7242

BOARD DIPLOMA EXAMINATION, (C-20)
JUNE/JULY—2022

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 modulation.

2. Define periodic and non-periodic signals.

3. Write pre-emphasis and de-emphasis.

4. State quantization noise.

5. List three advantages of CRC method of error detection.

6. Define information capacity a channel.

7. State the need for digital modulation.

8. State the difference between bit rate and baud rate.

9. List three specifications of transmitter.

10. State the need for multiplexing.

PART—B

8×5=40

Instructions : (1) Answer **all** questions.

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

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

11. *(a)* Derive time-domain equation for an AM signal.

(OR)

(b) Explain the VSB transmission with advantages.

12. *(a)* Describing the coding and decoding of a PCM signal.

(OR)

(b) Compare between PAM, PWM and PPM.

13. *(a)* Explain the process of synchronous data communication.

(OR)

(b) Explain coherent binary FSK demodulator with block diagram.

14. *(a)* Explain the working of super heterodyne FM receiver with a block diagram.

(OR)

(b) Explain the circuit diagram of practical AM detector.

15. *(a)* Explain ADSL technology with bandwidth allocations for various channels.

(OR)

(b) Explain with block diagram of the frequency division multiplexing.

PART—C 10×1=10

Instructions : (1) Answer the following question.

(2) Question carries **ten** marks.

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

16. If the even parity hamming code (111000101) is transmitted and the received code (110001101). The received code is correct or not, justify.

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