



C09-EC-403

3469

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2013
DECE—FOURTH SEMESTER EXAMINATION
COMMUNICATION SYSTEMS

Time : 3 hours]

[Total Marks : 80

PART—A

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

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

(3) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Compare between analog and digital communication techniques.
2. What is the principle of pulse code modulation?
3. State the need for data compression. List any two compression methods.
4. Define multiplexing.
5. What is TDMA?
6. Mention different parts of electronic telephone equipment.

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7. What is the principle of fax machine?
8. Mention the applications of yagi antenna and helical antenna.
9. State the need for antenna array.
10. Define isotropic radiator.

PART—B

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 synchronous communication. Mention its advantages. 10
12. (a) Explain error detection and correction.
(b) Explain redundancy check method for error detection. 10
13. (a) Explain direct sequence system.
(b) Explain Code Division Multiple Access. 10
14. (a) Mention the salient features of cable modem. 3
(b) Describe the operation of telephone modem. 7
15. Explain in-band and out-band signalling systems. 10

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| 16. | <i>(a)</i> What is ISDN? | 3 |
| | <i>(b)</i> Explain the working of digital EPABX system. | 7 |
| 17. | <i>(a)</i> Explain the principle of mobile portable antenna. | 6 |
| | <i>(b)</i> Explain the terms 'diversity' and 'downtilt' related to cellular base station antennas. | 4 |
| 18. | <i>(a)</i> Explain the terms 'antenna impedance' and 'polarization'. | 4 |
| | <i>(b)</i> Explain the effect of ground on antennas. | 6 |
