GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019

Subject Code: 2171008   **Date: 30/11/2019**

Subject Name: Data Communication and 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.

			MARKS
Q.1	(a)	Explain the limitations of OSI model.	03
	(b)	Write note on network topology.	04
	(c)	Explain ISO-OSI model in detail.	07
Q.2	(a)	Explain character count and bit stuffing mechanism of data link layer.	03
	(b)	Explain the concept of piggybacking.	04
	(c)	Write note on sliding window protocol.	07
		OR	
	(c)	Write note on HDLC protocol of data link layer.	07
Q.3	(a)	Explain the fragmentation in network layer.	03
	(b)	Explain the following terms: 1.) Router, 2.) Switch, 3.) Supernetting and 4.) Subnetting.	04
	(c)	Write note on distance vector routing.	07
		OR	
Q.3	(a)	Explain the concept of subnet mask.	03
	(b)	Explain classful routing.	04
	(c)	Write note on link state routing.	07
Q.4	(a)	Enlist the protocols used at network layer.	03
	(b)	Write note on firewall.	04
	(c)	Write note on leaky bucket algorithm.	07
		OR	
Q.4	(a)	Differentiate between physical address and logical address.	03
	(b)	Explain hierarchical routing in network layer.	04
	(c)	Draw and explain IPv4 packet.	07
Q.5	(a)	Explain Congestion.	03
	(b)	Explain Slotted ALOHA.	04
	(c)	Write note on UDP.	07
		OR	
Q.5	(a)	Explain DES algorithm.	03
	(b)	Write note on Adhoc network.	04
	(c)	Explain RSA algorithm.	07

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