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C14–EC–304

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BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2015

DECE—THIRD SEMESTER EXAMINATION

ANALOGUE COMMUNICATION

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

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. List any three applications of UHF band of frequency spectrum.

2. Define frequency modulation.

3. State the advantages of FM over AM.

4. A 100W carrier is modulated to a depth of 75%. Calculate the power in AM modulated wave.

5. State the limitations of TRF receiver.

6. Distinguish between low-level and high-level modulation.

7. Define isotropic antenna and draw its radiation pattern.

8. Compare resonant and non-resonant antennas.

9. Define polarization of EM wave and list the different types of polarization.

10. What is virtual height in sky wave propagation?

PART—B

10×5=50

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. *(a)* Define AM and draw the waveform of an AM wave. 5

(b) Explain relationship between channel bandwidth, baseband bandwidth and transmission time. 5

12. *(a)* Explain pre-emphasis and de-emphasis. 6

(b) State the need for pre-emphasis and de-emphasis in FM. 4

13. *(a)* Define overmodulation and explain the effects of over-modulation. 6

(b) List the applications of FM.

14. Explain the Foster-Seeley discriminator.

15. Explain the working of superheterodyne receiver with block diagram.

16. *(a)* Explain the working of log periodic antenna. 5

(b) Explain different feed arrangements. 5

17. Explain the principle of parabolic reflector.

18. Explain space wave propagation.

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