

Department of Electrical Engineering

Assignment

Date: 07/05/2020

Course Details

Course Title: Computer Communication Network
Instructor: _____

Module: _____
Total Marks: 20

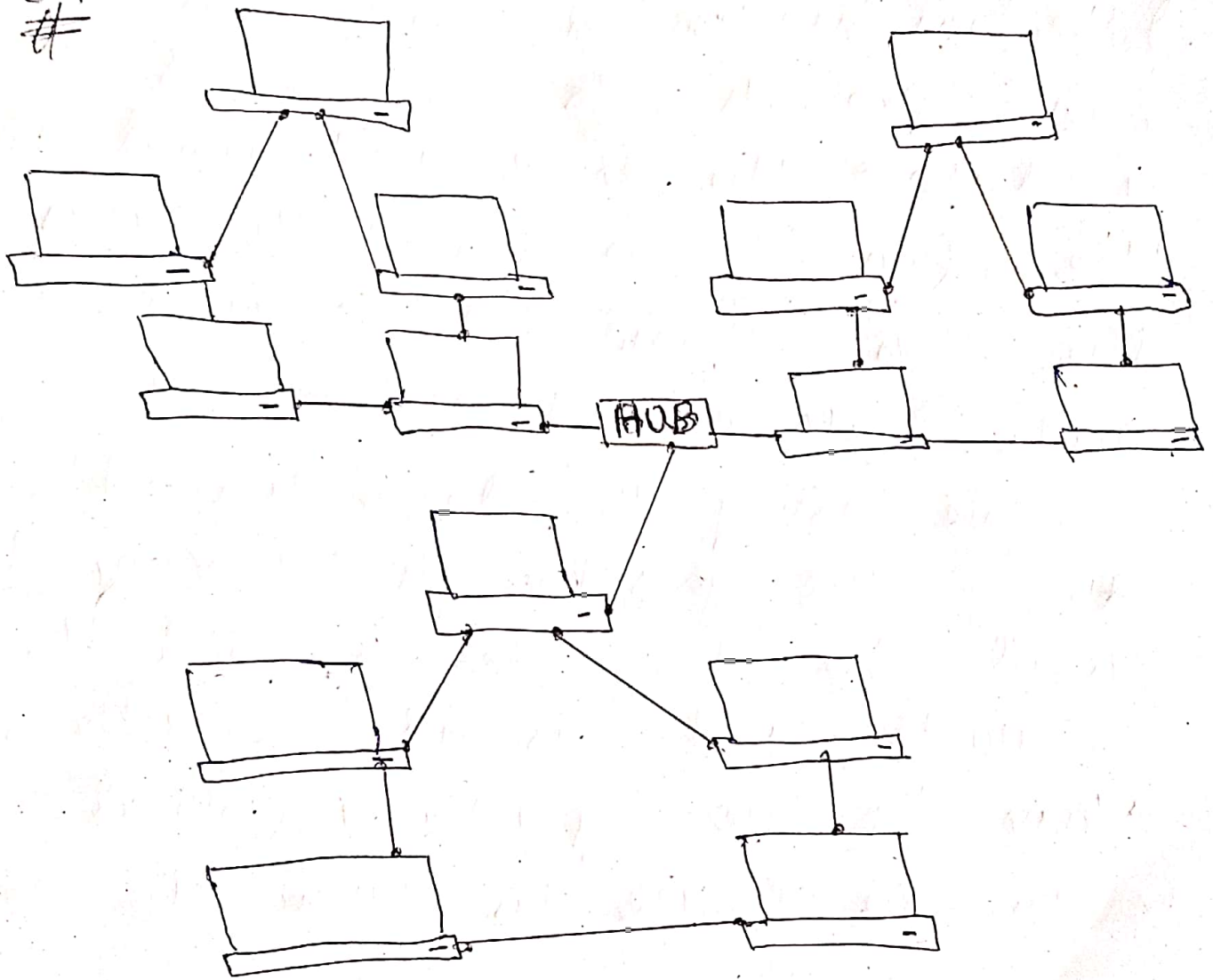
Student Details

Name: Alirazakhan

Student ID: 12647

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

Q1:- Draw a hybrid topology . . . ? (Page) 1
Sol #



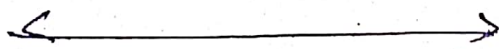
Q2:- Suppose a computer sends a frame . . . ?

Ans:- If the corrupted destination address does not match any station address in the network is lost. In second case if the

Corrupted destination address match a wrong station we have error detection mechanism in most data link protocols, so this will find or detect the error and 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 and discard the packets.

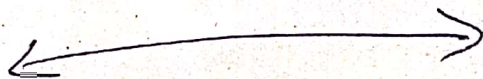
Normally the upper layer protocol will inform the source to resend the packets.



Q3:- Suppose a computer sends a packet
... ?

Ans³:-> If the physical layer communication is direct between devices, At the higher layer communication must move down through the layers of sending device over the receiving device and also the backup through the layers, Each layer on sending device will add its own information to messages received by that layer. Just above it passes the whole packets to the layer. and below it the receiving message is unwrapped layer by layer.

The process at each machine that communicate at a given layer, physical layer has direct link between two devices. while the other layers have to pass info down to the layer and the receiver device unwrapped the message at each layer.



Q4 Match to one (more) OSI layer(s)

Ans:-

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

(b) Flow Control - Transport layer
(Layer 4)

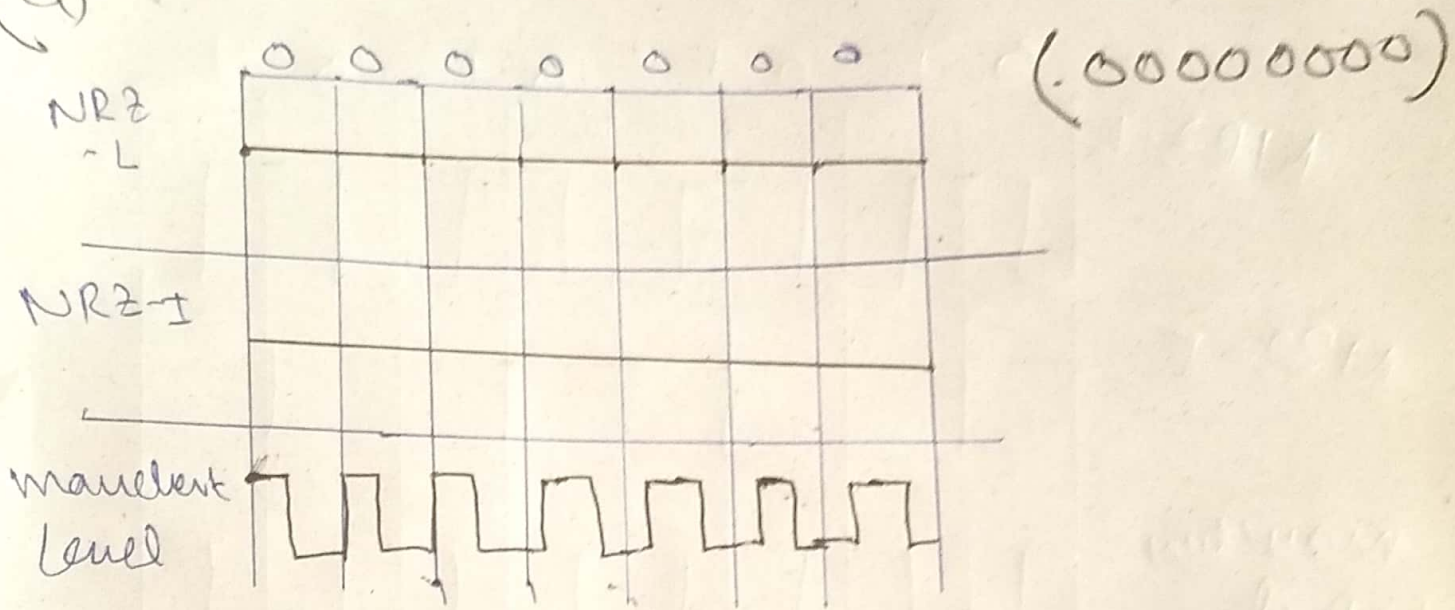
(c) Interface to transmission media
(Physical layer)

(d) provide access for the end
users - (Application layer)



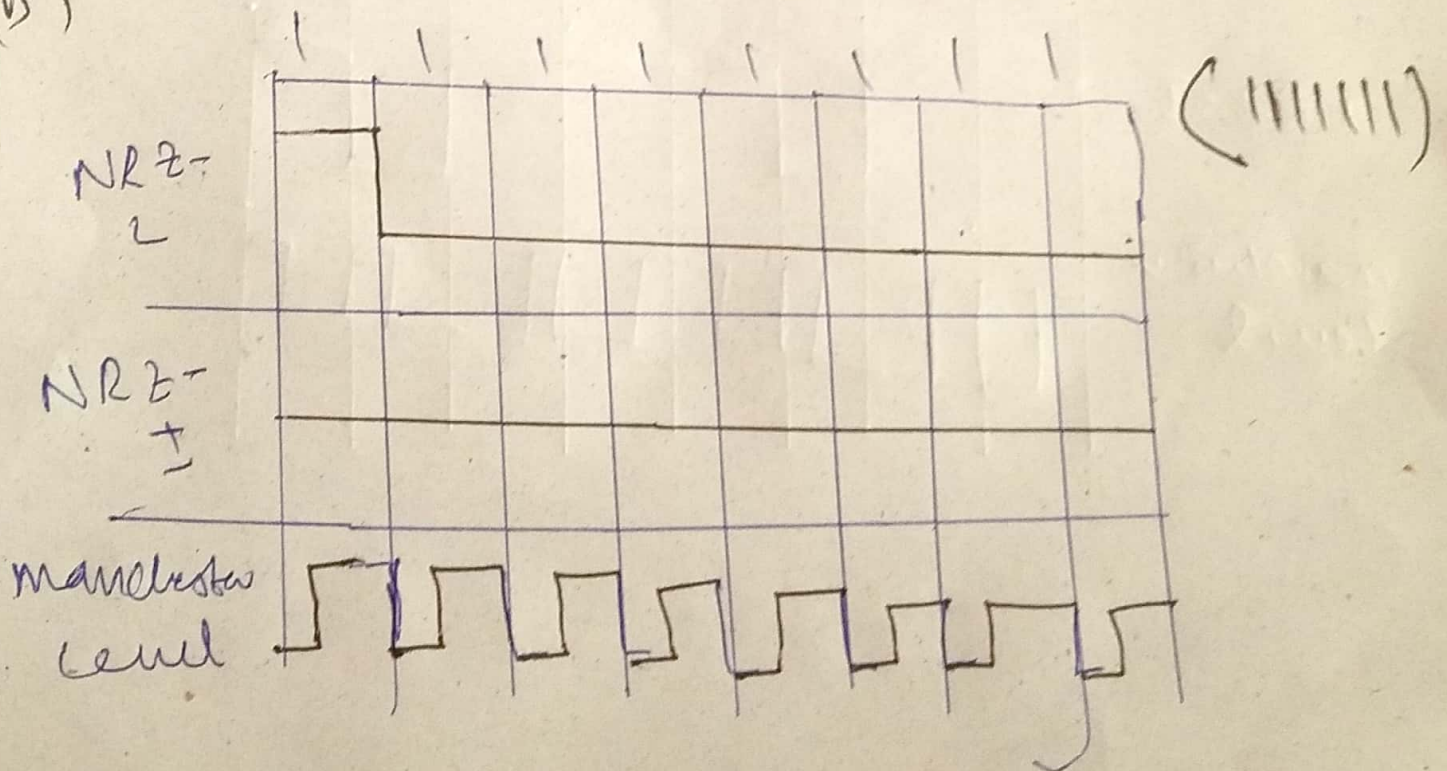
Q5

(a)

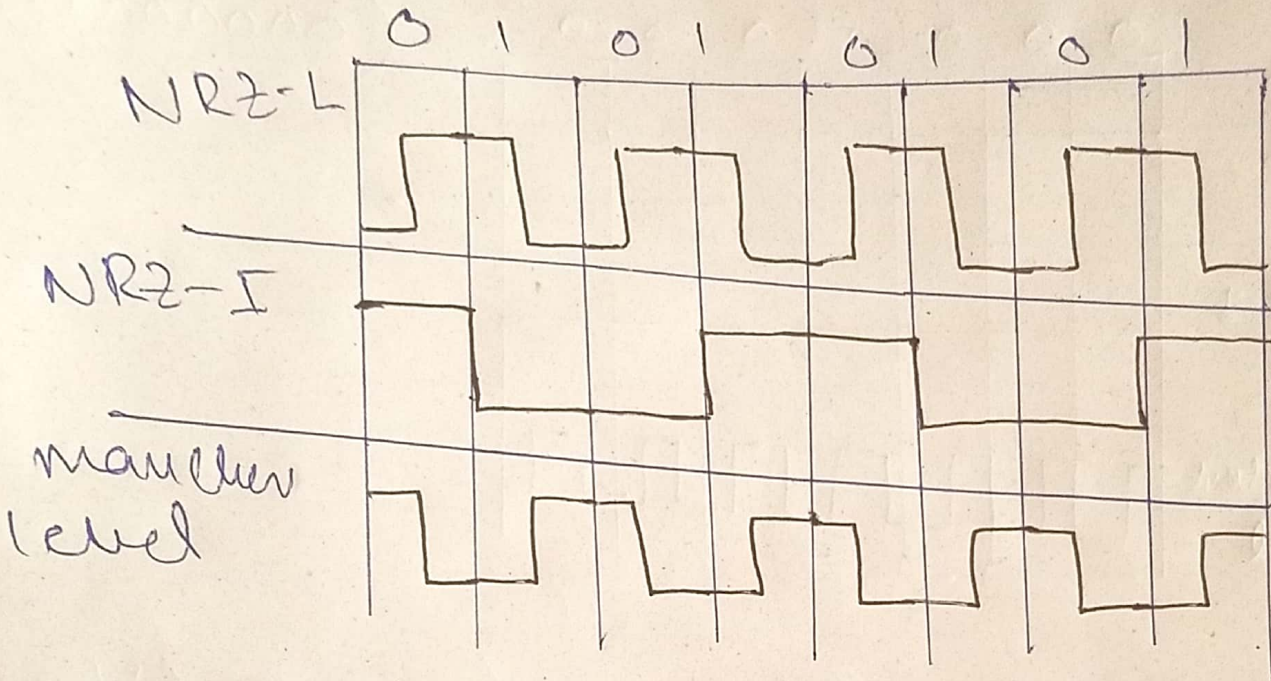


Average No of changes = $(0 + 0 + 8 + 4) / 4$
 $= 3$ for $N = 8$

(b)



(c) (01010101)



(d) (00110011)

