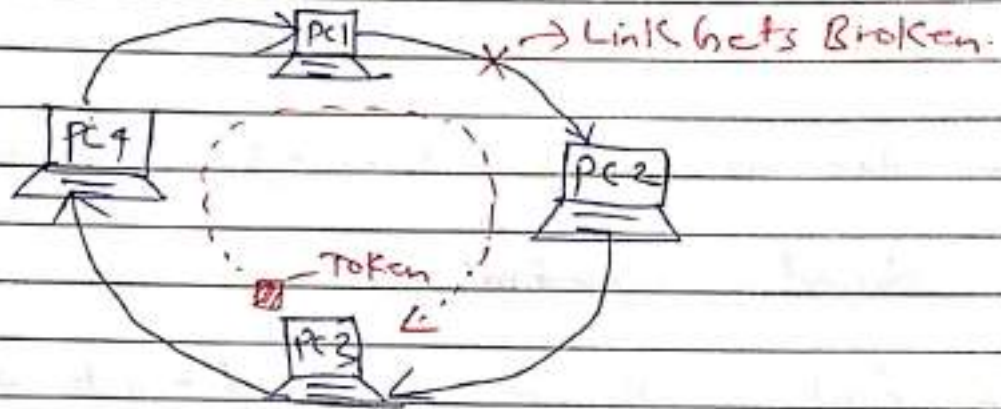


ii). Ring Topology:

- * In this each computer is connected to the first.
- * multipoint data communication.
- * Token passing is used.

* fault in any link disable entire network.

* Difficult to troubleshoot the ring.



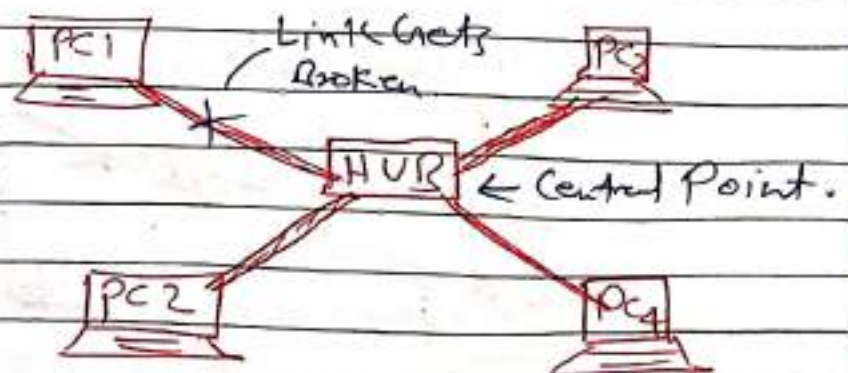
Ring Topology.

(iii) Star Topology! All the wires from the computers go to a central location having a device called HUB.

* All communication goes through HUB.

* If central HUB fails, whole N/W fails.

* Cabling cost is more



Star topology.

(iv) MESH Topology! * In this each

device has a dedicated point to point link to every other device.

* due to dedicated links, there's no traffic problems.

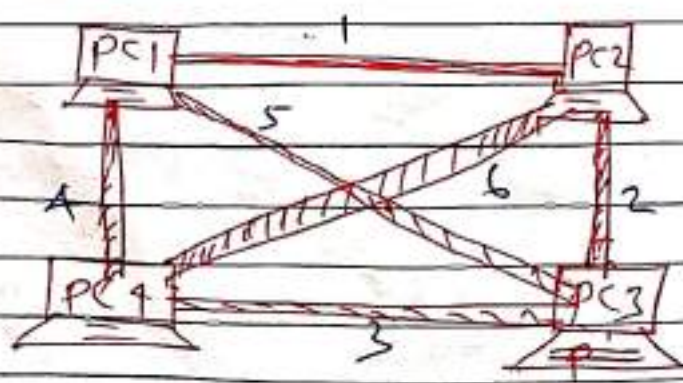
* Failure of one link doesn't affect entire N/W.

* more secure and private.

* Easy fault diagnose (point to point).

* Expensive due to higher cabling cost.

$$\left[\frac{n(n-1)}{2} \right] \text{ Link for } n \text{ devices}$$



n = 4 device

$$\frac{n(n-1)}{2}$$

$$= \frac{4(4-1)}{2}$$

$$= \frac{4(3)}{2}$$

$$= 6 \text{ Link.}$$

mesh topology

study time

Subject _____

Date: ___/___/___

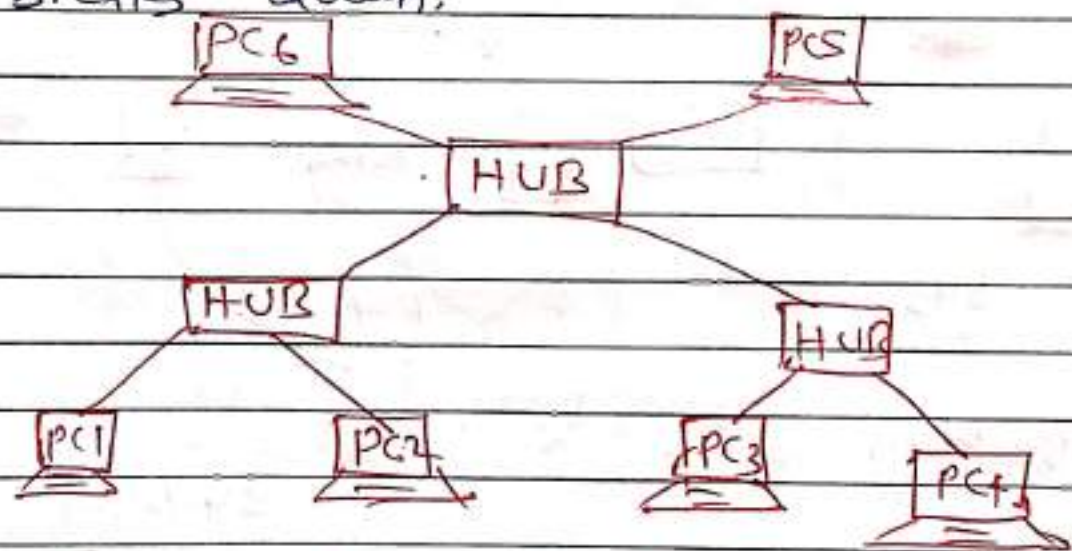
MON TUE WED THR FRI SAT SUN
□ □ □ □ □ □ □

(v) TREE Topology: * variation of STAR.

* Nodes in a tree are linked to a central HUB.

* Cabling Cost is more.

* on failure of central HUB, entire NW breaks down.



Tree Topology