



C09-EC-403

**3469**

**BOARD DIPLOMA EXAMINATION, (C-09)  
MARCH/APRIL—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. List the basic types of digital modulation.
3. Distinguish between synchronous and asynchronous communications.
4. Write any three differences between multiplexing and multiple access techniques.
5. Compare cable modem and ADSL modem.
6. Classify switched telephone systems.
7. List various signals present on a local loop telephone line.
8. Define radiation resistance.

9. Draw the radiation pattern of broad side array.
10. List 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. Explain quadrature amplitude modulation with relevant diagrams.
13. Explain time division multiplexing technique used in telephony.
14. Describe CDMA system with a block diagram.
15. Explain the operation of electronic telephone equipments.
16. (a) Explain the working principle of EPABX.  
(b) Explain the working principle of FAX machine.
17. Explain Yagi Uda antenna and write its application.
18. (a) Explain log periodic antenna and draw its radiation pattern.  
(b) Describe the operation of end fire array.

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