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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII (Old) EXAMINATION – WINTER 2019

Subject Code: 181101   **Date: 25/11/2019**
Subject Name: Data Communication And 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)**	What is network topology? Explain different network topologies with example and compare them.	**07**
	(b)	(I) Which of the OSI layers handles each of the following : - Which layer provides logical addressing that router will use for path determination - Dividing the transmitted bit stream into frames. - The Media access control sub layer resides in which sub layer ? - Which layer segments and resembles data into data stream?	**04**
		(II) Compare Packet Switching and Circuit Switching.	**03**
Q.2	**(a)**	Compare and contrast OSI and TCP/IP models.	**07**
	(b)	What are the different types of transmission media, explain in details.	**07**
		OR	
	(b)	What is the Public Switched Telephone System? Also explain details of PSTN system.	**07**
Q.3	**(a)**	List the Data Link Layer design issues. What is framing? List all methods used for framing and explain any two methods used for framing in detail.	**07**
	(b)	What is the difference between error detection and error correction? Explain CRC in detail.	**07**
		OR	
Q.3	**(a)**	Explain Error control in stop and wait mechanism	**07**
	(b)	With the help of necessary diagram explain the working of CSMA/CD	**07**
Q.4	**(a)**	Compare pure ALOHA and slotted ALOHA	**07**
	(b)	Explain the process for computing the class of Internet Protocol address	**07**
		OR	
Q.4	**(a)**	Explain architecture and working of ATM.	**07**
	(b)	Explain and compare distance vector routing and link state routing algorithm	**07**
Q.5	**(a)**	List the various duties of the transport layer and compare UDP and TCP	**07**
	(b)	Explain email architecture and services .Compare POP3 and SMTP	**07**
		OR	
Q.5	**(a)**	Explain DNS in detail with example	**07**
	(b)	Write short note on RSA algorithm.	**07**

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