GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021

Subject Code:2161704   **Date:30/11/2021**
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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Explain Bandwidth requirement for the communication System.	**03**
	(b)	Explain Phase modulation with wave form.	**04**
	(c)	What is Signal to Noise Ratio? Explain Noise figure with example.	**07**
Q.2	**(a)**	Describe the frequency spectrum of AM Wave.	**03**
	(b)	Explain representation of Amplitude Modulated (AM) wave.	**04**
	(c)	Compare ASK. FSK and PSK.	**07**
		OR	
	(c)	Explain pre-emphasis and de-emphasis.	**07**
Q.3	**(a)**	Explain Hamming code for error correction.	**03**
	(b)	Explain Manchester encoded data forms with example.	**04**
	(c)	Explain Synchronous data error methods.	**07**
		OR	
Q.3	**(a)**	Explain Null Modem.	**03**
	(b)	Enlist types of networks, Explain WAN (Wide area network) with example.	**04**
	(c)	Explain the OSI (Open system Interconnection) Layers in brief.	**07**
Q.4	**(a)**	Explain QPSK Modulator.	**03**
	(b)	Describe FDM (Frequency Division Multiplexing).	**04**
	(c)	Explain PCM (Pulse Code Modulation) with necessary diagrams and waveforms.	**07**
		OR	
Q.4	**(a)**	Explain RS 232C interface.	**03**
	(b)	Explain X.25 Packet Switch Protocol.	**04**
	(c)	Explain 802.5 Token Ring in detail.	**07**
Q.5	**(a)**	Describe FDDI (Fiber Distributed data Interface) in brief.	**03**
	(b)	Explain WDM (Wave Division Multiplexing)	**04**
	(c)	Explain various light sources in fiber optic communication.	**07**
		OR	
Q.5	**(a)**	Explain Microwave communications.	**03**
	(b)	Explain fiber cable losses in brief.	**04**
	(c)	Explain wireless LAN using CSMA/CA.	**07**

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