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"Mid Term Exam"

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Ans-to-the-Q-No-1 (a)

Protocol: A protocol is a set of rules and guidelines for communicating data. Rules are defined for each step and process.

Ans-to-the-Q-No-1 (b)

Throughput: Throughput is a measure of how many units of information a system can process in a given amount of time.

Ans-to-the-Q-No-1 (c)

In the ring topology, if one of the stations is unplugged the full topology stops instantly.

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Ans-to-the-Q-No-1(d)

In two way communication, whenever a frame is received, the receiver waits and does not send the control frame back to the sender immediately. The receiver waits until its network layer passes in the next data packet. The delayed acknowledgement is then attached to this outgoing data frame.

This technique of temporarily delaying the acknowledgement so that it can be hooked with next outgoing data frame is known as piggybacking.

Ans - to the Q No-1 (e)

A wide area network (WAN) is the technology that connects your offices, data centers, cloud applications and cloud storage together.

Ans - to the Q No-2 (e)

In circuit switching network resources (bandwidth) are divided into pieces and bit delay is constant during a connection. The dedicated path/circuit established between sender and receiver provides a guaranteed data rate. Data can be transmitted without any delays once the circuit is established.

Telephone system network is one of the example of circuit switching. TDM (Time Division Multiplexing) and FDM (Frequency Division Multiplexing) are two methods of multiplexing multiple signals into a single carrier.

Drawbacks:

- a) Inefficient use of resources.
- b) Limited scalability.
- c) Vulnerability of failures.
- d) Delay and latency.
- e) High cost.
- f) Limited mobility.
- g) High setup time.

Ans-to Q-No-2 (b)

The reasons for moving from stop and wait
 and go back NAG protocol. In
 Stop and Wait ARE, the sender needs to stop
 and wait for acknowledgement to each data
 frame that it has sent to the receiver
 when the sender sends a data frame to
 the receiver it starts timer.

Reasons -

- ① More efficient is Go Back NARE Protocol.
- ② Uses Pipelining.
- ③ More safe.
- ④ More active.

For these reasons, Stop and Wait and Protocol

moves to Bro Back and NARE Protocol.

Ans-to-the-2-No-2(C)

Routing and Forwarding are the two network core functions. Routing is responsible for constructing a forwarding table from topological information. Forwarding is responsible for using the forwarding table to send the packet out to the ~~the~~ next hop.

Routing: Routing algorithm that part of the network layer responsible for deciding on which output line to transmit an incoming packet adaptive.

Adaptive Routing based on bandwidth measurement of traffic and topology.

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centralized, isolated, distributed;

Non-adaptive Routing -

- a) Flooding b) Static routing.

Forwarding:

A forwarding information base (FIB), also known as a forwarding table or MAC table, is most commonly used in network bridging, routing, and similar functions to find the proper output network interface controller to which the input interface should forward a packet.

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Ans. to Q. No. 3(a)

In packet switched networks, there are four types of commonly identified delays - processing, queuing, transmission and propagation delays. Processing delay is the CPU cycles needed to look at the packet headers and decide what to do with the packet, and do it - basically the time needed to process the packet. Details here -

① Transmission Delay :-

The time taken to transmit a packet from the host to the transmission medium is called Transmission delay.

② Propagation Delay:

After the packet is transmitted to the transmission medium, it has to go through the medium to reach the destination. Hence the time taken by the last bit of the packet to reach the destination is called propagation delay.

③ Queueing delay: The packet has to wait in a queue in something called a buffer. So the amount of time waiting in a queue is called queueing delay.

④ Processing delay: There is some delay in the processing. It is called processing delay.

Ans-to-the-Q-No-3(b)

How do the delay occur:

Here is the delay occurring process. There is a packet data always transmits through a medium. After sometimes there is some problems occurs. Then it's starts to delaying. There is some process of delaying. After doing some maths and processes all the problems can be identified.

How do the loss occur:

The definition of causes of loss can vary depending on the type of insurance

policy purchased. A commercial property insurance policy may cover losses caused by fire, vandalism or theft. An auto insurance policy may cover losses caused by a collision or a mechanical breakdown.

Ans to the Q-No-3 (e)

These are the differences between omnidirectional waves and unidirectional waves.

Omnidirectional waves	Unidirectional waves
a) Does not require position adjusting when the network changes.	b) Requires position adjusting when the network changes.

Omnidirectional waves

Unidirectional waves

b) Generally better in urban areas.

b) Generally better in rural areas.

c) Generally lower gain.

c) Generally higher gain.