

No. of Printed Pages : 4 181033/171033/121033  
Roll No. .... /031033/106555

3rd Sem / Eltx, IC, Power Eltx, Elect. & Eltx. Engg.  
Subject:- Principles of Communication Engineering

Time : 3Hrs. M.M. : 100

#### SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In Amplitude modulation which characteristics of carrier signal is varied

- a) Amplitude
- b) frequency
- c) Phase
- d) None of these

Q.2 The range of modulation index in amplitude modulation lies

- a) 1 to 100
- b) 1 to 1000
- c) 0 to 1
- d) None

Q.3 Vestigial sideband is most commonly used in

- a) Radio transmission
- b) TV transmission
- c) Telephony
- d) All of these

Q.4 The most power consuming element of AM wave is

- a) Carrier component
- b) Modulating signal
- c) Lower sideband
- d) upper sideband

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- Q.24 Explain carson's rule.
- Q.25 Describe Pre emphasis circuit.
- Q.26 Explain the working of square law modulator with suitable diagram.
- Q.27 Explain varactor diode modulator regarding FM.
- Q.28 Describe the circuit of linear diode detector in AM demodulation.

- Q.29 Explain the block diagram of phase locked loop.
- Q.30 Explain phase modulation in brief.
- Q.31 Give comparison of amplitude modulation and frequency modulation.
- Q.32 What do you understand by sampling theory. Define sampling theorem.
- Q.33 Give comparison between FDM & TDM.
- Q.34 Explain PAM in brief.
- Q.35 Explain Noise triangle with diagram.

#### SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the block diagram of modern communication system.
- Q.37 Describe frequency modulation in detail with suitable diagram
- Q.38 Write a note on

- a) PWM
- b) PPM

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Q.5 In FM modulation index is inversely proportional to the

- a) Carrier frequency
  - b) Modulating frequency
  - c) Frequency deviation
  - d) None
- Q.6 A balanced modulator produces

- a) AM
- b) DSB
- c) SSB
- d) VSB

Q.7 The function of FM detector is to detect

- a) Modulating signal
- b) Carrier signal
- c) Modulated signal
- d) None of these

Q.8 The main element of phase locked loop FM demodulator is

- a) Audio Amplifier
- b) Voltage Controlled Oscillator
- c) Cathode Ray Oscilloscope
- d) None of above

Q.9 Indicate which of the following system is not analog in nature

- a) Pulse position modulation
- b) Pulse amplitude modulation
- c) Pulse width modulation
- d) Pulse code modulation

Q.10 FM modulator is used for generating

- a) AM signals
- b) FM signals
- c) PM signals
- d) PAM signals

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### SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Give full form of DSB-SC.
- Q.12 What do you understand by carrier signal in modulation.
- Q.13 Modulation index of AM is given by \_\_\_\_\_.
- Q.14 PAM stands for \_\_\_\_\_.
- Q.15 Give full form of TDM.
- Q.16 The difference between higher cut off frequency and lower cut off frequency is known as \_\_\_\_\_.
- Q.17 Pre emphasis boosts the higher frequencies at transmitter. (True/False)
- Q.18 Write abbreviation of VCO and VSB
- Q.19 SSB-SC stands for \_\_\_\_\_.
- Q.20 PPM signal is generated with the help of PWM signal. (True/False)

### SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 What do you mean by modulation and What is its need?
- Q.22 Draw the modulated wave form of amplitude modulated wave.
- Q.23 Explain vestigial sideband system of modulation.

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