Q.P. Code: 18EC0408 **R18**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations February-2022

ANALOG COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

1	a	Explain the difference between analog and digital signals.	2M
	b	Discuss about FM transmitter.	2M
	c	Discuss about different sources of noise.	2M
	d	Explain about demodulation of PPM signal.	2M
	e	Write short notes on receiver parameters	2M

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	a	Derive an expression for the power content and transmission efficiency of single tone amplitude modulated signal.	6M
	b	Draw the frequency spectrum of DSB-SC modulation with necessary mathematical expressions.	4M

OR

3	a	With the help of circuit diagram explain the operation of square-law diode modulator & demodulator for AM.	6M
	b	Write short notes on Spectrum of VSB.	4M

UNIT-II

4	a	Explain the functionality of each block of phase shift discriminator.	7M
	b	Draw the block diagram of indirect FM method.	3M

OR

5	a	With the necessary circuit and voltage to frequency characteristics, explain the functionality of balanced slope detector for FM.	5M
	b	Compare slope detector and balanced slope detector.	5M

UNIT-III

6	a	If each stage has a gain of 10dB and noise figure of 10dB. Calculate the overall noise figure of a two-stage cascaded amplifier.	5M
	b	Give the Quadrature representation of Narrow-band noise.	5M

OR

7	a	Explain the noise performance of DSB-SC scheme with the help of neat block diagram	6M
	b	Explain effective noise temperature and noise figure.	4M

UNIT-IV

8	a	Explain the Transmission bandwidth of PAM signal.	5M
	b	Discuss about synchronization in PAM.	5M

OR

9	a	What are the differences between PAM, PWM, and PPM?	5M
	b	Explain how PPM can be generated from PWM signals.	5M

UNIT-V

10	a	Explain about sensitivity selectivity and fidelity.	5M
	b	Draw block diagram of super-heterodyne AM receiver and explain function of each block	5M

OR

11	a	Write short note on measure of Information and Entropy.	5M
	b	Derive the expression for condition of maximum entropy.	5M

END