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C14–EC–304

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2016

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. State the need for modulation in communication system.

2. What is frequency domain representation of a signal?

3. Define modulation index of AM signal.

4. State the need for angle modulation.

5. Explain the need of AVC.

6. Define fidelity and selectivity.

7. Define radiation resistance.

8. What is antenna impedance?

9. Define vertical and horizontal polarizations.

10. What are the different layers in ionosphere?

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 the term distortion and list the types of distortions. 5

(b) What are the measures for distortion less transmission? 5

12. *(a)* Derive relation between total power and carrier power in AM. 6

(b) List the applications of AM. 4

13. *(a)* What is overmodulation? Explain effects of over-modulation? 5

(b) Define pre-emphasis and de-emphasis. 5

14. *(a)* List the requirements and specifications of transmitters. 5

(b) Draw the block diagram for low-level modulated transmitter and explain. 5

15. Draw the block diagram of Armstrong FM transmitter and explain. 10

16. Explain the working of Yagi-Uda antenna. 10

17. *(a)* Define resonant and non-resonant antennas. 6

(b) List the applications of dish antenna. 4

18. Explain sky wave propagation. 10

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