PRN:		Course Code:	U15MM021

Second Year **B. Tech** Semester End Exam Winter 2024

Electronic Communication System

Day and Date: Thu 28 Nov 2024 Max Marks: **35**

Time: 10:30AM To 12:30PM Duration: **02** hrs

Instructions:
1. All questions are compulsory.
2. Assume suitable data wherever necessary and mention it clearly.

			Marks	Bloom's Level	CO
Q.1		**Attempt any one of the following Question.**			
	a)	Describe in detail the history/evolution of electronic communication.	7	1	1
	b)	Draw a schematic diagram of electromagnetic waves spectrum depicting the band names and associated frequencies, wavelengths and application areas.	7	1	1
	c)	A modulating signal 8 sin ($2\pi * 10^3$ t) is used to modulate a carrier signal 12 sin ($2\pi * 10^4$ t). Find the modulation index and percentage modulation?	7	1	1
Q.2		**Attempt the following Question.**			
	a)	Define Modulation index of AM and illustrate types of AM based on modulation index.	7	3	3
		OR			
	b)	Compare and contrast between AM and FM.	7	3	3
Q.3		**Attempt the following Question.**			
	a)	Explain AM demodulation process with a detector circuit diagram.	7	2	2
		OR			
	b)	Illustrate the following performance characteristics for a Receiver. i) Sensitivity ii) Selectivity iii) Fidelity iv) Bandwidth	7	2	2
Q.4		**Attempt the following Question.**			
	a)	Define Noise. Describe Classification noise with a neat tree diagram.	7	3	4
		OR			
	b)	Write a short note on following type of internal noises. i) Thermal noise ii) Shot Noise iii) White noise	7	3	4
Q.5		**Attempt the following Question.**			
	a)	Describe the following types of data communication with a diagram, i) Simplex ii) Half duplex iii) Full duplex	7	4	4
		OR			
	b)	Write the significance of channel/media in electronics communication systems and also illustrate various wired (guided) transmission media.	7	4	4

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