Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019

Subject Code: 2161704 Date: 09/12/2019

Subject Name: Analog and Digital communication

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 RS 232 standard with RS 422	**03**
	(b)	Define: (a) Metropolitan Area (b) Noise (c) Pulse code modulation (d) Cyclic Redundancy check	**04**
	(c)	Describe V-Series modems V.34 and V.90.	**07**
Q.2	**(a)**	Compare Wideband FM with narrowband FM.	**03**
	(b)	Compare synchronous and Asynchronous Data format.	**04**
	(c)	Explain phase shift keying and application of it in detail	**07**
		OR	
	(c)	Discuss the troubleshooting of Fiber optic	**07**
Q.3	**(a)**	Explain Null Modem	**03**
	(b)	How does return to zero and non-return to zero binary data forms differ?	**04**
	(c)	Explain SDLC/ HDLC protocol with their frame format and address and control field	**07**
		OR	
Q.3	**(a)**	Give difference between Frequency Modulation and Phase Modulation	**03**
	(b)	Explain Thermal Noise.	**04**
	(c)	Describe system network architecture and basic SNA network.	**07**
Q.4	**(a)**	Describe Data Topologies.	**03**
	(b)	Explain Pulse width Modulation.	**04**
	(c)	Write a short-note on data correction using longitudinal redundancy check and vertical redundancy check.	**07**
		OR	
Q.4	**(a)**	Describe Power relation in AM wave.	**03**
	(b)	Explain Time division multiplexing.	**04**
	(c)	Explain Pulse code Modulation in details.	**07**
Q.5	**(a)**	Explain Noise figure.	**03**
	(b)	What are the main transmit and receive block of a FSK modulator?	**04**
	(c)	Which are the main purpose of an Instrumentation and Control system in an Industrial environment?	**07**
		OR	
Q.5	**(a)**	Explain Shot Noise in details	**07**
	(b)	Write a note on optical fiber cable and how it useful in industrial communication.	**07**

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