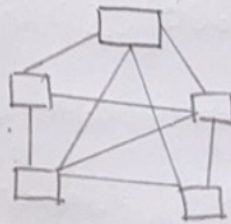
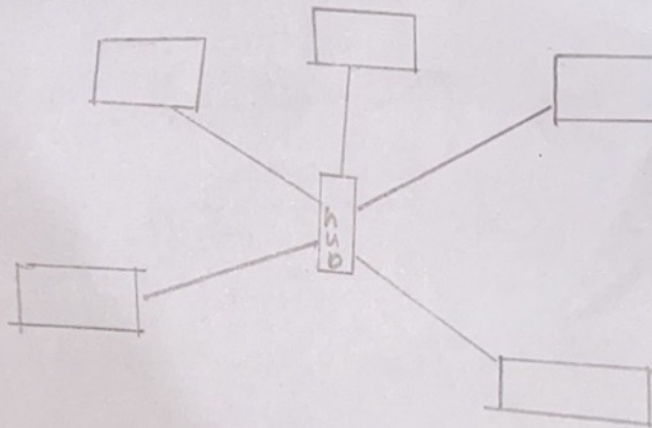


Ans to the Ques. No 1 (a)Mesh Topology :-

In mesh topology each device is connected to every other device on the network through a dedicated point-to-point link. Number of links in a mesh topology of n devices would be $n(n-1)/2$

Star Topology :-

In star topology each device in the network is connected to a central device called hub.

Unlike mesh topology, star topology doesn't allow direct communication between devices.

* for mesh topology number of links,

$$n(n-1)/2.$$

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so,

$$x = 6 + 1 = 7$$

$$y = 6 + 1 = 7$$

$$\begin{aligned}\therefore \text{for mesh topology} &= n(n-1)/2 \\ &= 7(7-1)/2 \\ &= 21\end{aligned}$$

for star topology we use HUB as a central node. All devices are connected to it. Hence, we need total (7) links to connect all nodes

* If I choose a secure topology between mesh and star, then I'll go for mesh topology. Because every node is connected to one-another. When is in star, there ~~are~~ central node connected by all the nodes; that's why mesh topology is more secure.

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Ans. to the Ques. No-1(b)

If I have a channel with 1000bps bandwidth then I'll choose half-duplex data flow. Because in half-duplex we can transmit data or receive but not simultaneously. That's why we.

faster bandwidth speed. So, ~~we~~ we
~~at~~ have already low bandwidth channel
cause of that we can use half-
duplex data flow.

One advantage and one disadvantage
of each of these two data flows.

* Both devices can send and
receive data. But in half
duplex mode other device can
not send data.

— ← —→ —

Ans. to the Ques. No. 2(b)

Flow Control: Flow control coordinates that amount of data that can be sent before receiving an acknowledgement.

* It is one of the most important duties of the data link layer.

* Flow control tells the sender how much data to send.

* Flow control techniques: stop and wait and sliding window.

Error Control:

Error control in

the data link layer is based on

ARQ ; which is the re transmission of data .

* The term error control refers to methods of error detection and retransmission.

* Every time an error is detected in an exchange specific frames are retransmitted. This process is ARQ.

Ans. to the Ques-No 2 (a)

Mesh topology is a type of networking where all nodes cooperate to distribute data among each other.

It can be received more quickly if the route to the route recipient is short, this topology does not cause a break in the network on transmission of data.

Now, as given,

$$x = (6)^4 \bmod 6.$$

$$y = (6+1) \bmod 6$$

$$= 7 \bmod 6.$$

1. $x =$

Ans to the Ques. No-4(b)

Throughput is an actual measure of how much data is successfully transferred from source to destination and bandwidth is a theoretical measure of how much data could be transferred from source to destination. Throughput measures speed while bandwidth is only indirectly related to speed.

Ans. to the Ques No-

u (y)

$$x = 1 + 6 + 1 = 7$$

$$y = 6 + 1 = 7$$