

Total No. of Printed Pages: 03



SUBJECT CODE NO: - YY-2337
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y. SEM IV (CBCGS) (Pattern 2022)
Examination April / May - 2024
Electronics-XII Communication Electronics

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- i) All questions are compulsory.
- ii) All questions carry equal marks.
- iii) Figures to the right indicate full marks.

Q1 What is amplitude modulation? Draw the waveform of amplitude modulated carrier voltage. Derive expression of modulation index. 10

OR

- a) With neat diagram explain varactor diode frequency modulator. 05
- b) Explain construction of phase discriminator with neat circuit diagram. 05

Q2 What is meant by pulse amplitude modulation? Draw waveforms and explain in brief. 10

OR

- a) Explain different types of synchronization in digital communication. 05
- b) Explain probability of bit error in base band transmission. 05

Q3 Attempt any two questions of the following :- 10

- a) A sinusoidal modulating waveform of amplitude 10 V and a frequency of 5 KHz is applied to F M generator, which has a frequency sensitivity of 20 Hz/Volt. Calculate frequency deviation and modulation index.
- b) Write short notes on square law diode modulation.

- c) Write short notes on pulse width modulation.
- d) Write short notes on amplitude shift keying in digital communication.

Q4 Attempt the following selecting correct answer from the given alternatives: 10

1. _____ is the process of producing a wave in which some characteristic of carrier wave changes in accordance with modulating voltage intensity.

- a) demodulation
- b) amplitude modulation
- c) modulation
- d) frequency modulation

2. _____ is constant in the case of frequency modulation.

- a) modulation
- b) wavelength
- c) amplitude
- d) frequency

3. _____ modulation is not used for commercial purpose.

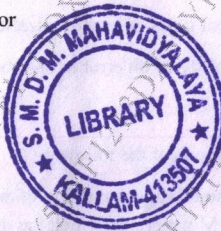
- a) phase
- b) amplitude
- c) frequency
- d) pulse

4. Square law diode modulation use _____ region of current - voltage characteristics of a diode

- a) Linear
- b) Non - linear
- c) Both a and b
- d) None of the above

5. The basic element of Armstrong method of frequency modulation is _____.

- a) Crystal controlled oscillator
- b) Capacitance diode
- c) Inductance diode
- d) None of the above

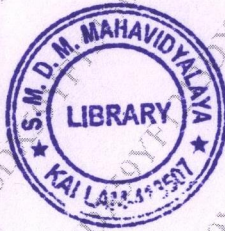


6. The process of recovering information signal from received carrier is known as _____.

- a) modulation
- b) encoding
- c) demodulator
- d) sampling

7. PCM stands as _____

- a) Pulse code modulation
- b) Position code modulation
- c) Pulse carrier modulation
- d) Pulse centre modulation



8. In pulse position modulation, position of the pulse is varied in accordance with the _____ of input signal.

- a) frequency
- b) width
- c) amplitude
- d) phase

9. _____ converts the information into binary code.

- a) Channel encoder
- b) Source encoder
- c) Source decoder
- d) Channel decoder

10. In phase shift keying, the binary signal is used to switch the phase between _____

- a) 30° and 60°
- b) 60° and 90°
- c) 0° and 180°
- d) 0° and 360°