

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2023

Subject Code:3150710

Date:11-12-2023

Subject Name: Computer Networks

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) What is protocol? How it is different than standard?	03
	(b) Explain different networking devices.	04
	(c) Draw and explain different layers of OSI Model.	07
Q.2	(a) Find transmission delay for transmission of 1500 bytes (12000 bits) using a transmission rate of 100Mbps.	03
	(b) Differentiate between connection oriented and connection less service.	04
	(c) Explain different types of CSMA with suitable example.	07
<b>OR</b>		
(c)	Explain HTTP and DNS in detail.	07
Q.3	(a) Explain the term piggybacking and congestion.	03
	(b) Compare Datagram and virtual circuit.	04
	(c) What is IP address? Explain different classes of IP address.	07
<b>OR</b>		
Q.3	(a) What is the functionality of Router, Bridge and Gateway?	03
	(b) What is subnet? What are the benefits of creating subnets?	04
	(c) Generate CRC code for message 1101010101. Given generator polynomial is $x^4+x^2+1$ .	07
Q.4	(a) What is store and forward packet switching?	03
	(b) What are the services provided to transport layer by the network layer?	04
	(c) Explain distance vector routing with suitable example.	07
<b>OR</b>		
Q.4	(a) Explain the problem of Count-to-infinity with example.	03
	(b) Discuss optimality principle with example.	04
	(c) Explain Link state routing with suitable example.	07
Q.5	(a) Explain LRC with suitable example.	03
	(b) Compare IPV4 and IPV6.	04
	(c) Explain the hierarchical DNS system.	07
<b>OR</b>		
Q.5	(a) Explain flow and error control in TCP.	03
	(b) Compare TCP and UDP.	04
	(c) Write note on: 802.3 Ethernet.	07

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