



C16-EC-405

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BOARD DIPLOMA EXAMINATION, (C-16)

SEPTEMBER/OCTOBER - 2020

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 virtual height.
2. List the different layers in ionosphere.
3. Define antenna gain and directivity.
4. Classify the antennas based on radiation and frequency range.
5. List the applications of reflex klystron.
6. Define TE wave and TM wave.
7. What is the need of duplexer?
8. Define doppler effect in radar system.

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9. Define the terms 'apogee' and 'perigee' of satellite.
10. List the types of transponders in satellite.

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. Explain the ground wave propagation of electromagnetic waves.
12. Explain the duct propagation and tropospheric scattering.
13. Explain the operation of yagi-uda antenna and draw its radiation pattern.
14. Explain horn antenna and list its advantages and disadvantages.
15. Explain the operation of gunn diode and IMATT diode briefly.
16. Explain the operation travelling wave tube with neat sketch.
17. Explain the operation of MTI radar.
18. (a) Explain the application of satellite in TV broadcasting (DTH). 5
(b) Explain the application of satellite in satellite phone. 5
