S. B. Roll. No...

PRINCIPLES OF COMMUNICATION ENGINEERING
3rd Exam/ECE/4461/Jun'2022
(For 2018 Batch Onwards)

Duration: 3Hrs.   **M.Marks:75**

SECTION-A

Q1. Do as directed.   **15x1=15**

 a. State Carson's rule.
 b. Give main advantage of PCM.
 c. What is the use of VSB?
 d. Which is the indirect method of generating FM.?
 e. Define sensitivity.
 f. Which is the most common semiconductor device used for AM demodulation.
 g. In which type of modulation the quantization noise occurs.
 h. What is the frequency range of VHF signals?
 i. What is the role of limiter?
 j. Define Demodulation.
 k. ISB stands for_____
 l. DPCM stands for_____
 m. VCO stands for_____
 n. SSB stands for_____
 o. FM stands for_____

SECTION-B

Q2. Attempt any six questions.   **6x5=30**

 i. How AM is different from FM? Explain Briefly.
 ii. Why modulation is required in communication systems?
 iii. Describe the principle of Ring modulator.
 iv. What is Frequency modulation? Describe noise triangle
 v. Discuss the need of Pre-emphasis and De-emphasis.
 vi. Draw and explain the block diagram of general communication system.
 vii. Derive an expression for power distribution in AM wave.
 viii. Discuss the applications of Amplitude modulation.
 ix. State sampling theorem.

SECTION-C

Q3. Attempt any three questions.   **3x10=30**

 a. Discuss the different types of Pulse modulation techniques.
 b. Write a short note on any two   i) PLL   ii) ADM   iii) Balanced modulator
 c. Compare DSB-SC, SSB-SC, ISB and VSB in detail along with applications.
 d. What is Amplitude modulation? Derive its expression for AM modulated wave.
 e. Explain the working principle FM detection using Foster-Seeley discriminator.