Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **BE - SEMESTER-IV EXAMINATION - WINTER 2015**

Subject Code: 141601		Date:22/12/2015		
Tiı	-	Name: Data Communication and Networking 02:30pm to 05:00pm	Total Marks: 70	
		Attempt all questions.  Make suitable assumptions wherever necessary.		
Q.1	(a)	What is data communication? Explain the characteristics of data communication system with advantage.		07
	<b>(b)</b>	Explain the OSI model for networking in brief. How does it differ from TCP/IP model.		
Q.2	(a) (b)	Explain the functions of physical layer and Data link layer in brief.  Describe the concept of circuit switching and Packet switching.  OR		07 07
	<b>(b)</b>	List several transmission media for networking. Explain ar Brief.	ny two media in	07
Q.3	(a)	Define following terms 1.Amplitude 2.Period 3.Frequency 4.Phase 5.Analog Signal		07
	<b>(b)</b>	What is modulation and demodulation? Why it's needed? I modulation and state various techniques.	What is analog	07
Q.3	(a)	OR Explain hamming code method for error detection? Error correction with example.		07
	<b>(b)</b>	•		07
Q.4	(a) (b)	List out advantage of multiplexing explain FDM and TDM. Give the DERIVATION of ABBREVIATION (any seven) (1)GPRS (2)CDMA (3)FDDI (4)MAC (5)ISP (6)CCNA (7)SONET (8)VPN OR		07 07
Q.4	(a) (b)	Explain digital data transmission? What is DTE-DCE interface? What is Ethernet? Explain WAN and CAN.		07 07
Q.5	(a) (b)	Explain the following (1) modem (2) repeater (3) bridges (4) IP address Explain guided media and unguided media with example. <b>OR</b>		07 07
Q.5	(a)	Explain Analog to digital and Digital to analog conversion.	on with advantage of	07
	<b>(b)</b>	Explain the frame relay in details.		07

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