



C16-EC-405

6439

BOARD DIPLOMA EXAMINATION, (C-16)  
OCT/NOV—2018  
DECE—FOURTH SEMESTER EXAMINATION

MICROWAVE AND SATELLITE 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: (a) Actual height, (b) Virtual height
2. Define: (a) Skip distance, (b) Skip zone(dead zone)
3. State different types of antenna arrays.
4. Classify antennas based on radiation and frequency range.
5. List different micro wave passive devices.
6. Define TE (Transverse Electric) wave and TM (Transverse Magnetic) wave.
7. List the applications of rader.
8. State the basic working principle of a RADAR.
9. State the advantages of satellite communications system over terrestrial communication systems.
10. Darw the block diagram of earth station.

**PART-B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each questions carries **ten** marks.  
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Explain the ground wave propagation and ground effects on waves.
12. Classify the layers of ionosphere and briefly explain them.
13. Describe the functions of dipole and folded dipole antennas and give their applications.
14. Explain the functions of parabolic reflector.
15. (a) Explain rectangular wave guides.  
(b) Explain propagation of wave in wave guides.
16. Explain the working principle of travelling wave tube and state its applications
17. Draw and explain the moving target indicator (MTI) radar.
18. Explain the application of satellite in satellite phone.

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