GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (OLD) EXAMINATION – WINTER 2018

Subject Code:141601   **Date: 28/11/2018**

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)**	Explain the OSI model for networking in brief.	**07**
	(b)	Define topology. Explain any two topology with it advantage and disadvantage.	**07**
Q.2	**(a)**	Explain Guided Transmission Media Such As Twisted Pair, Coaxial Cable, & Fiber Optics.	**07**
	(b)	Difference between Packet Switching, Circuit Switching & Message Switching.	**07**
		OR	
	(b)	List out the application of multiplexing. Explain FDM in detail.	**07**
Q.3	**(a)**	What is error detection? List various methods of error detection and explain any two of them in brief.	**07**
	(b)	Difference between IPv4 Address and IPv6 Address.	**07**
		OR	
Q.3	**(a)**	Explain Cyclic Redundancy Check with example.	**07**
	(b)	Explain GO Back N & Selective Repeat Protocol.	**07**
Q.4	**(a)**	Explain the frame relay in details.	**07**
	(b)	Explain Bridge, Hub, and Router & Gateway.	**07**
		OR	
Q.4	**(a)**	Write a short note on Leaky Bucket Algorithm.	**07**
	(b)	Explain Network Layer Design Issues.	**07**
Q.5	**(a)**	Explain three way handshake process with suitable diagram.	**07**
	(b)	Define routing in communication. Explain distance vector routing algorithm with example.	**07**
		OR	
Q.5	**(a)**	Explain the working of electronic mail protocols SMTP, IMAP and POP3 in brief with suitable diagram.	**07**
	(b)	Explain types of transmission impairment in detail. Also discuss Shannon capacity.	**07**

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