

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2020

Subject Code:2161704**Date:27/01/2021****Subject Name:Analog and Digital communication****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Give comparison of Amplitude and Frequency modulation.	03
	(b) Define following Terminology: (a) Protocol (b) Network (c) Half Duplex (d) Topology	04
	(c) Explain general communication system with block diagram.	07
Q.2	(a) Draw block diagram of FSK modulator and demodulator.	03
	(b) Define sampling theorem. What is the range of frequency in AM, FM band.	04
	(c) Derive equation of sinusoidal AM and draw AM spectrum for AM=1, AM>1,AM<1.	07
Q.3	(a) Give classification of Noise.	03
	(b) State importance of modulation and enlist various types of modulation technique.	04
	(c) List various types of error detection and correction method. Describe any one in details.	07
Q.4	(a) Enlist working principal of fiber optics.	03
	(b) Draw and explain QPSK modulator.	04
	(c) Briefly describe OSI model architecture.	07
Q.5	(a) List and sketch various Data Topologies.	03
	(b) Draw and Explain adaptive delta modulator.	04
	(c) Explain Data Link Layer Protocols.	07
Q.6	(a) What was the purpose for forming the IEEE 802 committee?	03
	(b) Write a note on quantization.	04
	(c) Explain GEO, LEO and MEO satellites.	07
Q.7	(a) Define the BIT-oriented protocols and draw HDLC frame.	03
	(b) Explain RS -232 interface standards.	04
	(c) Explain X.25 packet switch protocol.	07
Q.8	(a) Explain application of microwave communication in brief.	03
	(b) Discuss advantages and disadvantages of communication using optical fiber.	04
	(c) Describe SONET topology and its frame.	07
