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sec : A
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Answer to the Que. No (1). (a)

One room has x computers connected with mesh topology and other room has y computers connected with star topology.

My ID is 18101024

$\therefore x = 4+1 = 5$

$y = 2+1 = 3$

In mesh network $= 5(5-1)/2$

$= 20/2$

$= 10$

so mesh topology we will need 10 links.

In star topology we will need only one link which is connected 3 computers. This one link called hub or central controller.

If i were to choose between these two topologies for a more secure network, I choos star topology. Because star

topology is less expensive and can be robust. In this star topology we can connect a huge number of node with a single link. Using hub we can create a secure network easily.

Answer to the Que. No. (1).(b)

I have a channel with 1000 bps and I choos full-duplex data flow for my communications.

One advantages and one disadvantage of half-duplex data flow is given below:

Advantages:

(1). Both transmit and receive can possible

Disadvantages

(1). At a time only one signal transmits.

One advantage and one disadvantage for full-duplex is given below:

Advantage:

(1). - Full-duplex speed is high rather than other two.

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DisAdvantage:

(1). capacity divided between two directions.

Answer to the Que. No. (4). (a)

My ID is 18101024

Bandwidth = 4+1 = 5 MHz

$x = 4+1 = 5$

$Y = 2+1 = 3$

SNR = $10 \times 3(3+1)$

= 900

5

$C = 5 \times \log_2(1+900)$

$= 5 \times \log_2(901)$

$= 5 \times 9.82$

= 49 Mbps

P. T. O

$32\ \text{MbPS} = 2 \times 5 \times \log_2 L$

$\Rightarrow L = 4$.

∴ Bit rate is 49 MbPS and signal Level 4.

Answer to the Que. No. (4).(b)

The difference between bandwidth and throughput is bandwidth refers the theoretical rate of speed ~~which~~ can of data. Bandwidth measure how much data can be transferred from source to destination. On the other hand throughput is the actual rate of speed of data. Throughput measures ~~speed~~ ~~it~~ how much data successfully transferred from source to destination.

Answer to the que. No. (2). (a)

ID = 18101024

$x = (4)^2 \bmod 6$

$= 16 \bmod 6$

$= 4$

$y = (4+1) \bmod 6$

$= 5$

6	16 / 12	2
	4	

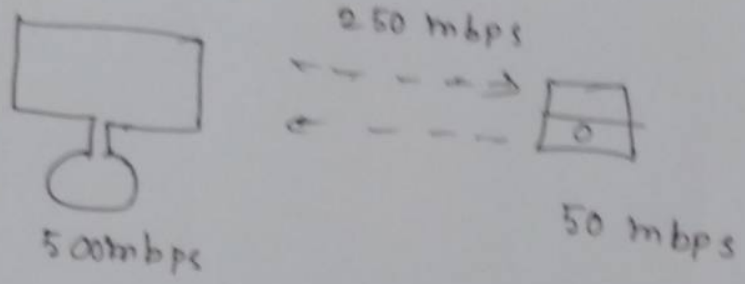
4

Senden Mac	Receiven Mac	Senden IP	Receiven IP	Port Senden	Port Receiv	Data	Trace
		4	5	6000	7000	data	Trace

Answer to the Que. No. (2). (b)

Like Data link layer error control and flow control are also performed in transport layer in end-to-end rather than on single link.

~~Flow control link~~



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Error control performed process to process rather than across a single link. The single transport layer ensure the message arrives in receiving transport without any error like damage, loss etc.