Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (OLD) - EXAMINATION – SUMMER 2017

Subject Code:141102 **Date: 12/06/2017**

Subject Name: Communication Engineering

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)**	Discuss the need of communication. With block diagram explain the modern electronics communication system.	**07**
	(b)	Compare the AM, FM, and PM based on following criteria. 1. Sinusoidal Modulation Equation 2. Modulation Index 3. Bandwidth required 4. Application	**07**
Q.2	**(a)**	Define Noise. Classify the different type of noise.	**07**
	(b)	Drive the equation of noise factor of amplifier in cascade.	**07**
		OR	
	(b)	A mixer stage has a noise figure of 20 dB, and this is preceded by an amplifier that has a noise figure of 9 dB and an available power gain of 15 dB. Calculate the overall noise figure referred to the input.	**07**
Q.3	**(a)**	Explain the amplitude modulator circuits.	**07**
	(b)	List the three basic steps to generate pulse code modulation. Drive the equation for quantization noise.	**07**
		OR	
Q.3	**(a)**	Write short note on Telegraphy and Telemetry.	**07**
	(b)	Discuss the advantage disadvantage of SSB over AM. Discuss any one methods of generation of SSB modulated signals.	**07**
Q.4	**(a)**	Write short note on Foster-Seeley Discriminator.	**07**
	(b)	Write short note on Superhetrodyne receiver.	**07**
		OR	
Q.4	**(a)**	Discuss the TDM and FDM technique in details.	**07**
	(b)	Write short note on: Telegraphy and Telemetry	**07**
Q.5	**(a)**	Draw and explain block diagram of colour television receiver.	**07**
	(b)	Compare the single mode fiber and multimode fiber based on, 1 Structure of cable and material used 2 Index profile 3 Source and detector suitable with 4 Bandwidth 5 Application	**07**
		OR	
Q.5	**(a)**	Discuss the advantage and disadvantage of optical fiber communication over wire communication.	**07**
	(b)	List colour television standards and country where they are commonly used. Outline the major technical data of television standard used in India.	**07**

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