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

Course Details

Course Title:	Computer Communication Network	Module:	
Instructor:	Sir Muhammad waqas	Total Marks:	20
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Student Details

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		Draw a hybrid topology with a star backbone and three ring networks also	
Q1.	(a)	simulate the topology	Marks 4
		in Opnet.	CLO 1
		Suppose a computer sends a frame to another computer on a bus topology LAN.	
Q2.	(a)	The physical	Marks 4
		happens to the frame?	CLO 1
		How can the sender be informed about the situation?	
02		Suppose a computer sends a packet at the transport layer to another computer	N 1 4
Q3.	(a)	somewhere in the	Marks 4
		Internet. There is no process with the destination port address running at the	
		destination	CLO 1
		computer. What will happen?	
Q4.	(a)	Match the following to one or more layers of the OSI model:	Marks 4
		a. Reliable process-to-process message delivery	CLO 1
		b. Route selection	
		c. Defines frames	
		d. Provides user services such as e-mail and file transfer	
05	(a)	Draw the graph of the NRZ-L, NRZ-I and Manchester scheme using each of the following data	Marks 4
X 0.	(4)	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	CIO2
		level.	
		a. 0000000	
		b. 1111111	
		c. 01010101	
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QUESTION NO 1:

Draw a hybrid topology with a star backbone and three ring networks also simulate the topology in opnet **ANSWER:**



QUESTION NO 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 the sender be informed about the situation?

ANSWER:

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.

QUESTION NO 3

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?

ANSWER:

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

QUESTION NO 4:

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

ANSWER:

- a) Transport
- b) Network
- c) Data Link
- d) Application

QUESTION NO 5:

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

ANSWER:

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Level Average Part (b):- NRZ-L NRZ-L				ion	g er = 1	3	· ((5+	~	+ 8-	+4)/4	

