Seat No.:	Enrolment No.
-----------	---------------

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012 Subject code: 161704 Date: 05/01/2013

Subject Name: Analog Digital Communication				
Time:	02.3	0 pm - 05.00 pm Total Marks: 7	70	
Instru	ıctio	ns:		
,	2. M	tempt any five questions. ake suitable assumptions wherever necessary. gures to the right indicate full marks.		
Q.1	(a)	Explain the Data topologies	07	
•	` ′	Explain the physical layer in detail	07	
Q.2		Compute the CRC-4 character for the following message using a "divisor" constant of 10011:	07	
	(b)		04	
	(b)	(1) How does return to zero and non return to zero binary data forms differ?	V4	
		(2) Explain Null Modem OR	03	
	(b)	An Frequency modulated signal with carrier frequency	07	
	()	$wc = 2\pi \times 10^5$ is describe by the equation		
		$10 \cos (\text{wct} + 5\sin 3000t + 10\sin 2000\pi t)$		
		Find:		
		(1) The power of the modulated signal		
		(2) The frequency deviation Δf		
		(3) The deviation ratio		
		(4) Estimate the bandwidth		
Q.3	(a)	Explain the FSK in detail	07	
	(b)	An AM broadcast station transmits 2KW if carrier power and uses an	07	
		index of modulation of 0.7		
		Calculate:		
		(1) Power of each sideband		
		(2) Total sideband power		
		(3) Total Transmitter power		
		(4) Percentage of total power in the sidebands OR		
Q.3	(a)	Explain the X.25 packet switch protocol	07	
	(b)	Explain SDLC/ HDLC protocol with their frame format and address and control field	07	
Q.4	(a)	Explain the losses in fiber cable	07	
	(b)	Explain the Delta modulation	07	
0.4	()	OR	^ -	
Q.4	(a)	Explain IEEE 802.11: wireless lans using CSMA/CA	07	
o -	(b)	Explain Time Division Multiple Access in detail	07	
Q.5	(a)	Explain the pre-emphasis & De-emphasis	07	
	(b)	Explain the 8PSK Modulator	07	
0.5	()	OR	0=	
Q.5	(a)	Explain the synchronous data error methods	07	
	(b)	Explain with block diagram ACIA(Asynchronous Communications interface adapter). Also mention its control and status registers.	07	
