

## Department of Electrical Engineering

### Assignment

Date: 07/05/2020

#### Course Details

Course Title: Computer Communication Network

Module: \_\_\_\_\_

Instructor: \_\_\_\_\_

Total Marks: 20

#### Student Details

Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

Q1.	(a)	Draw a hybrid topology with a star backbone and three ring networks also simulate the topology in Opnet.	Marks 4 CLO 1
Q2.	(a)	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 the sender be informed about the situation?	Marks 4 CLO 1
Q3.	(a)	Suppose a computer sends 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?	Marks 4 CLO 1
Q4.	(a)	Match the following to one or more layers of the OSI model: a. Reliable process-to-process message delivery b. Route selection c. Defines frames d. Provides user services such as e-mail and file transfer	Marks 4 CLO 1
Q5.	(a)	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	Marks 4 CLO 2

Name :- Muhammad Ali

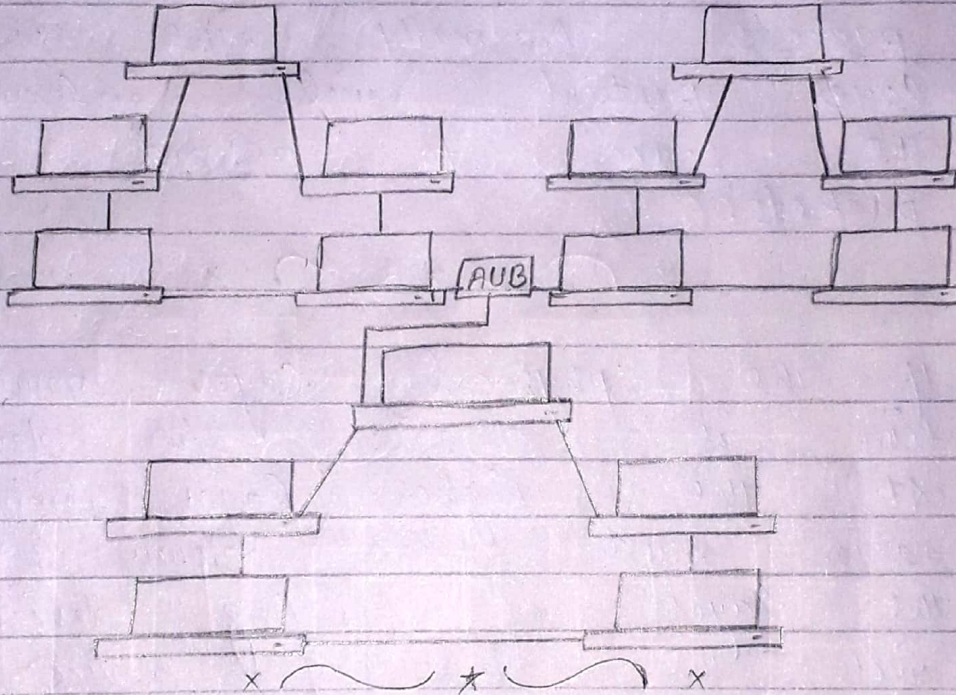
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Course :- Computer Communication Network.

Assignment :- Sessional Assignment.

Q1:-

Ans:-



Q2:-

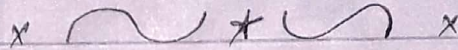
Ans:-

If the corrupted designation address doesn't matter any situation address in the network, so the result packet is lost. In second case if the corrupted destination address matches a wrong situation we have error detection mechanism. In most data link protocols, so this will find or detect the error & will discard the frame. So in both cases the source will be



informed using data link control mechanism.

Before using the destination address the packet goes through checking that will help the node to find the corruption & discard the packets. Normally the upper layer protocol will inform the source to resend the packets.



Q3:-

Ans:- If the physical layer communication is direct b/w devices at the higher layer communication must move down through the layers of sending device over the receiving device & also the backup through the layers. Each layer on sending device will add its own information to messenger received by that layer. Just above it passes the whole packets to the layer & below it the receiving message in uncorrupted layer by layer.

The process at each machine that communicate at a given layer, physical layer has direct link b/w two devices, while the other layer have to pass info. down to the layer &



The received device unwrapped  
the message at each layer.



Q4:-

Ans:-

a). Route Determination - Network Layer.  
(layer 3).

b). Flow control - Transport Layer.  
(layer 4)

c). Interface to transmission media  
(Physical layer)

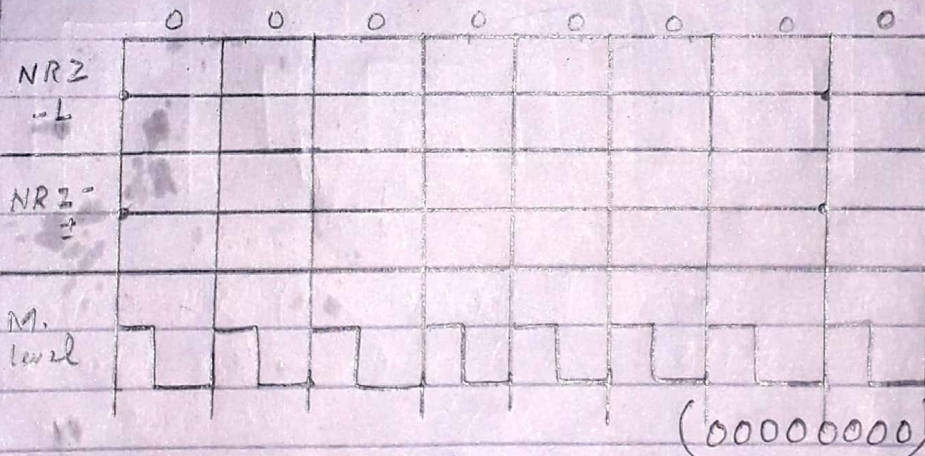
d). Provide access for the end users -

(Application layer).



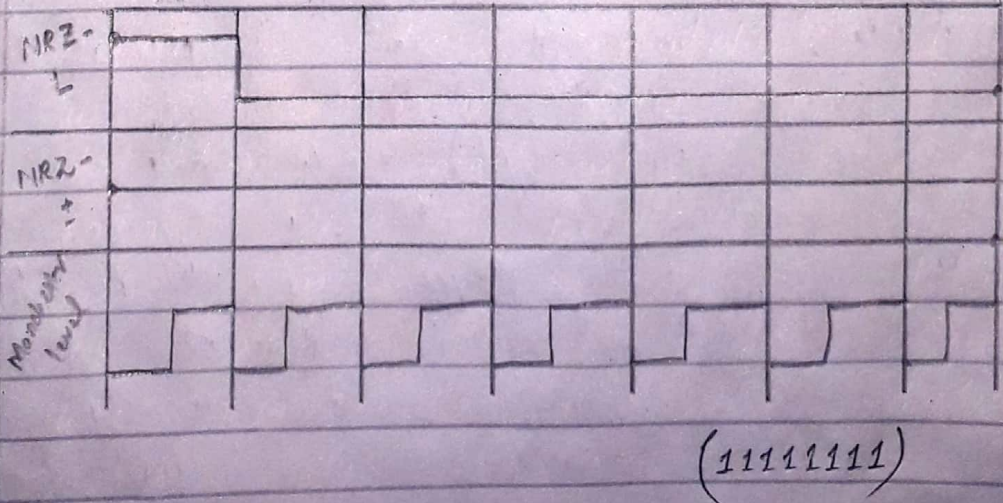
Q5:-

Ans:-



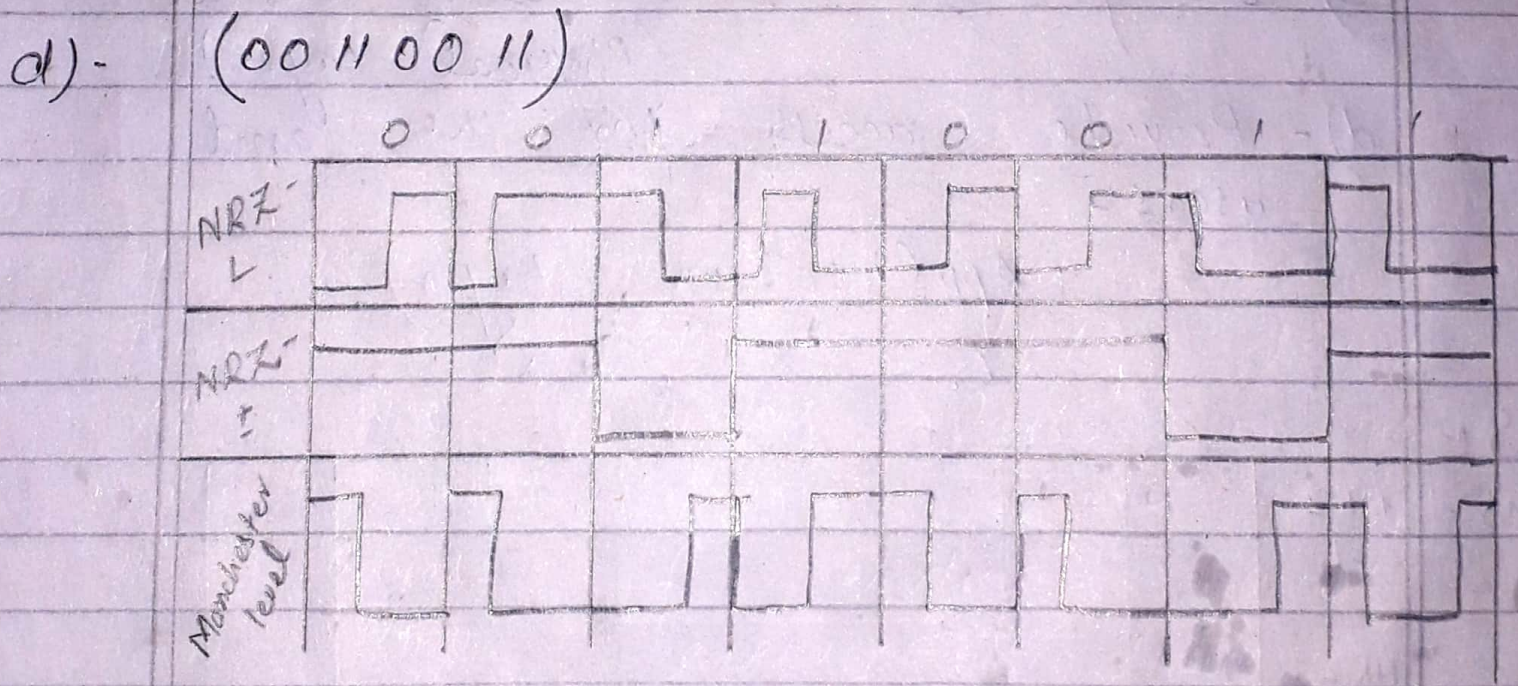
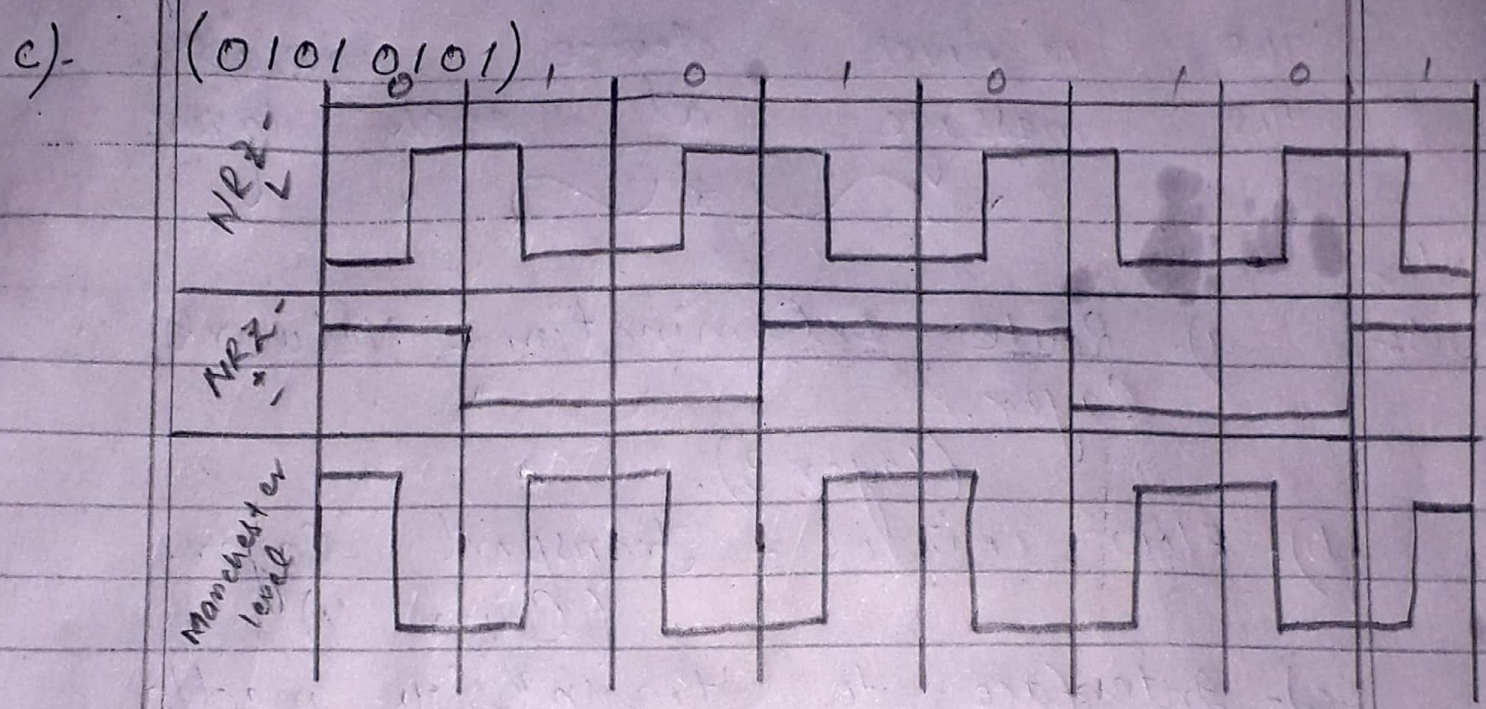
Average no! of changes =  $(0+0+8+4)/4$   
 $= 3$  for  $N=8$ .

b)-





"4"



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