6235

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2021

DECE - THIRD SEMESTER EXAMINATION

ANALOG AND DIGITAL COMMUNICATION SYSTEMS

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 a periodic signal and a non-periodic signal.

2. Give the classification of different types of noise.

3. List any three effects of over modulation in AM.

4. State Sampling theorem in pulse modulation systems.

5. Define the terms Bit rate and Baud rate.

6. State the need for Digital modulation.

7. Define the terms Sensitivity and Selectivity of a radio receiver.

8. State the limitation of TRF receiver.

9. Define Multiplexing.

10. State the need for a modem in data communication.

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

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

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

11. *(a)* Define Amplitude modulation. 2

(b) Derive the time domain equation for an AM signal. 8

12. *(a)* Explain about noise triangle in FM. 5

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

13. *(a)* Explain the need for AVC (AGC). 6

(b) List the advantages and disadvantages of SSB modulation. 4

14. Describe the coding and decoding of a PCM signal. 10

15. Explain QAM (Quadrature Amplitude Modulation). 10

16. Explain the operation of super heterodyne receiver with a block diagram. 10

17. Draw the block diagram of high level modulated transmitter and explain its working. 10

18. *(a)* Explain Time Division Multiplexing (TDM). 7

(b) List any three advantages of TDM. 3

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