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Pa-1

Ans to the Q.no-4 (a)

My id is 18101026 then

X = 6+1 = 7 - Bandwidth = 7 MHz

Y = 2+1 = 3

We have a channel with 7 MHz bandwidth.
the SNR for this channel is ~~10*3 = 30x10 = 900~~.

SNR = 10 x 3 (3 x 10) = 900

Bite rat = $7 \times \log_2(1+900)$

$= 7 \times \log_2(901)$

$= 7 \times 9.82$

$= 69$ MbPS.

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32 MbPS $= 2 \times 7 \times \log_2 L$

$\Rightarrow 32^{mbps} = 14 \times \log_2 L$

$L \Rightarrow 8$

single level $L = 8$.

Bit rat = 69 MbPS

Bitrate is commonly measured in bits per second.
Single level means that the analysis carried out at one level - typically level.

Ans to the Q.no - 4 (b)

Bandwidth	Throughput
1) Data capacity of a channel which can be transferred in specific period of time	1) Data transferred over a specific period of time
2) Measurement unit is Bits	2) Measurement unit is Bits per sec.
3) To transfer data	3) to communicate
4) Physical Layer of OSI model	4) Any layer of OSI model.

4)

Bandwidth provides with a theoretical measure of the maximum number of packets that can be transferred. Throughput is the number of packets that are actually being successfully transferred. So, we can say that, throughput is more important than bandwidth as a measure of network performance.

Ans. to the Q.no - 1(a)

My id is 18101026

$X = 6+1 = 7$

$Y = 2+1 = 3$

mesh network $= 7(7-1)/2$

$= 42/2$

$= 21$

One room has X computers connected with mesh topology. $X = 7(7-1)/2$

$= 42/2$

$= 21$

21 links I will need mesh ~~topo~~ topology.

A mesh network with n nodes has $n(n-1)/2$ links. Hence n is 7. A node has $n-1 = 7-1$ $= 6$ I/O ports links.

Aq-5

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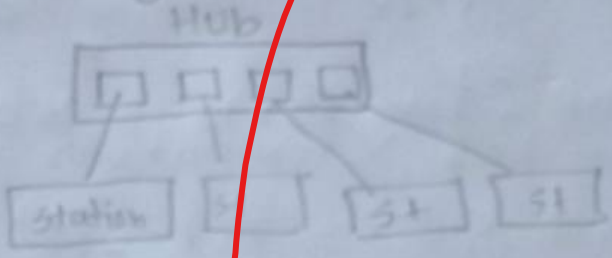
then other room has Y computers connected with star topology

Y is 2+1 = 3 ✓

this star topology is point-to-point link only to a central controller.

Starco topology is more secure network.



Because, Hub acts as an exchange no direct traffic between device.

less expensiv, robust. dependency of the whole on one single point, the hub.

Ans to the Q no-1 (b)

Half - Duplex advantage -

1) Both devices can send and receive data.

Half - Duplex disadvantage -

1) the other device cannot send data until it receives the data which is already in transmission.

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Full - Duplex advantage -

1) No delays in communication as both can send and receive data simultaneously.

Full - Duplex disadvantages -

1) No proper bandwidth utilization as the same line. like a two-way street.

Pa-7.

I want to communicate my friend with 1000 bps bandwidth. I can choose ~~half~~ full duplex data flow. Because -

1) Transmit and receive simultaneously.

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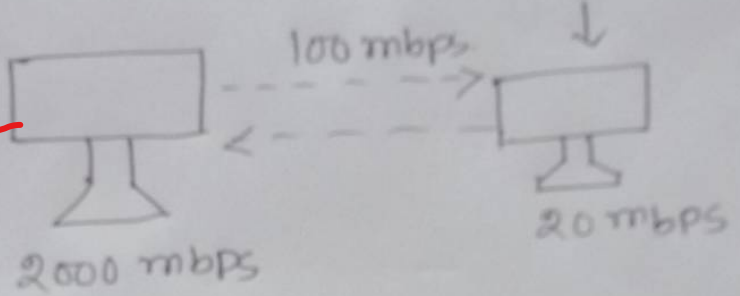
2) like a two-way street, telephone network.

3) channel capacity must be ~~do~~ divided between two directions.

Ans. to the Q.no-2 (b)

flow control:

flow control is data link layer. transport layer is responsible for flow control layer. It performed transport end to end rather than across a single ling.



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Error control layer:

process to process rather than across a single link layer. The sending transport layer makes sure that the entire message arrives at the receiving transport layer without error.