Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII(OLD) • EXAMINATION – WINTER 2016

Subject Code: 172405 **Date: 18/11/2016**

Subject Name: Industrial Communication Systems (Department Elective - I)

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.**

Q.1	**(a)**	Write down the difference between analog & digital communication.clearly define each of the following terms: bandwidth, communication system, demodulation, modulation index.	**07**
	(b)	Draw the block diagram of fiber optic communication system and explain it. Also list down the benefits of F.O.C.	**07**
Q.2	**(a)**	Write a short note on F.M. with necessary figure and mathematical analysis.	**07**
	(b)	Draw the waveform for the different digital modulation skim. The signal is given by 10011000001.	**07**
Q.3	**(a)**	Explain synchronous and asynchronous system in detail.	**07**
	(b)	Explain PWM in detail.	**07**
Q.4	**(a)**	What do you mean by balanced and unbalanced transmission lines? Explain it with suitable example.	**07**
	(b)	Explain CSMA/CA with necessary flowchart and figure.	**07**
Q.5	**(a)**	Compare and construct (1) random access protocol and channelizing protocol.(2) control access protocol and channelizing protocol.	**07**
	(b)	With the necessary block diagram explain OSI model. How are OSI and ISO Related to each other.	**07**
Q.6	**(a)**	Explain over modulation and define amplitude sensitivity.	**07**
	(b)	Write a short note on (1)network topology. (2) Different types of transmission techniques.	**07**
Q.7	**(a)**	Difference between TCP/IP & OSI MODEL., BANDWIDH and throughput.	**07**
	(b)	A telephone line has a bandwidth of 3KHZ assigned for data communication. The S/N ratio is 31620.For this channel calculate the capacity of it. Write down the application of ICS.	**07**

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