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SUBJECT CODE NO:- B-2211
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem.-IV) Examination OCT/NOV 2019
Electronics Paper-XI
Communication Electronics

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

N.B

- i. Attempt all questions.
- ii. Illustrate yours answer with suitable labeled diagram.

Q.1 What is Amplitude Modulation? Explain with necessary waveforms side bands produced in A.M. 20

OR

What is Pulse Code Modulation? Explain the method of quantization.

Q.2 Draw a neat circuit diagram of linear diode detector and derive an expression for O/P voltage. 20

OR

Write short notes on any four

- a) Phase shift keying
- b) Pulse width modulation
- c) The deviation ratio in F.M.
- d) Frequency shift keying
- e) Matched filter
- f) Aram strong modulator

Q.3 Attempt the following multiple choice questions. 10

- 1) In case of PF.M. the duty cycle of rectangular pulses -----.
 - a) Increases
 - b) Decreases
 - c) Remains constant
 - d) Varies slightly
- 2) F.M. is disadvantageous over A.M. because of -----.
 - a) Large channel Band width required
 - b) F.M. is more complex
 - c) Channel Mixing
 - d) Both a & b
- 3) The equation $e = A \cos[w_c t + k_p \phi(t)]$ represents the ----- signal.
 - a) Phase modulated
 - b) Amplitude modulated
 - c) Frequency modulated
 - d) Delta modulated
- 4) A modulation index of 0.5 would be same as -----.
 - a) 0.05%
 - b) 0.5%
 - c) 5%
 - d) 50%

- 5) Increase or decrease in frequency around the carrier frequency is -----.
- a) Feedback factor
 - b) Frequency deviation
 - c) Modulation Index
 - d) Phase shift
- 6) Which stage in a radio transmitter isolates the Oscillator from the load
- a) Buffer
 - b) Separator
 - c) Mixer
 - d) Isolator
- 7) Middle stage of A.M. transmitter is
- a) Oscillator
 - b) Power amplifier
 - c) Antenna
 - d) Harmonic generator
- 8) The diode used in frequency modulator is -----.
- a) LED
 - b) Tunnel diode
 - c) P.N. junction diode
 - d) Varactor diode
- 9) Matched filters may be used -----.
- a) To estimate the frequency of received signal
 - b) In parameter estimation problems
 - c) To estimate distance of the object
 - d) All a, b & c
- 10) In ----- transmission, bits are simultaneously transmitted each across its own channels
- a) Synchronous serial
 - b) Asynchronous serial
 - c) Parallel
 - d) None of the above