



C09-EC-403

3469

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2017
DECE—FOURTH SEMESTER EXAMINATION
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 information capacity of a channel.
2. State the function of START and STOP bits.
3. State the need for digital modulation.
4. List any three differences between multiplexing and multiple access.
5. State the need for a modem in data communication.
6. Mention the advantages of electronic telephony over manual telephony.
7. Mention the salient features of ISDN.

- * 8. Define decibel and neper.
- 9. State the need for an antenna array.
- 10. Mention the applications of helical antenna.

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 several types of error control techniques.
- 12. Describe the process of synchronous transmission.
- 13. (a) Describe the operation of telephone modem.
(b) Explain direct sequence system.
- 14. (a) Briefly explain TDM technique used in telephony.
(b) Compare TDMA, FDMA and CDMA.
- 15. (a) Describe the topology of switched telephone network.
(b) Explain briefly the use of signal system-7.
- 16. (a) Explain the concept of Internet telephony.
(b) Describe the working principle of FAX.
- 17. (a) Explain the terms 'antenna impedance' and 'polarization'.
(b) Explain the operation of end fire array and draw its radiation pattern.
- * 18. (a) Explain the principle of parabolic reflector.
(b) Explain antenna matching with reference to non-resonant antenna.
