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Ans: to the Ques: NO-01-(a)

Here, ID = 1810104S

$x = 5+1 = 6$

$y = 4+1 = 5$

One room has $x = 6$ computers connected with mesh topology.

Other room has $y = 5$ computers connected with star topology.

For mesh topology,

number of devices, $n = 6$

$\therefore$ total links $= \frac{n(n-1)}{2} = \frac{6(6-1)}{2} = \frac{6.5}{2} = 15$

For star topology

$n = y = 5$

here number of links required to

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6 connect them is equal to n.

∴ total links = n = 5.

If I were to choose between these two topologies for a more secure network I would prefer star topology.

Because —

- Each node is connected independently to the central hub.
- If one connection fail the others may continue. so, there are no means of disruption.
- For being the functioning unaffected it is ~~the~~ quite stable rather than others.

— for this reason. I would prefer star topology for a better secure network.

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Ans: to the Qus: NO-01-(b)

Here, I can choose either half-duplex or full duplex data flow.

One advantage and one disadvantage of these two are given below —

- Half-duplex :
  - * transmit an receive both can be possible
  - * ~~disadvantage~~ disadvantage is transmission a receive can not be simultaneously

- Full-duplex :
  - * transmit and receive both can be possible simultaneously.
  - * disadvantage is no proper bandwidth utilization is used for sending and receiving data at the same time as the same line.

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Ans° to the Ques: NO-02(a)

Here,

~~PCX~~ = P. ID = 18101045

$X = 5^2 \bmod 6$

$= 25 \bmod 6$

$= 1$

$Y = (X+1) \bmod 6$

$= 2 \bmod 6$

$= 2$

∴ I will be in PCX = P1

my friend will be in PC2

Port address →

for PCX = 6000

PCY = 7000

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50, PC1 → B ; PC → C

PC1, B, A, C

receiver	sender	
A	B	MAC of B | MAC of A | IP of B | IP of C | 6000 | 7000 | Data | trailer
F	A	MAC of A | MAC of F | IP of B | IP of C | 6000 | 7000 | data | trailer
E	F	MAC of F | MAC of E | IP of B | IP of C | 6000 | 7000 | data | trailer
D	E	MAC of E | MAC of D | IP of B | IP of C | 6000 | 7000 | data | trailer
C	D	MAC of D | MAC of C | IP of B | IP of C | 6000 | 7000 | data | trailer

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Ans: to the Que: NO-02-(b)

Data link layer is responsible for moving frames from one hope to the next. Whereas Transport layer delivers message from one end to the other. So its working criteria is from one end to the other end like Error control and flow control. Both layer do the same but one is for end-to end and the other is for single link.

4 —— So this is all about the explanation.

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Ans: to the Ques: no. 04

a

$X = 5 + 1 = 6$

$Y = 4 + 1 = 5$

Bandwidth, $B = X = 6$

SNR = ~~40~~ $10 \cdot Y$

$= 10 \times 5 = 50$

Bit rate = ?

Signal level = ?

Bit rate $= 2 \times B \times \log_2 L$

$= 2 \times 6$

$C = B \log_2 (1 + SNR)$

$= 6 \log_2 (1 + 50)$

$= 6 \log_2 51$

$= 92.12$

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We will use 92

$$92 = 2 \times 6 \times \log_2 L$$

$$\log 2^L = 7.62$$

$$L = 203.2$$

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$$\therefore \text{Bit rate} = 2 \times B \times \log_2 L$$

$$= 2 \times 6 \times \log_2 L$$

$$= 234.03$$

(Ans)

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(b)

Difference ——

* Bandwidth is range of frequency
  throughput is how fast it process
* Bandwidth is can measure in hertz or bit/sec
  throughput is the measurement of its speed.

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throughput can be greater than or bandwidth. as it is the measurement of how fast the data is sending.