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C09–EC–304

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2018

DECE—THIRD SEMESTER EXAMINATION

COMMUNICATION ENGINEERING

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 the types of continuous wave modulation.

2. Define signal to noise ratio and noise figure in communication system.

3. Write the time domain equations of an AM and an FM signals.

4. List the advantages of SSB-SC.

5. Distinguish between high-level and low-level modulations.

6. What are the basic functions of a radio receiver?

7. List different types of polarization.

8. List the factors to be considered for choice of IF.

9. Define the modulation index of FM signal.

10. List the methods of matching transmission lines.

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. Explain the need for modulation in communication systems.

12. *(a)* Distinguish between baseband, carrier and modulated signals with waveforms.

(b) Explain the term 'frequency domain'.

13. Explain SSB-SC technique in an AM signal with a neat diagram.

14. Describe time division multiplexing.

15. Draw the block diagram of heterodyne AM transmitter and explain its operation.

16. Explain the demodulation process in FM using Foster-Seely discriminator.

17. *(a)* Explain the parameters of transmission lines.

(b) Explain briefly the losses in transmission lines.

18. Describe the space wave propagation of EM waves.

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