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***ID NO*** : ***13011***

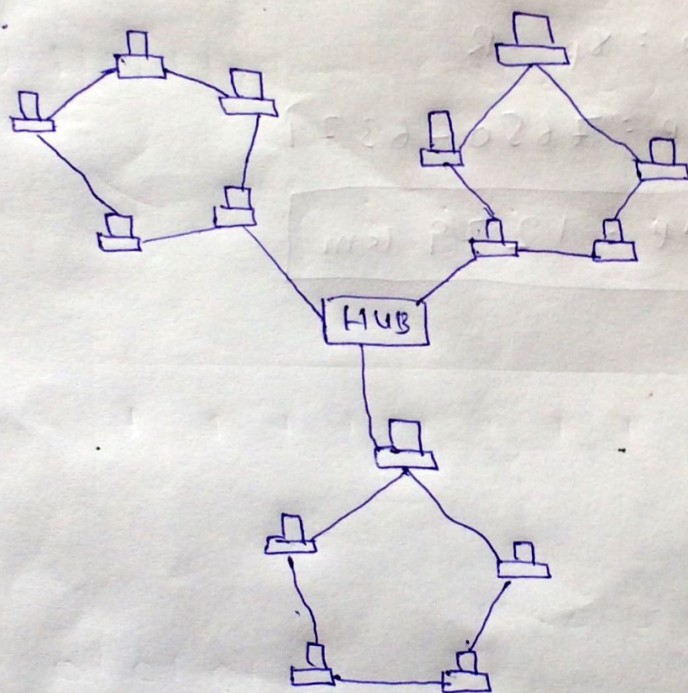
***ASSIGNMENT NO*** : ***01***

***SUBJECT*** : ***COMPUTER COMMUNICATIO  
NETWORK***

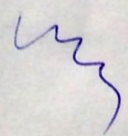
***SUBMITTED TO*** : ***M.WAQAS KHAN***

Q No 1: Draw a hybrid topology with a star backbone and three ring networks also simulate the topology in opnet.

Ans:



Star Ring: The star ring is a combination of ring and star topologies. The hubs in a star ring are connected in a star pattern by the main hub.





Q No 2: Suppose a computer send 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 the sender be informed about the 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 matches one of the stations, the frame is delivered to 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~~

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

Ans:

most protocols issue a special error message that is sent back to the source in this case.



Q no 4. match The following to one or more layer of the OSI model :

- a) Reliable process-to-process message delivery.
- b) Route Selection.
- c) Define frame.
- d) provides user services such as e-mail and file transfer.

Ans:

- a) Reliable process-to-process message delivery - Transport.
- b) Route Selection - Network.
- c) Define frames - Data link.
- d) ~~Frame~~ <sup>provide</sup> user services such as e-mail and file transfer - Application.



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Ques:- Draw the graph of the 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 graphs, guess the bandwidth for this scheme using the average number of changes in the signal level.

a) 00000000

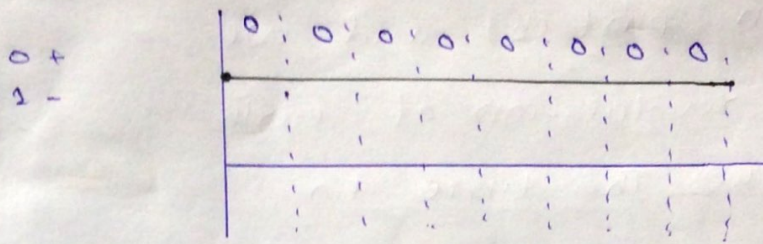
b) 11111111

c) 01010101

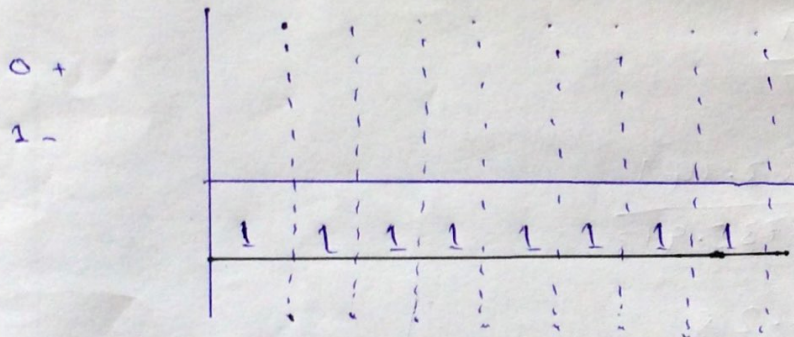
d) 00110011



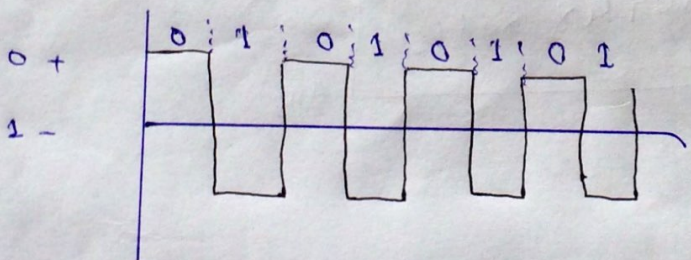
a) 00000000 (NRZ-L)



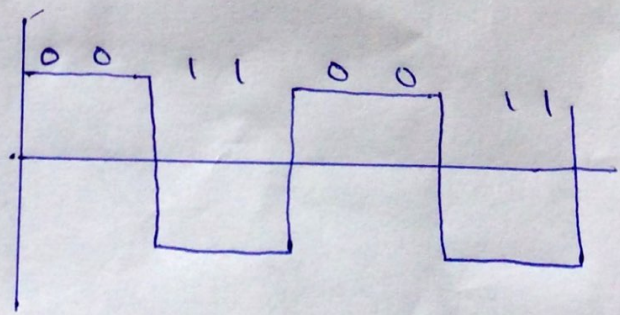
b) 11111111 (NRZ-L)



c) 01010101 (NRZ-L)

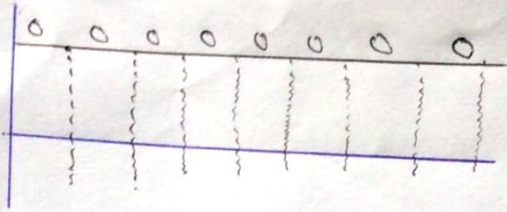


d) 00110011 (NRZ-L)

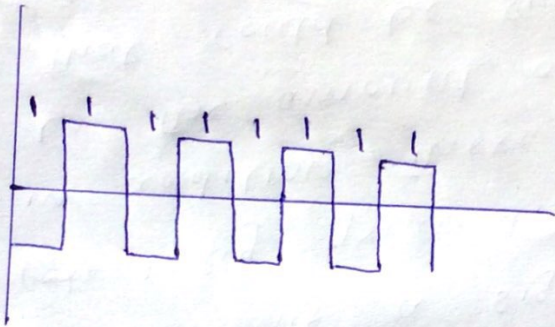




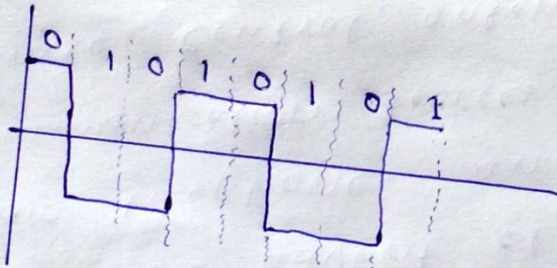
a) 00000000 (NRZ-I)



b) 11111111 (NRZ-I)



c) 01010101 (NRZ-I)



d) 00110011

