SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA

School of Electronics & Communication Engineering

B. Tech. (ECE) Minor-I Examination (Even) 2022-23

Entry No: | | | | | | | | | | **Total Number of Pages:[01]**

Date: 22.02.2023 **Total Number of Questions:** [04]

Course Title: Communication & Data Network Course Code: ECL 3106

Time Allowed 1.5 Hours Max Marks: [20]

Instructions / NOTE

i. Attempt All Questions.

ii. Support your answer with neat sketches/diagrams, wherever appropriate.

iii. Assume any missing data to suit the case/derivation/answer.

Section - A

Q1.	Match the following to one or more layers of the OSI model		
	i. Reliable Process to process message delivery	[01]	CO1
	ii. Route Selection	[01]	CO1
	iii. Define Frames	[01]	CO1
	iv. Provide user services such as email and file transfer	[01]	CO1
	v. Transmission of the bit stream across the physical medium	[01]	CO1
	vi. Error Correction and transmission	[01]	CO1
Q2.	a) When a party makes a local telephone call to another party, is this a point-to-point or multipoint connection? Explain your answer.	[02]	CO2
	b) What is the difference between a port address, a logical address, and a physical address?	[02]	CO2

Section - B

Q3.	Find the output port and output VCI for the packets with the following input port and input VCI address: i. Packet 1:3; 78 i. Packet 2 :2, 92 ii. Packet 3 :4, 56 iii. Packet 4:2 ,71	[04]	CO2

Incoming		Outgoing	
Port	VCI	Port	VCI
1	14	3	22
2	71	4	41
3	92	1	45
4	58	2	43
3	28	2	70
2	56	3	11

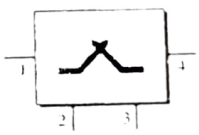

Figure 1

Q4.	a) What are the two approaches to packet switching? Explain.	[02]	CO2
	b) What are the advantages of optical fiber as a transmission media?	[02]	CO1
	c) Explain the following terms: i. Throughput ii. Latency	[02]	CO1

CO1	To Understand Signal Flow on the Physical Layer
CO2	Able To Understand Behavior Network Layer.
CO3	Able To Understand Behavior Data-Link Layer.
CO4	Able To Understand Behavior Transport Layer.
CO5	To Apply Knowledge in The Data Communication Systems

CO	QUESTIONS	Marks	Number of Students
CO1	Q1,Q4, b,c	10	92
CO2	Q2,Q3,Q4,a	10	92

SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA

School of Electronics & Communication Engineering

B. Tech. (ECE) Minor-II Examination (Even) 2022-23

Entry No: | | | | | | | | | |

Date: 29.03.2023

Total Number of Pages:[01]

Total Number of Questions: [04]

Course Title: Communication & Data Network Course Code: ECL 3100

Time Allowed 1.5 Hours

Max Marks: [20]

Instructions / NOTE

i. ***Attempt All Questions.***

v. ***Support your answer with neat sketches/diagrams, wherever appropriate.***

vi. ***Assume any missing data to suit the case/derivation/answer.***

	Section - A		
Q1.	i. In a real-time communication system, the addition of redundant bits leads to _____	01	CO2
	ii. Name the sublayer of the data link layer that performs data link functions depending on the medium type.	01	CO2
	iii. When two or more bits in a data unit have been changed during the transmission, the error is called _____	01	CO3
	iv. What is the window size of the Go Back N ARQ with 4-bit sequence numbers?	01	CO3
	v. In the sliding window protocol, if the sender window frame size is made 10. Then, how many frames would be in the window after transmitting ten frames?	01	CO3
Q2.	i. Compare and contrast byte-oriented and bit-oriented protocols.	02	CO2
	ii. Name three services missing from Point to Point Protocol to keep it simple.	02	CO2
	iii. Define Piggybacking and its usefulness	02	CO2
	Section - B		
Q3.	i. Explain in detail the vulnerable time for the pure ALOHA and Slotted ALOHA.	02	CO3
	ii. Draw and Explain the flow diagram for CSMA/CD.	02	
Q4.	i. Define Channelization and explain the three channelization techniques.	03	CO3
	ii. We have a slotted ALOHA with 100 stations. If T_{fr}= 10 µs, what number of frames can each station send to achieve maximum efficiency?	02	CO3

CO1	To Understand Signal Flow on the Physical Layer
CO2	Able To Understand Behavior Network Layer.
CO3	Able To Understand Behavior Data-Link Layer.
CO4	Able To Understand Behavior Transport Layer.
CO5	To Apply Knowledge in The Data Communication Systems

CO	QUESTIONS	Marks	Number of Students
CO1	Q1:i,ii,Q2	08	92
CO2	Q1: iii,iv,v,Q3,Q4	12	92
CO3			92