



C14-CM-505

4628

**BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
DCME—FIFTH SEMESTER EXAMINATION
DATA 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 bandwidth and maximum data rate of a channel.
2. Define data and information.
3. List any three differences between internal and external modems.
4. Define fundamental frequency.
5. List the various types of data representations.
6. Write about modulation and demodulation.
7. List the modulation techniques for transforming digital data into digital signals.

- * 8. What are hamming distance and minimum hamming distance?
- 9. Define multiplexing.
- 10. Define frame relay.

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 various modes of data transmission along with diagrams.
- 12. (a) Explain the operation of direct connect modem. 5
 (b) Write about the classification of modems. 5
- 13. Explain about various types of wireless propagation methods.
- 14. (a) Write the differences between guided and unguided transmission media. 5
 (b) Write about spread spectrum and its relationship with bandwidth. 5
- 15. Explain the modulation techniques for transforming analog data into analog signals.
- 16. Explain about multilevel binary digital-to-digital encoding techniques.
- * 17. Explain about synchronous time division multiplexing.
- 18. (a) Explain about circuit switching. 6
 (b) Compare circuit switching and packet switching. 4
