Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA– SEMESTER II- EXAMINATION –WINTER-2023

Subject Code:629404 Date: 26/12/2023

Subject Name: Computer Networking

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. **Use of simple calculators and non-programmable scientific calculators are permitted.**

Q.1	**(a)**	Define Computer Network. Explain the different types of networks.	**07**
	(b)	Explain OSI reference model with brief functionality of each layer.	**07**
Q.2	**(a)**	Define Piggybacking. List different types of Framing Techniques. Explain Byte stuffing with example.	**07**
	(b)	Differentiate the following: 1. Connection-oriented and Connectionless services 2. Full-duplex and Half-duplex Communication	**07**
		OR	
	(b)	Describe service primitives that provide a simple connection-oriented service.	**07**
Q.3	**(a)**	Write a detailed note on baseband transmission.	**07**
	(b)	Explain a simplex stop-and-wait protocol for a noisy channel.	**07**
		OR	
Q.3	**(a)**	Write a note on CSMA protocol in detail.	**07**
	(b)	What is Static Channel allocation and Dynamic Channel allocation? Explain in detail.	**07**
Q.4	**(a)**	Describe hidden and exposed station problem. How RTS and CTS help to resolve the problem?	**07**
	(b)	Write a note on ALHOA in detail.	**07**
		OR	
Q.4	**(a)**	Explain Three-way handshake method to establish a connection.	**07**
	(b)	What is the significance of Routing algorithm? Describe flooding in detail.	**07**
Q.5	**(a)**	Describe Bluetooth architecture.	**07**
	(b)	What are the different approaches for controlling congestion?	**07**
		OR	
Q.5	**(a)**	Describe Distance Vector routing with count-to-infinity problem.	**07**
	(b)	Write a note on IPV4.	**07**

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