

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2021****Subject Code:2161704****Date:05/08/2021****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.

		MARKS
<b>Q.1</b>	(a) Draw the block diagram of communication system and explain each block.	<b>03</b>
	(b) Explain DTE and DCE equipment's.	<b>04</b>
	(c) Describe frequency modulation and give its mathematical representation.	<b>07</b>
<b>Q.2</b>	(a) Explain Null Modem.	<b>03</b>
	(b) Describe different methods for connecting nodes in Digital Communication.	<b>04</b>
	(c) Enlist advantages and disadvantages of FM over AM.	<b>07</b>
<b>OR</b>		
	(c) What is the function of modulator? Explain balanced modulator with its diagram.	<b>07</b>
<b>Q.3</b>	(a) Describe Power relation in AM wave.	<b>03</b>
	(b) Explain RS 422 and RS 423 interface standards.	<b>04</b>
	(c) Explain in brief different types of noise.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Compare Wideband and Narrowband FM.	<b>03</b>
	(b) Explain FSK Modems with its block diagram.	<b>04</b>
	(c) List Digital Modulation Techniques. Explain ASK and PSK in Detail.	<b>07</b>
<b>Q.4</b>	(a) Discuss regarding BISYNC Protocol.	<b>03</b>
	(b) Explain in detail different types of light sources used in fiber-optic systems.	<b>04</b>
	(c) Explain Time Division Multiplexing. Also discuss about multichannel TDM system.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Explain basic principle of light propagation in fiber optics.	<b>03</b>
	(b) Explain LRC and VRC error detection method along with suitable example.	<b>04</b>
	(c) Explain 802.4 Token Bus.	<b>07</b>
<b>Q.5</b>	(a) Summarize different data topologies.	<b>03</b>
	(b) Explain Time Division Multiple Access communication system used in satellite communication.	<b>04</b>
	(c) Describe SONET topology and its frame.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Explain GEO, LEO and MEO satellites.	<b>03</b>
	(b) Describe various types of network interface card.	<b>04</b>
	(c) Explain Delta Modulation and Adaptive Delta Modulation.	<b>07</b>

\*\*\*\*\*