Code No: R1922044 **R19** SET - 1

II B. Tech II Semester Regular Examinations, August/September - 2021
ANALOG COMMUNICATIONS
(Electronics Communication Engineering)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit
All Questions carry **Equal** Marks
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1	a)	With necessary expressions, waveforms and spec a, explain AM for an arbitrary baseband signal m(t).	[8M]
	b)	Explain the generation technique of an AM wave using the square law modulator.	[7M]
		Or	
2	a)	Draw and explain switching modulator along with the related transfer characteristics and equations.	[8M]
	b)	The efficiency of an AM wave is defined by $\eta=(Ps/Pt)x100$. Find the efficiency for $\mu=0.5$.	[7M]
3	a)	What are DSBSC generation methods? Explain the generation of DSBSC using Ring modulator.	[8M]
	b)	Explain the phase discrimination method for generating SSB wave.	[7M]
		Or	
4	a)	Explain the principle of V.S.B Transmission. What are advantages over S.S.B?	[8M]
	b)	With a neat block diagram, explain the operation of phase discrimination method.	[7M]
5	a)	Explain the detection of FM wave using balanced frequency discrimination with block diagram.	[8M]
	b)	Explain clearly about pre-emphasis and de-emphasis in FM wave.	[7M]
		Or	
6	a)	Derive an expression for the spectrum of FM wave with sinusoidal modulation.	[8M]
	b)	Explain different modes in a phase locked loop in detail .	[7M]
7	a)	Draw the block diagram of superhetrodyne receiver and the function of each block.	[8M]
	b)	Discuss the factors influencing the choice of intermediate frequency (IF) for a radio Receiver.	[7M]
		Or	
8	a)	With the aid of the block diagram explain TRF receiver. Also explain the basic superhetrodyne principle.	[8M]
	b)	Draw the block diagram of phase modulated FM Transmitter and explain the function of each block .	[7M]
9	a)	Describe the synchronization procedure for PAM, PWM and PPM signals.	[8M]
	b)	Compare merits and demerits of TDM and FDM.	[7M]
		Or	
10		Explain the terms (a) shot noise (b) thermal noise (c) white noise (d) noise figure and (e) Transit time noise.	[15M]
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