



C14-EC-404

4458

BOARD DIPLOMA EXAMINATION, (C-14)
SEPTEMBER/OCTOBER - 2020
DECE—FOURTH SEMESTER EXAMINATION
DIGITAL COMMUNICATIONS

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 bit rate and dynamic range for PCM systems.
2. List the three advantages of PAM.
3. List different error correction techniques.
4. Define the term 'bit overhead'.
5. List the three basic types of digital modulation techniques.
6. State the importance of constellation diagram.
7. Write the disadvantages of TDM.
8. Compare fax and data modem.

* 9. Mention the advantages of electronic telephony over manual telephony.

10. State the advantages of DTMF.

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 coding and decoding of a PCM signal.

12. (a) Compare PAM, PWM and PPM. 6

(b) Explain quantization noise. 4

13. Describe the conversion between series and parallel data.

14. Explain ASK modulation and coherent demodulation with block diagram.

15. Draw and explain BFSK modulator with block diagram.

16. Explain frequency division multiplexing.

17. Explain ADSL technology.

* 18. (a) Explain the use of FDM in telephony. 5

(b) State the function of various signals present on a local loop telephone line. 5
