Department of Electrical Engineering
Assignment
Date: 07/05/2020

Course Details

Course Title: Computer Communication Network **Module:** 6th
Instructor: _____ **Total Marks:** 20

Student Details

Name: SHER DARAZ KHAN **Student ID:** 13976

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: SHER DARAZ KHAN

ID: 13976

SUBJECT: Computer Communication Network

ASSIGNMENT:

DEPARTMENT: Electrical Engineering

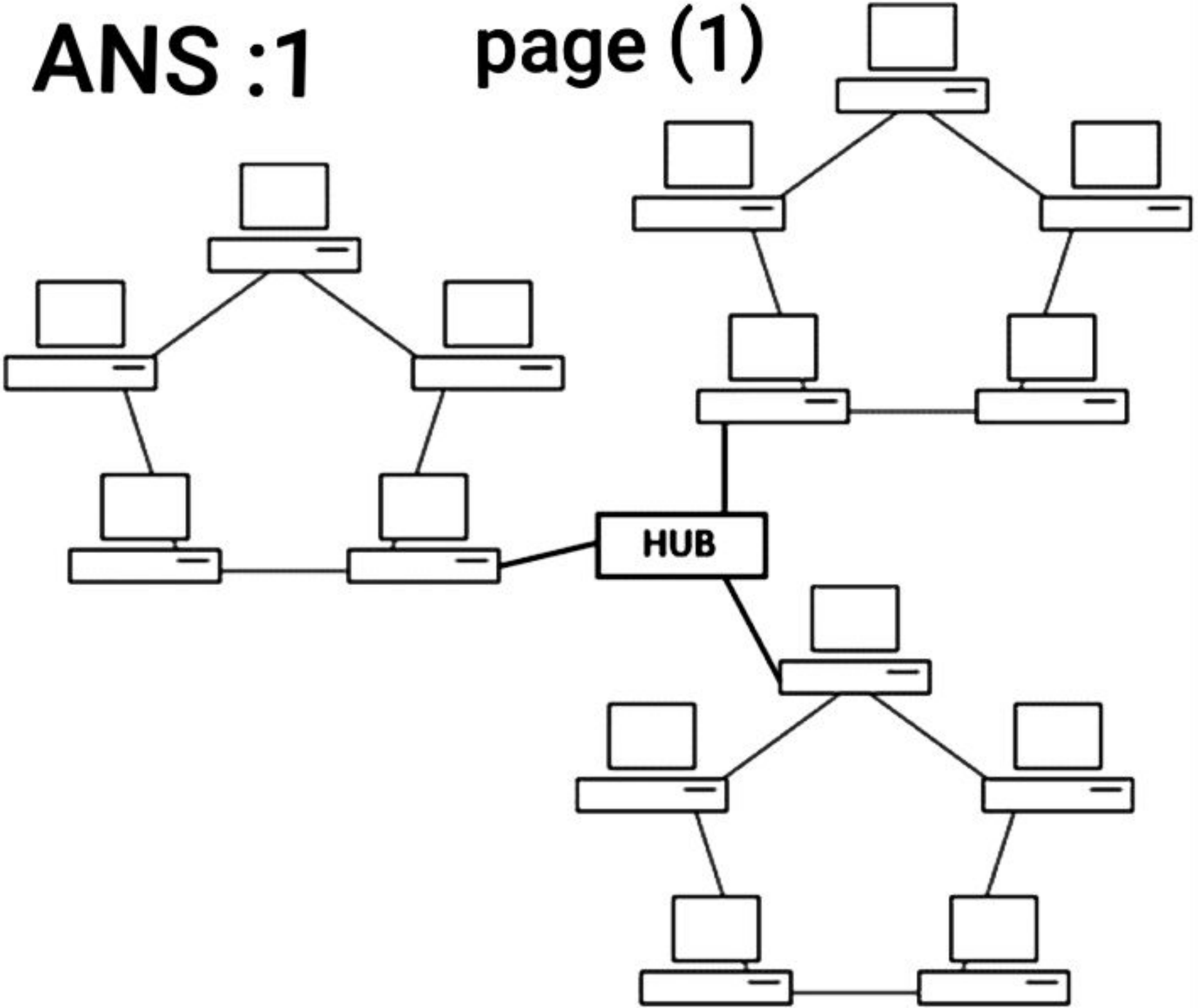
SEMESTER: 6th

DATE: 20th May 2020

SUBMITTED To:

Sir Engr WAQAS KHAN

ANS :1



Q2 ANS/

ANS 2:

If the computer 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 & discard the frame.

Q3

ANS 3:

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

Q4

ANS 4:

(a) Reliable Process-to-Process delivery - Transport Layer

(b) Route Selection - Network Layer

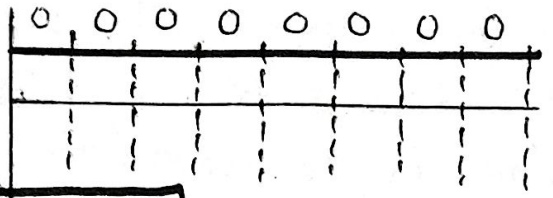
(c) Defining frames - Data Link Layer

(d) Providing user services - Application Layer

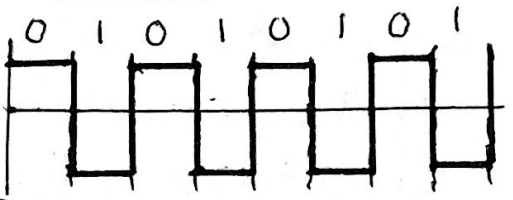
Q 5 -

ANS 5: **For NRZ-L Scheme**

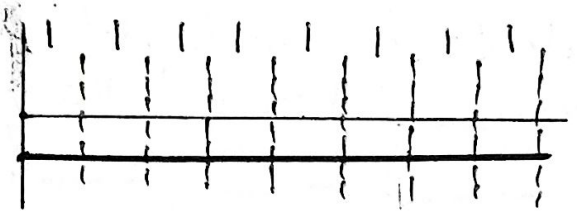
Case (a)



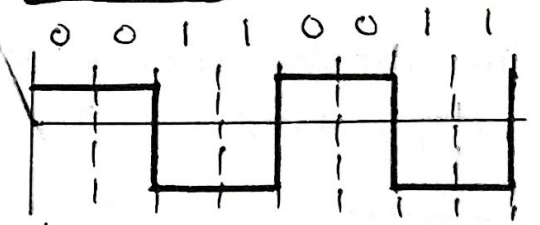
Case (c)



Case (b)



Case (d)

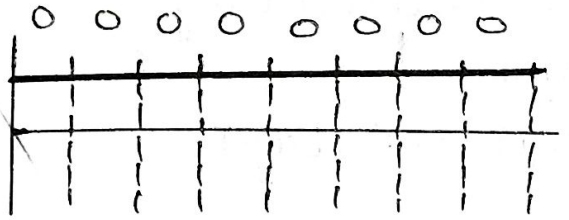


⇒ Average Number of Changes = (0+0+8+4)/4 = 3 for N = 8

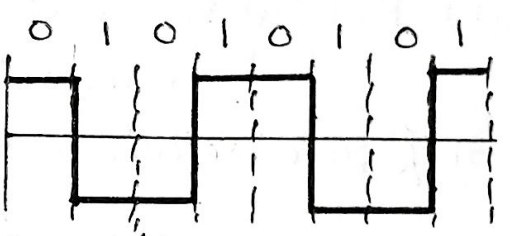
∴ Bandwidth, B → (3/8) N

For NRZ-I Scheme

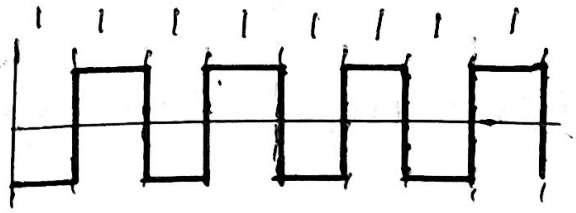
Case (a)



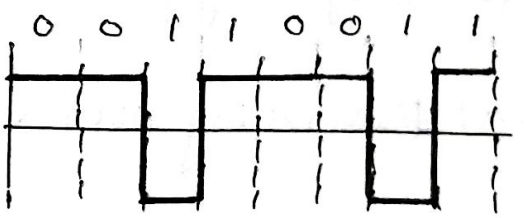
Case (c)



Case (b)



Case (d)

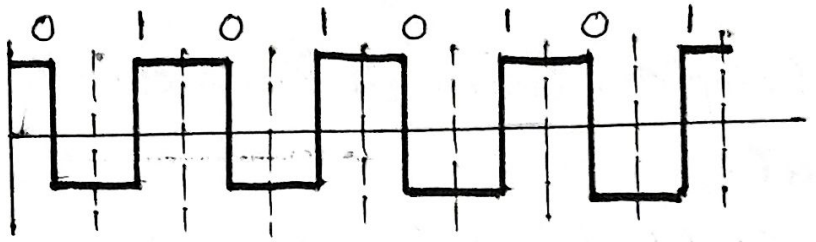


⇒ Average Number of Changes = (0+9+4+4)/4 = 4.25 for N = 8

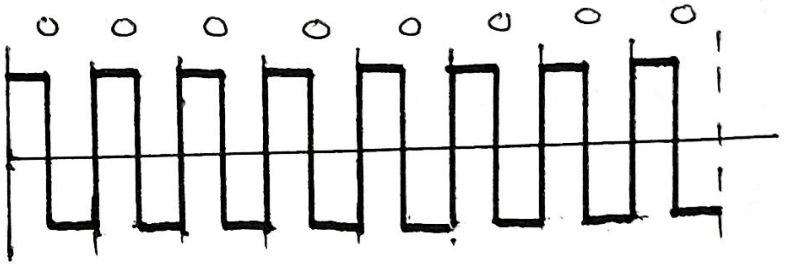
∴ Bandwidth, B → (4.25/8) N

For Manchester Scheme

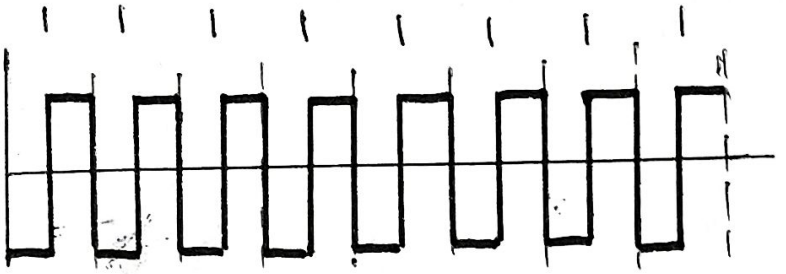
Case (c)



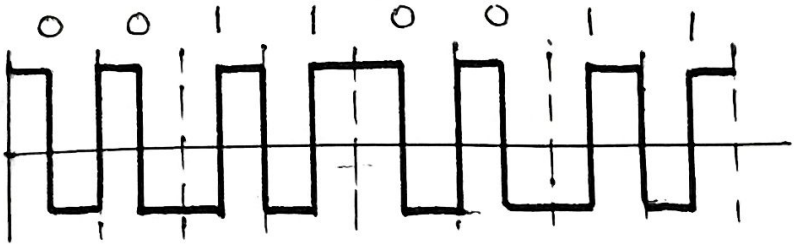
Case (a)



Case (b)



Case (d)



⇒ Average Number of Changes = (15+15+8+12)/4 = 12.5

for $N = 8$

∴ Bandwidth, $B \Rightarrow (12.5/8)N$

THE END