

An to Q1: 1-(a)

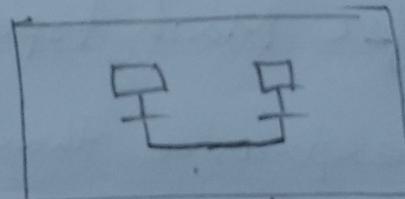
14/2019 01

$$X = 1 + 1 = 2$$

$$Y = 0 + 1 = 1$$

1st room have 2 computer

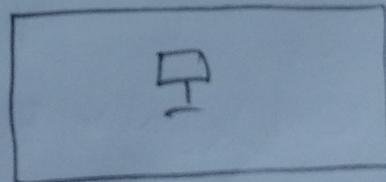
2nd room have 1 computer



1st room

Mark

1 link need here for Mark topology



2nd room

Star topology

no link needed here for star topology

①

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Ans to Qn. 1 (b)

P-4

Half duplex Advantage is it provide unidirectional and one way transmit

Half duplex disadvantage is it does not both transmit at the same time

full duplex Advantage:

It provide transmit and receive simultaneously

disadvantage:

It is costly than the half duplex

Ans to 2(a)

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$$Id = 14201901$$

$$\therefore x = 01$$

$$x^2 y \cdot 6 = 01$$

$$Y = 1 + 1 = 2$$

Sender PC = PC₁

Receiver PC = PC₂

Port of PC₁ = no 1 = Sender port B

" " PC₂ = no 2 = Receiver port C

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Sender MAC	Receiver MAC	Sender IP	Receiver IP	Port on sender process	Port on receiver process	Date	Trailer
MAC of B	MAC of R0	IP of B	IP of C	R01	R02	1/1	"
MAC of R0	MAC of R11	IP of B	IP of C	R01	R02	1/1	4.
MAC of R11	MAC of R21	IP of B	IP of C	R01	R02	1/1	4
MAC of R21	MAC of R20	IP of B	IP of C	R01	R02	1/1	"
MAC of R21	MAC of R20	IP of B	IP of C	R01	R02	1/1	4
MAC of R20	MAC of C	IP of B	IP of C	R01	R02	1/1	"

A_n to Q_i: 2-b

Data Link layer send data after add header and trailer. Data link layer add trailer for error detection. If trailer is ok than data is ok So data link performed error control

Transport layer send data add logical Address and physical Address of sender and Receiver so transport layer make source to our data address factor. So transport Layer performed data flow control

Ans to Q(a)

ID: 14201901

$$X = 1+1=2$$

$$Y = 0+1=1$$

bandwidth, $B = 2 \text{ MHz}$

$$\text{SNR} = 10 \times 1 = 10$$

we know about Nyquist Bit Rate

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

$L = \text{Signal Level}$

and

Shannon Capacity,

$$C = B \times \log_2(1+\text{SNR})$$

$$= 2M \times \log_2(1+10)$$

Mesh topology better provide security than Star topology.
because Mesh topology provide 1 to 1 connection but star topology is not like that. So I prefer Mesh topology though it is expensive than star topology.

Let

Bit rate = 9 MHz because maximum capacity is 6 MHz. So if we consider noise less bandwidth than 4 MHz best bit rate

$$4M = 2 \times 2M \times \log_2 L$$

$$1 = \log_2 L$$

$$L = 2^1 = 2$$

∴ appropriate bit rate = 9

Signal Level = 2