S. B. Roll. No.....

PRINCIPLES OF COMMUNICATION ENGINEERING
3rd Exam/ECE/6407/Nov'24
(For 2023 Batch)

Duration: 3Hrs. **M.Marks:50**

SECTION-A

Q1. Do as directed any nine of the following. **9x1=9**

a. Write total power in AM wave in terms of carrier power.
b. VCO stands for _____.
c. What type of modulation is used in transmission of Television signals?
d. State Carson's rule for bandwidth of FM wave.
e. What is the value of standard Intermediate frequency of AM receiver?
f. Vestigial sideband modulation is used in_____
g. The output of a balanced modulator is a _____wave.
h. What is the role of limiter in FM receivers?
i. Write the full form of DSB – SC.
j. PLL stands for _____.
k. Write any two applications of AM.
l. Write any one advantage of FM over AM.

SECTION-B

Q2. Attempt any five questions. **5x4=20**

i. What is the need of modulation in ccommunication system?
ii. List the differences between DSB and SSB.
iii. What is the need of pre-emphasis and de-emphasis?
iv. Explain the basic principle of FM detection using slope detector.
v. Write a short note on: i) Modulation Index ii) Frequency Deviation.
vi. Explain the working of Envelope Detector.
vii. What is the principle of Square law Modulator.

SECTION-C

Q3. Attempt any three questions. **3x7=21**

a. What is Amplitude Modulation? Derive an expression for an Amplitude Modulated wave.
b. Compare AM and FM in detail.
c. Describe the working of Armstrong method of frequency modulation.
d. Explain the block diagram of a basic communication system.
e. Write Short note on (**any two**) i) PLL ii) VCO iii) Balanced Modulator

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