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Printed Pages : 2

33006

BT-3 / D-17

ANALOG COMMUNICATION

Paper–ECE-203-E

Time allowed : 3 hours] *[Maximum marks : 100*

Note :- *Attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.*

Unit–I

1. (a) Discuss internal and external source of noise in detail. 10

(b) Describe noise in reactive circuits. 10

2. (a) Discuss mathematical representation of narrow band noise. 10

(b) Write short note on the following:

(i) Signal to noise ratio

(ii) Noise band width 10

Unit–II

3. (a) Give the block diagram for generating SSB signal using balanced modulator and phase shifters. Also analyze its operation. 10

(b) Discuss square law modulation method. 10

4. (a) Explain diode detector with filter for detection of AM signals. 10

(b) Write short note on the following:

(i) SSB modulation

(ii) Collector modulation 10

[Turn over

Unit–III

5. (a) Explain modulation index and bandwidth of FM Signal.

(b) A carrier is frequency modulated by a sinusoidal modulating signal of frequency 2KHz resulting in a frequency division of 5KHz. Determine the bandwidth occupied by the modulated waveform. The amplitude of the modulating sinusoid is increased by a factor of three and its frequency is lowered to 1KHz. Calculate the new bandwidth. 10

6. Explain the following terms:

(i) NBFM

(ii) WBFM

(iii) Foster-Seeley discriminator

(iv) Noise triangle 4×5

Unit–IV

7. (a) Draw the block diagram of an AM transmitter and explain the function of its constituents. 10

(b) Write a detailed note on radio telephone transmitter. 10

8. (a) Write a detailed note on privacy devices. 10

(b) Explain simple FM transmitter using reactance modulator. 10