



C09-EC-403

**3469**

**BOARD DIPLOMA EXAMINATION, (C-09)**  
**MARCH/APRIL—2014**  
**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. What is the principle of Pulse Code Modulation?
2. State the need of START and STOP bits.
3. Define maximum data rate of a channel.
4. What is the concept of Spread Spectrum communication?
5. Define multiplexing.
6. What are the applications of signaling system?
7. What is the principle of fax machine?
8. What are the differences between broadside array and endfire array?
9. What is the principle of parabolic reflector?
10. Define antenna impedance and polarization.

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**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. (a) Explain the error detection using parity bit. 5  
(b) Explain Hamming code with equation. 5
12. Explain different types of data compression techniques.
13. (a) Mention the salient features of cable modem.  
(b) Describe the operation of telephone modem.
14. (a) Explain ADSL (Asynchronous Digital Subscriber Line).  
(b) Explain FDMA and TDMA.
15. Explain the operation of basic telephone equipment.
16. (a) Explain the features of ISDN.  
(b) Explain the operation of EPABX.
17. Explain the operation of Yagi antenna. Mention the applications.
18. (a) Explain the terms isotropic radiator and half-wave dipole. Draw their radiation pattern. 5  
(b) Explain the terms radiation resistance, decibel and neper. 5

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