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23ELU413

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(Fourth Semester)

Branch -ELECTRONICS

ELECTRONIC COMMUNICATION – I

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. A carrier of peak voltage 15 V is used to transmit a message signal. If the modulation index is 70%, then what will be the peak voltage of the modulating signal?
(I) 25V (II) 24V
(III) 10.5V (IV) 15V
2. Which of the following is an advantage of SSB over DSB?
(I) No change in spectrum space (II) Power is not wasted on the carrier
(III) Carrier is suppressed (IV) Reduce in spectrum space
3. The amount of frequency deviation in FM signal depends on
(I) Amplitude of the modulating signal (II) Carrier frequency
(III) Transmitter amplifier (IV) Modulating frequency
4. In a receiver, noise is usually developed at _____
(I) Audio stage (II) RF stage
(III) Receiving antenna (IV) IF stage
5. FSK reception is
(I) Phase Coherent (II) Phase non coherent
(III) Phase Coherent & non coherent (IV) None of the mentioned

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. a. Bring out the characteristics of EM waves.
OR
b. Compare ground wave and space wave propagation.

Cont....

7. a. Narrate the merits of side band transmission
OR
b. Describe the power efficiency of SSB.
8. a. Bring out the applications of FM.
OR
b. How PLL is used for clock synchronization?
9. a. Distinguish super heterodyne and heterodyne receivers
OR
b. Describe the functions of IF amplifier.
10. a. Define pulse modulation.
OR
b. Describe the functions of delta modulation.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11. a. Classify the modulation technique.
OR
b. Elucidate the block diagram of AM transmitter.
12. a. Enumerate the different types of SSB modulated technique.
OR
b. Classify the phase shift method of SSB generation.
13. a. Differentiate pre-emphasis and de-emphasis
OR
b. Classify the generation of FM.
14. a. Identify the key advantages of PLL FM demodulator.
OR
b. Justify why AGC is needed for FM receiver.
15. a. Elucidate the function of BPSK.
OR
b. Enumerate the function of PAM with neat sketch.

Z-Z-Z

END