

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- VI EXAMINATION – SUMMER 2020****Subject Code: 2161704****Date: 26/10/2020****Subject Name: Analog and Digital Communication****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Derive Equation for AM wave.	<b>03</b>
	(b) Explain need of modulation.	<b>04</b>
	(c) Compare AM, FM and PM system in detail	<b>07</b>
<b>Q.2</b>	(a) How does return to zero and non return to zero binary data forms differ?	<b>03</b>
	(b) Compare RS 422 and RS 423 interface standards.	<b>04</b>
	(c) Classify noise and explain noise in detail.	<b>07</b>
	<b>OR</b>	
	(c) Describe RS 449 interface standard.	<b>07</b>
<b>Q.3</b>	(a) Define following terms i. Network Interface card ii. Companding iii. Cyclic redundancy check	<b>03</b>
	(b) Discuss the pre-emphasis & De-emphasis.	<b>04</b>
	(c) Explain frequency shift keying and application of it in detail.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Define methods for error detection and error correction.	<b>03</b>
	(b) Write a note on noise triangle with reference to FM.	<b>04</b>
	(c) Define data terminal and data communication equipments.	<b>07</b>
<b>Q.4</b>	(a) Explain ASK with waveforms	<b>03</b>
	(b) Define Serial and Encoded data formats.	<b>04</b>
	(c) Give basic concepts of light propagation for fiber cable design.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain FSK with waveforms	<b>03</b>
	(b) Discuss advantages and disadvantages of communication using optical fiber.	<b>04</b>
	(c) Write about SONET topology and SONET frame.	<b>07</b>
<b>Q.5</b>	(a) Define IEEE 802.6 Metropolitan Area Network	<b>03</b>
	(b) Describe Time Division Multiple Access.	<b>04</b>
	(c) Explain wireless LANs using CSMA/CA.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Define different network topologies.	<b>03</b>
	(b) Compare frequency modulation with phase modulation	<b>04</b>
	(c) Briefly describe OSI model architecture.	<b>07</b>

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