



C16-EC-403

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BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DECE—FOURTH SEMESTER EXAMINATION
ADVANCED 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. Draw the electrical equivalent circuit of a transmission line.
2. Define reflection coefficient and SWR.
3. Define dominant mode and cutoff wavelength in rectangular waveguide.
4. List the applications of magnetron.
5. Distinguish between ordinary semiconductor devices and microwave semiconductor devices.
6. State the tunneling phenomena.
7. List the types of indicators used in radar systems.

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8. Explain the Doppler effect.
9. Define terms apogee and perigee.
10. List the applications of satellites.

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 transmission line equations with respect to sending end and receiving end voltages.
12. Explain the working of E-plane Tee and H-plane Tee.
13. Explain the working of reflex klystron oscillator.
14. Explain constructional features and working principle of GUNN diode.
15. Derive the basic radar range equation.
16. Draw and explain the block diagram of pulsed radar system.
17. Explain fixed microwave link with block diagram.
18. Draw and explain the block diagram of Earth station.

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