Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2171008 **Date: 09/05/2017**

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)**	Compare TCP/IP and OSI Reference Models.	**07**
	(b)	Differentiate Hub, Switches and Routers in Detail.	**07**
Q.2	**(a)**	Given the dataword 1010101010 and the divisor 10111, 1.Show the generation of codeword at the sender site (Using binary Division) 2.Show the generation of dataword at receiver site (assuming no errors)	**07**
	(b)	Explain single bit error Detection and Correction algorithm with Example	**07**
		OR	
	(b)	What do you mean by the Burst error? Explain how the burst error can be eliminated.	**07**
Q.3	**(a)**	Draw the sender and receiver windows for system using Go-Back-N ARQ given the following: 1. Frame 0 and 1 sent and acknowledged 2.Frame 2, 3, 4 and 5 sent, but Frame 4 lost during the transmission	**07**
	(b)	Explain Selective Repeat ARQ? Justify your answer with example for m=4.	**07**
		OR	
Q.3	**(a)**	Explain NAT with necessary diagrams.	**07**
	(b)	Explain IPV4 Header fields with necessary diagrams.	**07**
Q.4	**(a)**	List Various Duties of Transport Layer. Compare TCP and UDP.	**07**
	(b)	Write the functions of Media Access Control sub layer .Compare pure ALOHA and Slotted ALOHA.	**07**
		OR	
Q.4	**(a)**	Explain types of Routing Protocols. Differentiate Link state and Distance Vector Routing.	**07**
	(b)	Explain the Node instability concept.	**07**
Q.5	**(a)**	Write Short Note on DNS	**07**
	(b)	What is Digital Signature? List the Various methods for Digital Signature.	**07**
		OR	
Q.5	**(a)**	Explain the Architecture of Bluetooth.	**07**
	(b)	What is Cryptography? List various Ciphers and Explain any two in Detail.	**07**

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