



C09-EC-604

**3760**

**BOARD DIPLOMA EXAMINATION, (C-09)  
OCT/NOV—2016  
DECE—SIXTH SEMESTER EXAMINATION  
ADVANCED COMMUNICATION SYSTEMS**

Time : 3 hours ]

[ Total Marks : 80

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**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. State microwave frequency range.
2. Define the terms 'dominant mode' and 'cut-off frequency' related to waveguides.
3. List the types of indicator used in radar systems.
4. Define azimuth and elevation with reference to satellites.
5. Distinguish between active satellites and passive satellites.
6. List the applications of satellites.
7. Define critical angle and numerical aperture.

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8. Mention the <sup>\*</sup> applications of optical fibres.
9. List the radio characteristics of GSM.
10. Write the power control in CDMA.

**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. Derive the expression for radar range.
12. Draw and explain the block diagram of CW radar.
13. Explain the telemetry, tracking and control subsystem of a satellite with a block diagram.
14. Explain about ground communication equipment and power subsystems of earth station.
15. Explain the operation of LASER used in optical fibre communication.
- <sup>\*</sup> 16. Explain fiber in local area network.
17. Explain about GSM architecture and security aspects of GSM.
18. (a) Explain about IRIDIUM system.  
(b) Explain about global star system.

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