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Subject

Computer Communication Network

Instructor

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Semester

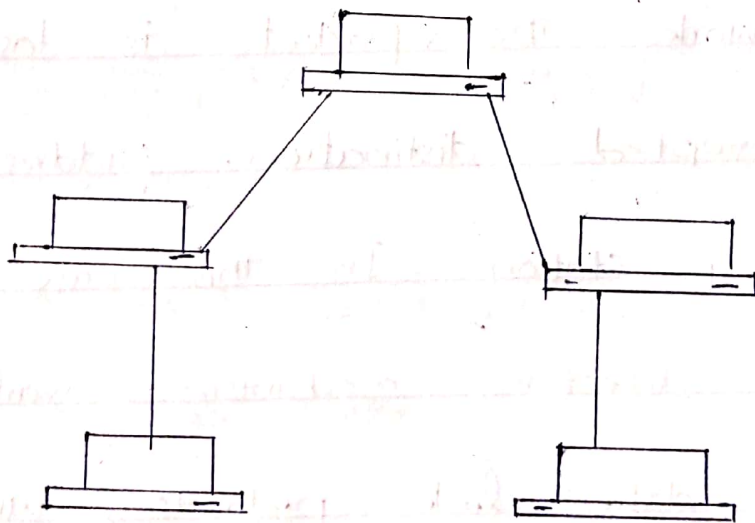
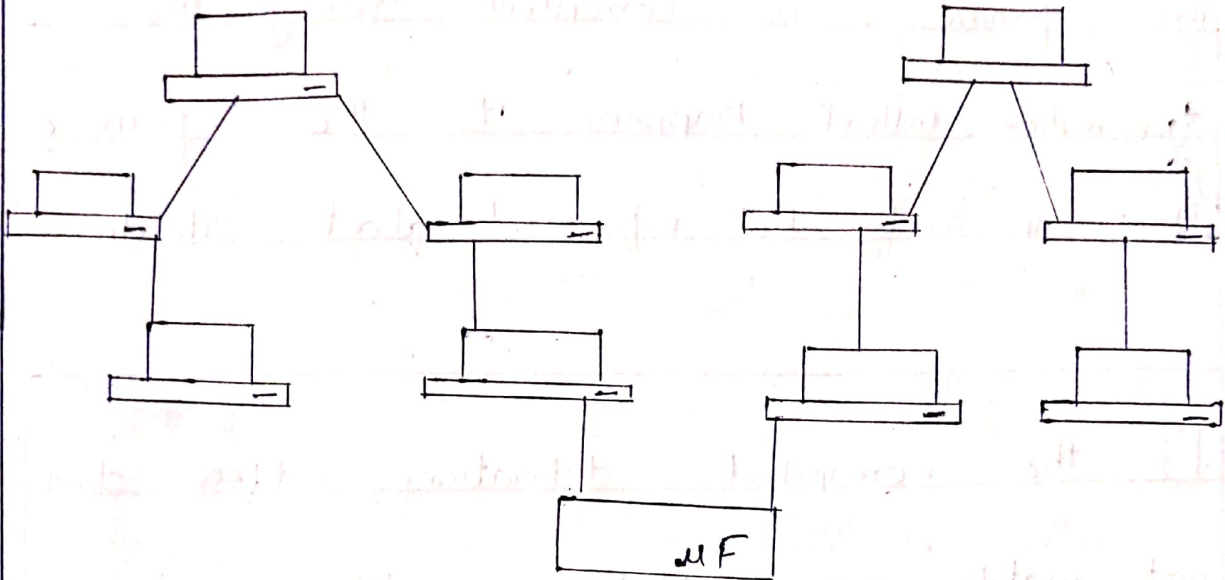
10<sup>th</sup>

Date

7 - 06 - 2020

Q.1

Draw a hybrid Topology with a star backbone and Three ring networks also simulate The topology in Opnet.



Q: 2

Suppose a computer sends a frame to another computer on a bus topology LAN. The physical destination address of the frame is corrupted during the transmission. What happens to the frame? How can sender be informed about situation?

Ans

If the corrupted destination address does not match any station address in the network the packet is lost. If the corrupted destination address is the wrong station. In this case however the error detection mechanism, available in most data link protocols, will find the error and discard the frame in both cases, the source will somehow be informed using one of the data

link control mechanisms discussed in Chapter 5. Before using the destination address is an intermediate or the destination node, the packet goes through the error checking that may help the node find the corruption (with a high probability and discard the packet. Normally the upper layer protocol will inform the source to resend the packet.

Q: 3 Suppose a computer send a packet at the transport layer to another computer somewhere in the internet. There is no process in the destination port address running at the destination computer. What will happen?

Ans 3

At the physical layer, communication is direct between devices. At the higher layers however communication must move down through the layers on sending devices over to receiving device and then back up through the layers. Each layer in the sending device adds its own information to the message it receives from the layer just above it and passes the whole package to the layer just below it. At the receiving machine the message is unwrapped layer by layer, with each process receiving and removing the data meant for it.

- OR -

The process at each machine that communicate at a given layer Physical layer has a direct link between two devices, while other layers have to pass information down to the lower layers on the sender device by adding extra bites at each layer and the receiver device unwraps the message at each layer moving upward till it finally reaches the corresponding communicating layer.

Q.4

Match the following to one or more layers of OSI model:

- (a) Reliable process-to-process message delivery.
- (b) Route Selection
- (c) Defines frame
- (d) Provide user services such as email and file transfer.

Ans

1.1 Match the following to one or more layers of OSI Model.

- (a) Route determination - Network layer (layer 3)
- (b) Flow control - Transport layer (layer 4)
- (c) Interface to transmission media - (Physical layer) layer 1
- (d) Provide access for end user - Application layer (layer 7)

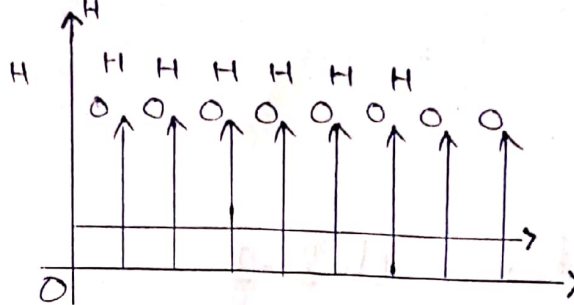
Q. 5

Draw the graph of NRZ-L, NRZ-I and Manchester scheme using each of the following data streams, & assuming that the last signal level has been positive. From the graph, guess the bandwidth, for this scheme using the average number of changes in the signal level.

Ans  
a)

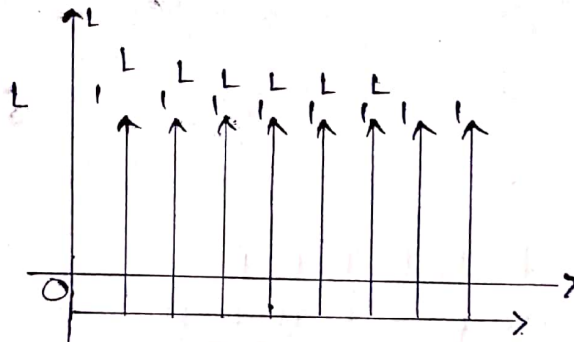
For NRZ-L

0 0 0 0 0 0 0 0



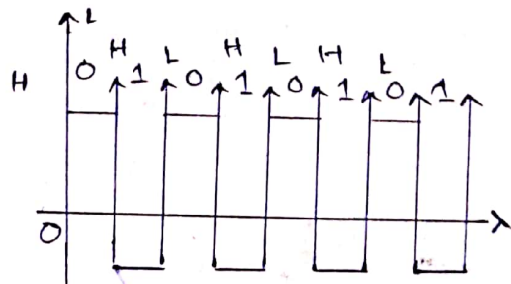
b)

1 1 1 1 1 1 1 1



c)

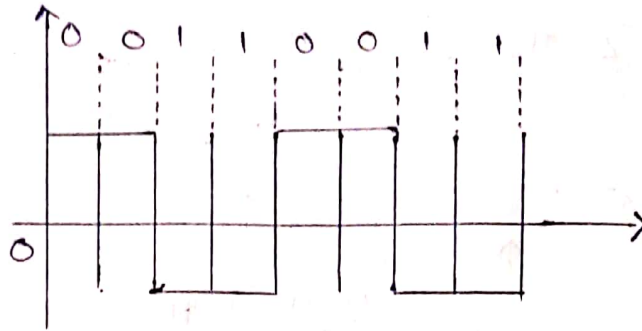
0 1 0 1 0 1 0 1



d)

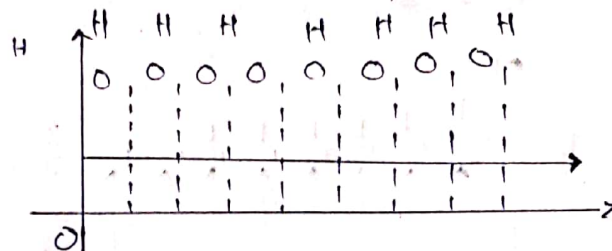
0 0	1 1	0 0	1 1
H H	L L	H H	L L





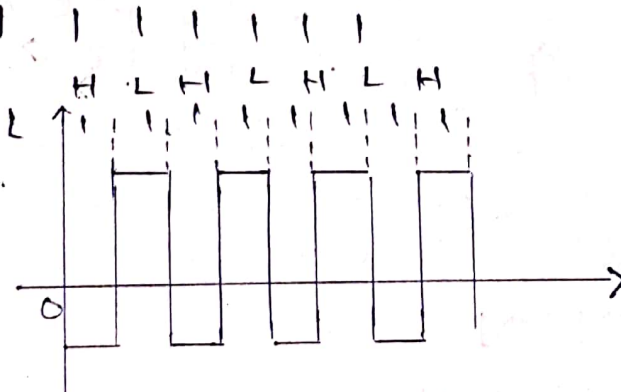
a) Now For NRZ-I

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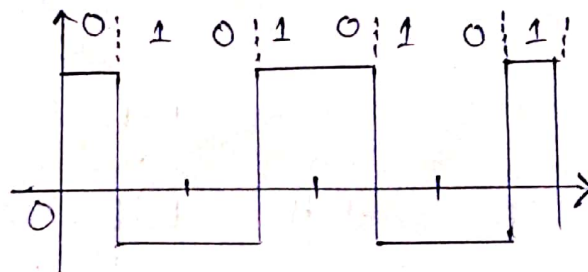
b)

~~00000000~~



c)

01010101



(d)

00	11	00	<u>11</u>
HH	LH	HH	LH

