Seat No.: Enrolment No	
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV(OLD) • EXAMINATION - WINTER 2016

Subject Code:141601 Date:19/11/2016

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 are topologies in network? List out all topologies and explain any two in detail with diagram.	07
		(b)		07
	Q.2	(a) (b)	Explain LAN, WAN and MAN in detail. Draw the layered architecture of OSI model and explain the function of each	07 07
			layer of OSI model OR	
		(b)	Explain TCP/IP model in detail.	07
	Q.3	(a) (b)	What are line coding schemes? Explain polar line coding schemes. Explain Pulse Code Modulation (PCM) in detail. OR	07 07
	Q.3	(a)	What is Digital-to-Analog conversion? Explain Amplitute shift keying, Frequency shift keying and Phase shift keying for digital to analog conversion.	07
		(b)	What is multiplexing? Explain FDM and TDM	07
	Q.4	(a) (b)	Describe the concept of circuit switching and Packet switching. Explain CRC with example. OR	07 07
	Q.4	(a) (b)	Explain Shannon capacity and Nyquist theorem with example. What should be minimum hamming distance to detect two bit error? Explain hamming code method for error correction with example.	07 07
	Q.5	(a)	What is routing algorithm? List different types of routing algorithm. Explain	07
		(b)	distance vector routing algorithm with example. What is ALOHA? Explain Pure ALOHA and Slotted ALOHA. OR	07
	Q.5	(a)	What is connecting devices? List out various connecting devices and explain any two in detail.	07
		(b)	Explain transmission impairments in detail.	07
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