

(b) A Sine wave has a frequency of 135 Hz. What is its period?

Marks 02
CLO 1

(Q1a)

(1) Ring Topology has unidirectional movement of Traffic.

(2) set of rules that govern communication is called Protocol.

(3) Reliability of a network is the frequency of failure and network recovery time after a failure measured.

(4) ASK, PSK, FSK, and QAM are all examples of Digital Modulation.

(5) Data Synchronization is a function related with physical layer.

(6) The physical layer changes bits into electromagnetic signal.

(7) The information to be communicated in a network is called the Message.

(8) Mesh Topology require the maximum number of I/O ports.

(9) A signal that repeats itself is a Periodic Signal.

(10) A 56K modem can ~~down~~ download at a rate of 56.6 Kbps and upload at a rate of 33.6 Kbps.

(11) in Mesh Topology if there are five nodes then there will be 10 links.

(12) when data is transmitted from device A to device B using internet model, the header from A's layer 4 is read by B's Transport layer.

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(13) ADC (Analog to Digital) device will convert an analog signal to a digital signal.

(14) Frequency spectrum is a collection of all the component frequencies.

x — x — x — x — x — x — x — x — x

Q2 (a1) How are frames different from packet?
Explain with example?

Ans. Different b/w frame and packet is that frame is the serial collection of bits, and it encapsulates packet case the fragment from of data and it encapsulates.

Data link layer perform framing process.

Example: frame.

(i) A particular example of a frame in the Ethernet frame.

(ii) HTML frame are used to divided the web browser window into multiple section where each section can load separately.

(iii) The example of illustrates the col attribute of frame set tag.

Example packet:

Every web page that you receive comes as a series

of packed, and every e-mail you send
beaves as a series of packet, The packet
carry that Data in the protocol that the
internet uses Transmission Control protocol
internet protocol (TCP/IP)

x — x — x — x — x — x — x — x — x

Q2(a2) A phone line being Analog Can we
Send Digital Data on phone Line?
Support your Answer with Example.

Ans. Analog line Also referred to as POTS
(plain old telephone service) support
phones. Fax Machine and Modem these are
indicators that the phone and the line
are Digital.

A word of caution through Digital lines
carry lower voltages than Analog lines
they still pose a threat to your
Analog Equipment.

x — x — x — x — x — x — x — x — x

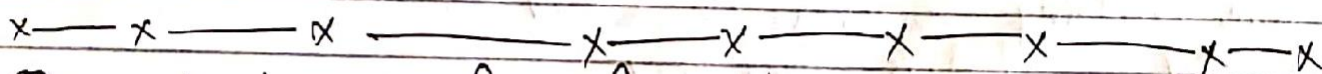
Q2(a3) Give some Detail about fault tolerance,
which network Topologies have Fault
Tolerance Capability?

Ans. Mesh Topology.

① Dedicated point-to-point links to every other
Device

(ii) one of the component fails there is always an Alternative present.
So Data Transfer ~~does~~ doesn't get affected.

(iii) Mesh Topology the other component connection will still be working if one connection fails.



Q2 (a4) How is logical addressing different from physical addressing?
Support your answer with example?

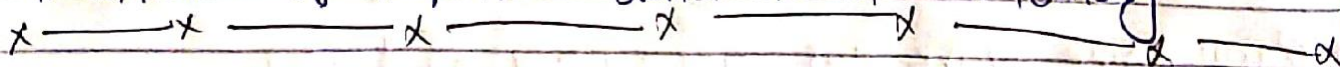
Ans. The physical address is the local address of a node,

It is used by the data link layer to deliver data from one node to another within the same network.

The logical address defines the sender and receiver at the network layer and is used to deliver messages across multiple networks.

Example: The hardware called memory management unit is used for mapping logical address to its corresponding physical address.

Physical address identifies a physical location of required data in a memory.



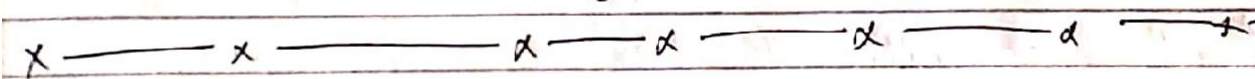
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Q2 (a) A local telephone company wants to connect to LANs in all its offices throughout a city. For this case which network category would be used?

Ans: A Local-Area Network (LAN) is a computer network that spans a relatively small area. Most often a LAN is confined to a signal room, building however, one LAN can be connected to other LANs over any distance via telephone line and radio waves.

A system of LANs connected this way is called a wide-area network (WAN).

Typically a WAN consists of two or more local-area networks (LANs) and are often connected through public network.



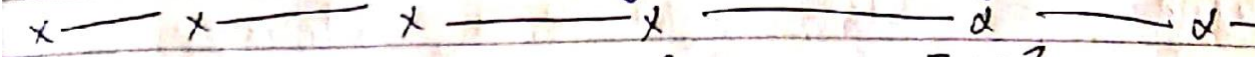
Q3 (a) Consider the following network, how many hops will it require for data to reach from node A to node J.

Ans: - 3 hops will require for data to reach from Node A to Node J.

1 from END-system A to router B.

2 from router B to router I.

3 from router I to END-system to router J.



Q3 (b) A sine wave has a frequency of 138 Hz. What is its period?

Ans: given formula $T = \frac{1}{F}$
 solution: $T = \frac{1}{138}$

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$T = 0.0074 \text{ SEC}$