Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –Ist SEMESTER–EXAMINATION – JULY- 2012

Subject code: 712604N **Date: 13/07/2012**

Subject Name: Computer Communication & Networking

Time: 2:30 pm – 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 basic five components of data communications system	**5**
	(b)	Explain the TCP/IP reference model.	**5**
	(c)	How long time is required to transmit an uncompressed Image with 1024 x 768 pixels with 3 bytes/pixel over the 56 Kbps model channel?	**4**
Q.2	**(a)**	Explain any two guided transmission media.	**7**
	(b)	Explain Time and Frequency division multiplexing techniques.	**7**
		OR	
	(b)	Explain Electromagnetic spectrum for wireless transmission.	**7**
Q.3	**(a)**	What is framing? Explain bit stuffing and byte stuffing techniques.	**7**
	(b)	What is Hamming code? Explain the application of hamming code with simple example.	**7**
		OR	
Q.3	**(a)**	Explain STOP-and-WAIT protocol for flow control at data link layer.	**7**
	(b)	Explain Bit-Map protocol.	**7**
Q.4	**(a)**	Compare the datagram and virtual circuit subnets.	**7**
	(b)	Explain shortest path routing algorithm.	**7**
		OR	
Q.4	**(a)**	What do you mean by congestion? List the various policies to be adopted by the transport, network and data link layer to prevent it.	**7**
	(b)	Explain Distance vector routing algorithm.	**7**
Q.5	**(a)**	Explain transparent and non-transparent fragmentation techniques.	**7**
	(b)	Explain the IP Address formats.	**7**
		OR	
Q.5	**(a)**	Explain the TCP header format and justify the importance of each field.	**7**
	(b)	Explain Email system.	**7**

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