GUJARAT TECHNOLOGICAL UNIVERSITY
MCA – SEMESTER -II EXAMINATION –WINTER-2021

Subject Code: 629404   **Date: 22/12/2021**
Subject Name: Computer Networking
Time: 02:30 PM TO 05:00 PM   **Total Marks: 70**
Instructions:

      1. Attempt all questions.
      2. Make Suitable assumptions wherever necessary.
      3. Figures to the right indicate full marks.

Q.1	**(a)**	Describe OSI reference model with brief functionality of each layer.	**07**
	(b)	Write the answer in brief.	
		1. Explain Wide Area Network.	**04**
		2. Differentiate: connection oriented and connectionless services	**03**
Q.2	**(a)**	Describe service primitives that provide a simple connection-oriented service.	**07**
	(b)	Write the answer in brief:	
		1. Describe ARPANET.	**03**
		2. Explain coaxial cable with diagram.	**04**
		OR	
	(b)	Write the answer in brief:	
		1. Differentiate: copper wire and fibre optics	**03**
		2. Differentiate: Single mode and multi mode fibre.	**04**
Q.3	**(a)**	Explain base band transmission.	**07**
	(b)	Describe Data link layer design issues in brief.	**07**
		OR	
Q.3	**(a)**	Explain a simple stop-and-wait protocol for an Error-Free Channel.	**07**
	(b)	Write the answer in brief:	
		1. What is piggybaking?	**03**
		2. What is sliding window? What is relevance of sending window?	**04**
Q.4	**(a)**	What is Framing Techniques? Explain byte stuffing with an appropriate example.	**07**
	(b)	Describe hidden and exposed station problem. How RTS and CTS help to resolve the problem?	**07**
		OR	
Q.4	**(a)**	Describe Utopian Simplex Protocol.	**07**
	(b)	What is MAC sub layer? Describe ALOHA in brief.	**07**
Q.5	**(a)**	What is infrastructure mode and ad hoc mode in 802.11 networks?	**07**
	(b)	Describe Distance Vector routing with count-to-infinity problem.	**07**
		OR	
Q.5	**(a)**	Explain Bluetooth architecture.	**07**
	(b)	What is domain resource record? Explain DNS resource record types.	**07**

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