Reg.No: | | | | | | | |

SNS College of Technology, Coimbatore-35.
(An Autonomous Institution)
B.E/B.Tech- Internal Assessment -I
Academic Year 2023-2024 (Odd Semester)
Fifth Semester
Electronics & Communication Engineering
19ECB301-Analog and Digital Communication

A

Time: 1 1/2 Hours **Maximum Marks: 50**

Answer All Questions

PART - A (5x 2 = 10 Marks)

		CO	Blooms
1.	What is meant by amplitude modulation.	CO1	Rem
2.	The carrier amplitude after AM varies between 4 volts and 1 volt. Calculate depth of modulation.	CO1	App
3.	Distinguish PAM and PPM.	CO1	Ana
4.	State the main functions of Radio Receiver.	CO2	Und
5.	Define Selectivity.	CO2	Rem

PART – B (2*13=26 Marks) (1*14=14 Marks)

				CO	Blooms
6.	(a)	Derive the expression of AM wave with its frequency spectrum and bandwidth and draw its waveform.	13	CO1	Ana
		(or)			
	(b)	Explain the generation of SSB wave using phase discrimination method with necessary block diagram.	13	CO1	Und
7.	(a)	Build the circuit diagram of a ratio detector and explain how it demodulated an FM signal and the amplitude limiting achieved.	13	CO2	App
		(or)			

	(b)	Explain the operation of AM Super heterodyne receiver with its characteristics.	13	CO2	Und
8.	(a)	An audio frequency signal $10\sin 2\pi*500t$ is used to amplitude modulate a carrier of $50\sin 2\pi*10^5t$ Calculate a) Modulation index b)Side band frequencies c)Amplitude of each sideband frequencies d) Bandwidth required e) Total power delivered to the load of 600	14	CO1	App
		(or)			
	(b)	Inspect and discuss the factors influencing the choice of intermediate frequency for a radio receiver.	14	CO2	Ana

Abbreviations:

CO – Course Outcomes; **Rem-** Remembering; **Und –** Understanding; **App –** Applying; **Ana –** Analyzing; **Eva –** Evaluating; **Cre-** Creating