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SEC: A

SEMESTER: 3rd Year 15+ semester

DEPT. : CSE

ROII NO: 032

Subject: Data Communications

Subject Code: 05% -303.

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Ans. to. ques. no. -01(a)

My ID is: 18101032.

So,
$$x = (2+1)$$

= 3
 $Y = (3+1)$
= 4

- 30, 3 comporter connected with mesh topology and 4 computer connected with start topology.
- :. For mesh topology links needed = $\frac{n(n-1)}{2}$ = $\frac{3(3-1)}{2}$

Force Starce topology Connection links needed = 4.

. For mesh topology we needed 3 links and for star topology we needed 4 links.

Between Mesh and stark topology, Mesh is more secure than stark topology. Because In Mesh topology each node is connected with others. Theirs is no need of any third party entry. If we want to send data from A node to B node, it will send directly from A node to B node. But in the stark topology, their heeded a central hub by which every node is connected. So, In stark theirs is a third party entry which may causes tack of data security.

Ans. to. quesino. - o1(b)

Half-duplex: In the half-duplex mode

Both transmit and trecieve possible, but
not at the same time.

Advantage: As, we are communicating one way, so their is no possibility to data trafic and less possibility to make noise.

Disadvantage! We can communicate only one way at a time. It can dropped packet.

Full - gablex:

Advantage! Transmit and recieve at the same time. Fewere network block.

Digadvantage! If we want to communicate with the bandwith theirs on possibility to make noise.

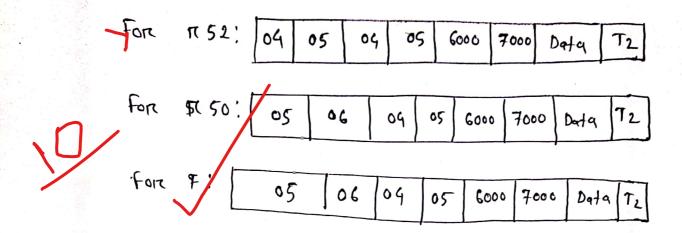
Ans. to. ques. no. - 02 (a)

My ID is: 18101032

: x = 2 mod 6 = 4 mod 6 = 4 Y = (4+1) mod 6 = 5 mod 6 = 5

So, I will be in PC4 and my freiend will be in PC5.

FOR E: 01 62 04 05 6000 7000 Data T2



Ans.to. ques.no. - 02(b)

As, Transport layer is responsible for delivery of a message from one process to another process, their also needed to check the error and flow of the data. As, it is an process to process connection, it is work on end-to-end connection. But in the data link layer is responsible for moving frames from one hop to the next hop. So, data link layer work on a single link. As flow-control and error-control are also performed in transport layer but in end-to-end rether

than single link as it is tresponsible force process-to-process message delivery.

Flow control: Flow control in transport
later & is like data link later. But the
later is performed end-to-end trather than
across a single link because transport layer
works on process-to-process packet delivery.

ETETTOR CONTITO!: Like data link layer. But

the layer is pereforemed process-to-process(

end-to-end) mathem than across a single link, ETETTOR

connection is usually acheived through metransmission.

Ansito. quesino, -03(a)

My ID is: 18101032

: X = 32 km

... The loss in the cable in decible is (-0.3x32) dB =-9.6 dB

We know, $\frac{P_2}{P_1} = 10 \cdot 10^{10} \cdot 10^{10}$ $-9.6 = 10 \cdot 10^{10} \cdot 10^{10}$ $\frac{P_2}{2} = -0.96$ $\frac{P_2}{2} = 10^{-0.96}$ $\frac{P_2}{2} = 0.10965$ $\therefore P_2 = 0.2193 \text{ mW}$

1. In 32 km -the power is 0.2193 mW.

Ans. to. quesino. - og (b)

We know that, for the noisy channel we use shannon's law. To shannon's law is

Capacité = bandwith x 1082

Here SNR is sound-to-noise Ratio. Herre, in capacity means the highest value that we can have in the bandwith, that means the upper limit of the signal.

We know that, for noiseless channel we use Nyquist formula: The Nyquist formula

is: 13:+ Rate = 2x bandwith x log_

Herre, L= number of level.

The numbers of level is the power of 215 valve. That means 2,4, 8, 16, 32, 64, ---.

from the shannon law we get the capacity on the highest bit mate. By using this bit mate on less than this bit mate, we can know the level from the Hyquist formula.

