Question Paper Code: R18A22EC04

R18

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, December-2024

ANALOG COMMUNICATIONS

(ELECTRICAL COMMUNICATION AND ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions		Course Outcome	B.T Level	Marks
1.	What is Square law modulator	CO1	L1	2M
2.	Describe COSTAS Loop	CO1	L2	3M
3.	Draw the VSB and state the advantages	CO2	L1	2M
4.	What are the advantages of SSB over DSB	CO2	L2	3M
5.	Draw the zero crossing detectors	CO3	L1	2M
6.	What are the applications of PLL	CO3	L2	3M
7.	Define short Noise	CO4	L1	2M
8.	What are the sources of Noise	CO4	L2	3M
9.	Define Intermediate Frequency	CO5	L1	2M
10.	Explain the need of AGC	CO5	L2	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. (5 X 10M = 50M)

11. A)	Explain how a DSBSC signal is represented in the time and frequency domain	CO1	L3	10M
	OR			
B)	Explain Frequency Division Multiplexing with a neat diagram	CO1	L3	10M
12. A)	Explain the generation of VSBSC signal	CO2	L3	10M
	OR			
B)	Explain how a SSBSC signal is represented in time and frequency domain	CO2	L3	10M
13. A)	Explain how a FM signal is demodulated using PLL(Phase locked loop)	CO3	L3	10M
	OR			
B)	Derive the expression for Wide band FM	CO3	L3	10M
14. A)	Derive the expression of figure of merit for SSBSC system	CO4	L3	10M
	OR			
B)	Derive expressions of Signal to Noise Ratio for an DSB system using coherent demodulation	CO4	L3	10M
15. A)	Draw the block diagram of a Super Heterodyne receiver, and explain the operation of each stage of the receiver	CO5	L3	10M
	OR			
B)	Explain the operation of Tuned radio frequency (TRF) receiver with the block diagram and mention its advantages and disadvantages.	CO5	L3	10M