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id: 12 sec: (4)

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Ans. to the Q. no 1

Q. My id is = 18101012

$$\text{So, } X = 2 + 1 = 3$$

$$\text{and } Y = 1 + 1 = 2$$

For mesh topology.

6 we need, $\{n(n-1)/2\}$

$$= \{3(3-1)/2\}$$

$$= 3 \text{ cable link}$$

For star topology

we need $y = 2$ cable link

3 According to the security level

3 I prefer to mesh topology is

Best.

Ans. to the Q. no 1 (b)

My channel with 1000 Mbps bandwidth
my choose half duplex data flow
communication.

(i) Like a one lane road with two
directional traffic.

(ii) Both transmit and receive possible
but not at the same time.

Advantages and Disadvantages of Flowchart.

Advantages:

(i) communication: Flowcharts are better
way of communicating the logic of
a system to all concerned or
involved.

(ii) Effective analysis: with the help
of flowchart problem can be analysed
in more effective way therefore
reducing cost and wastage of time

Disadvantage

complex logic: sometime the program logic is quite complicated. In that case flowchart becomes complex and clumsy.
Reproduction: As the flowchart symbols cannot be typed reproduction of flowchart becomes a problem.

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Ans. to the Q. no 2 (a)

my id is 18101012

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

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

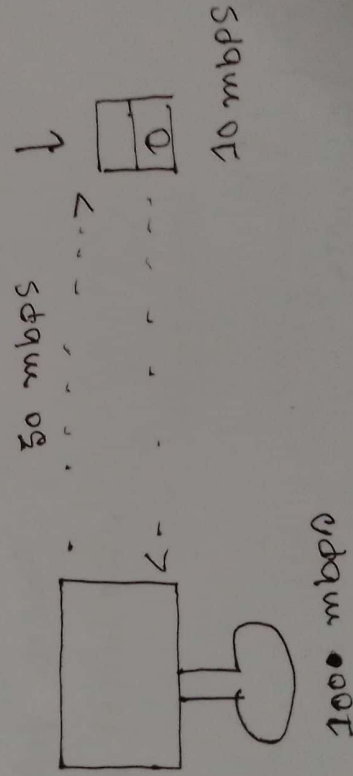
$$1 = \cancel{8} \bmod 6$$

$$= 2$$

Ans. to the Q. no 2 (b)

Error control and flow control are also performed in Transport layer:

Flow control: Flow control like as data link layer, transport layer is responsible for flow control, flow control is performed end to end rather than across a single link



Error control: Error control at this layer is performed process to process rather than across a single link. The sending transport layer makes sure

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that the entire message arrives at the receiving transport layer without error (damage, loss, duplication). it is usually achieved through retransmission.

services

→ connection oriented

⇒ connectionless

protocols

→ Transmission control protocol (TCP)

User Datagram protocol (UDP)

UDP	TCP
Fast	Slower
no feedback	feedback provides
video games	www, FTP

Ans. to the Q. no. 4

Q. My id is 18101012

$$x = 1 + 1 = 2$$

$$y = 2 + 1 = 3$$

Here.

$$\text{SNR} = 10 \times 3 = 30$$

$$\text{Bandwidth} = 2 \text{ MHz}$$

Now,

$$\begin{aligned} C &= B \log_2 (1 + \text{SNR}) \\ &= 10^6 \log_2 (1 + 30) \\ &= 10^6 \log_2 31 \\ &= 4.9 \text{ Mbps} \end{aligned}$$

the Shannon formula gives us ~~4.9~~ ^{4.9} Mbps

The upper limit. For better

performance we, choose something lower 3.0

Then we use the Nyquist formula
to find the number of signal levels

$$\text{Bit rate} = 2 * \text{bandwidth} * \log_2 L$$

$$2 \text{ Mbps} = 2 * 1 \text{ MHz} * \log_2 L$$

$$L = 3$$

Ans to the Q. no 4 (b)

Bandwidth	throughput
To transfer data	To communicate
Physical layers of OSI model	Any layers of OSI model
No Dependency	Dependent on latency
Speed of water coming out of tap in particular time	Actual water flown out of tap in particular time
Bits	Bits per sec