

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