C14-EC-304

4239

BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2016
DECE—THIRD SEMESTER EXAMINATION
ANALOGUE COMMUNICATION

Time : 3 hours]

[Total Marks : 80

3×10=30

PART—A

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Compare AM and FM.

2. List any three types of noise.

3. Define phase modulation.

4. What is the meaning of significant sidebands in FM?

5. What is low-level modulation?

6. List the types of wave propagation methods.

7. Define sensitivity, selectivity and fidelity.

8. Define isotropic antenna and draw its radiation pattern.

9. Define linear polarization.

10. Define virtual height in sky wave propagation.

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Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain about the need of modulation in communication systems.

12. (a) What is the bandwidth required for an FM signal with 75 kHz deviation and highest frequency of modulation 15 kHz?

(b) When the modulation percentage is 75, an AM transmitter produces 10 kW. How much of this is carrier power?

13. Define pre-emphasis and de-emphasis and state their benefits and explain with circuit diagrams.

14. Explain the process of demodulation in AM receiver with circuit diagram.

15. Explain the operation of indirect FM transmitter with a neat block diagram.

16. Explain about the following :

(a) Broadside array

(b) End fire array

17. Describe two methods of feeding a parabolic reflector in which the primary antenna is located at the focal point.

18. Explain the following terms :

(a) Skip distance

(b) Critical frequency

(c) Fading

(d) Maximum usable frequency

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