Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV • EXAMINATION – SUMMER 2015

Subject Code: 141102 **Date: 08/06/2015**

Subject Name: Communication Engineering

Time: 10.30am-01.00pm **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)**	Describe in detail basics of communication system with help of necessary block diagram	**07**
	(b)	Explain need of modulation. Derive equation for amplitude modulation and draw amplitude spectrum for m=1.	**07**
Q.2	**(a)**	Explain various types of internal and external noise and its effect on communication systems.	**07**
	(b)	What is SSB-SC modulation? Explain filter method of side band suppression.	**07**
		OR	
	(b)	Discuss the super heterodyne AM receiver with block diagram.	**07**
Q.3	**(a)**	Justify FM is called a constant bandwidth system.	**07**
	(b)	Explain Armstrong method of FM generation.	**07**
		OR	
Q.3	**(a)**	Write a short note on stereophonic FM	**07**
	(b)	Explain the FDM System for telephone communication with the help of block diagram.	**07**
Q.4	**(a)**	Explain the quantization process used in PCM with figure.	**07**
	(b)	A silica optical fiber the refractive index of core layer is 1.56 and that of cladding is 1.35. Calculate (a) Critical angle (b) Relative reflective index difference (c) N.A (d) Acceptance angle.	**07**
		OR	
Q.4	**(a)**	Explain the principal of fiber optic data transmission.	**07**
	(b)	Write a short note on telemetry.	**07**
Q.5	**(a)**	Draw and explain block diagram of television transmitter.	**07**
	(b)	Explain briefly television system and standards.	**07**
		OR	
Q.5	**(a)**	Explain working principal of PAL-D TV receiver.	**07**
	(b)	Explain the need, advantages and disadvantages of coding.	**07**

****