SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations February-2024
INTRODUCTION TO COMMUNICATION SYSTEMS
(Open Elective-I)

Time: 3 Hours   Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

1	a	Define wired communication and wireless communication.	CO1	L1	5M
	b	Compare Analog and Digital communication.	CO1	L4	7M

OR

2	a	Explain single tone modulation for transmitting only upper side band (USB) frequency of SSB modulation	CO3	L2	6M
	b	Explain briefly about the various applications of SSB-SC.	CO3	L2	6M

UNIT-II

3	a	Define Frequency Modulation with necessary waveforms.	CO3	L3	6M
	b	Derive the expression of Frequency modulation.	CO2	L2	6M

OR

4	a	Discuss about transmission bandwidth and Carson's rule of FM signal.	CO2	L2	6M
	b	A 20 MHz carrier is frequency modulated by a sinusoidal signal such that the peak frequency deviation is 100 kHz. Determine the modulation index and the approximate bandwidth of the FM signal if the frequencyof the modulating signal is: (i) 1kHz (ii) 15kHz	CO3	L3	6M

UNIT-III

5	a	Explain noise figure and derive its expression.	CO1	L2	6M
	b	A mixer stage has a noise figure of 20 Db and it is preceded by another amplifier with a noise figure of 9 dB and an available power gain of 15 dB. Calculate the over all noise figure referred to the input.	CO1	L3	6M

OR

6	a	Explain the process involved in generation of PWM wave.	CO3	L2	6M
	b	Describe the demodulation technique of PWM signal.	CO4	L1	6M

UNIT-IV

7	a	ExplaintheProcessofQuantizationwithsuitableexample.	CO5	L2	6M
	b	Discussthedifferent typesofQuantization indetail.	CO5	L2	6M

OR

8	a	Explain the Binary Frequency shift keying in detail.	CO6	L2	6M
	b	Explain with suitable waveforms BinaryFrequencyShiftKeying.	CO6	L2	6M

UNIT-V

9	a	Explain cordless telephone systems.	CO1	L2	6M
	b	Explain paging systems.	CO1	L2	6M

OR

10	a	Describe the features of time division multiple access (TDMA) scheme.	CO6	L1	6M
	b	Evaluate the efficiency of time division multiple access (TDMA) scheme.	CO6	L4	6M

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