

Q.P. Code : 4922

a2zSubjects.com

(3 Hours)

[Total Marks : 80

- N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any three out of remaining questions.

1. Solve any four : a2zSubjects.com 20
- (a) What is convolution of signals ?
 - (b) Explain noise factor ?
 - (c) Define selectivity ?
 - (d) What is Intersymbol Interference ?
 - (e) What is Bit rate and Baud rate ?
2. (a) Explain digital communication system in details ? 6
(b) What are types of Internal Noise ? 6
(c) What is mean by signal to noise ratio ? Discuss the importance of SNR in radio receiver ? 8
3. (a) Obtain the fourier transform of a sinewave having frequency of f_0 and peak amplitude of unity. Also plot its frequency spectrum ? 10
(b) A sinusoidal carrier has amplitude of 20V and frequency 30 KHz. It is amplitude modulated by sinusoidal voltage of amplitude 3V and frequency 2KHz. Modulated voltage is developed across a 50Ω resistance. 10
- (i) Write the equation for modulated wave
 - (ii) Plot the modulated wave showing maxima and minima of waveform
 - (iii) Determine the modulation Index
 - (iv) Draw the spectrum of modulated wave ?
- a2zSubjects.com 10
4. (a) Explain generation of PM by Armstrong method ? 10
(b) What is pulse position modulation (PPM) ? Explain modulation and demodulation technique used for ppm ? 10
5. (a) A Band pass signal has a spectral range that extends from 30 KHz to 75 KHz. Find the sampling frequency ? 10
(b) Explain in detail generation of any method used in AM ? 20
6. Write short notes on (any four) :
- (a) Friiss Formula
 - (b) Noise Bandwidth
 - (c) Balanced Modulator
 - (d) Pre-emphasis and De-emphasis
 - (e) Ratio Detector
- a2zSubjects.com