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BOARD DIPLOMA EXAMINATION, (C–16)

MARCH/APRIL—2018

DECE—THIRD SEMESTER EXAMINATION

ANALOG 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. Define amplitude modulation and draw its waveform.

2. List various types of noise.

3. List the applications of SSB.

4. Define modulation index of FM.

5. State the limitations of TRF receiver.

6. Define *(a)* sensitivity, *(b)* selectivity and *(c)* fidelity of radio receivers.

7. Define the characteristic impedance of free space.

8. Define the term 'line of sight (LOS)'.

9. Define isotropic antenna and draw its radiation pattern.

10. List the applications of dish antenna.

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. Describe the basic elements of a communication system with a block diagram.

12. Derive the relationship between total power and carrier power in AM.

13. Explain pre-emphasis and de-emphasis.

14. Draw the block diagram of Armstrong FM transmitter and write the function of each block.

15. Draw and explain the block diagram of superheterodyne receiver.

16. Explain the different layers of ionosphere.

17. Describe the space wave propagation of EM waves.

18. Explain the operation of broadside and end fire array antennas.

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