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Sec: A

course code: CSE 303

Ans to the question - 1

(a)

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Here, $x = 7 + 1 = 8$

$$y = 1 + 1 = 2$$

∴ Mesh topology has,

$$\begin{aligned} \text{we know, } &= n(n-1)/2 \\ &= 8(8-1)/2 = 28 \end{aligned}$$

for, Star topology, $= n$
 $= 2$

★ For more secure network mesh topology is better than star topology.

②

Star and mesh topology are the types of the topologies where star topology comes under peer-to-peer transmission and mesh topology work primarily - secondary transmission.

~~The~~ It is said that Star topology is very easier to install, comparatively low cost, complexity simple but the functioning of the system highly depends upon the central hub. *
on the other hand, mesh topology is more costly but provides privacy and security with the point-to-point links.

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(b)

Advantages of Half-Duplex:

① Both devices can send and receive data, whole bandwidth can be utilised as at a time only one signal transmits.

Dis Advantages:

① The disadvantage in Half-duplex mode is that the other device cannot send data until it receives.

Advantages of full duplex:

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

4 Disadvantages:

① No proper bandwidth utilization as the ~~same~~ same line is used for sending and receiving data at the same time.

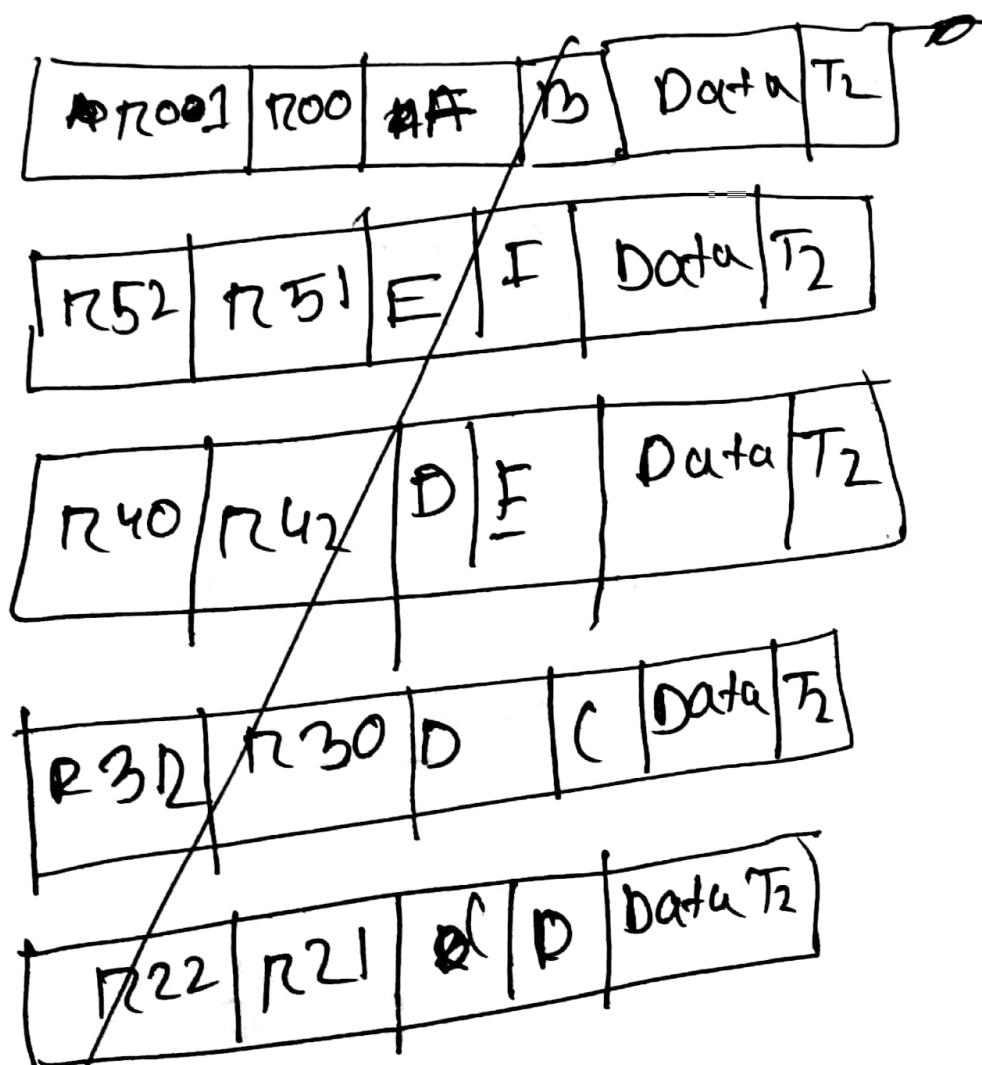
Amotative Question-2

a

Here, $X = (7)^{\sqrt{}} \bmod 6 = 1$

$Y = (1+1) \bmod 6 = 2$

2



R10	R10	PC1	B	DATA	T2
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R21	R22	PB	C	DATA	T2
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b

* Transport layer also perform Error control and flow control.

Error control:

Transport layer checks for errors in the messages coming from application layer, by using error detection code. It also ~~uses~~ end-to-end and uses ACK and NACK Service.

2 Flow control: - The transport layer provides a flow control mechanism between the adjacent layers of the ~~TCP/IP model~~ ~~OSI model~~ TCP/IP model. TCP also control prevents data loss by imposing some flow control techniques.

Answer to the question - 4

(a)

$$X = 2 + 1 = 3$$

$$Y = 1 + 1 = 2$$

Here, channel = 8 MHz

$$SNR = 10 \times 2 = 20$$

First, we use Shannon formula,

$$C = B \log_2 (1 + 20)$$

$$= 8 \log_2 21 = 35 \text{ Mbps}$$

Signal level,

$$35 = 2 \times 1 \times \log_2 (2 \times 2) = 35$$

(b)

Bandwidth refers to data capacity of a channel. It is defined as the potential of data ~~what~~ which can be transferred in specific period of time.

* throughput refers to measurement of data transferred in a specific time period.

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