



C09-EC-403

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**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.

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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.

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