



C14-EC-501

4630

**BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2016
DECE—FIFTH SEMESTER EXAMINATION**

ADVANCED COMMUNICATIONS

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 characteristic impedance.
2. Define standing wave ratio.
3. Give the expression for characteristic impedance and cut-off frequency of rectangular waveguide.
4. Write the applications of reflex klystron.
5. Define Gunn effect.
6. State tunnelling phenomena.
7. Give the applications of various radar systems.
8. Define Doppler effect.

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9. Define footprint of a satellite.
10. Write the advantages of satellite communications over terrestrial radio communication.

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 single stub matching in transmission lines. 10
12. Explain the construction and working of magnetron oscillator. 10
13. (a) Explain the operation of magic tee. 7
(b) List different T-junctions. 3
14. Explain the working of microstrip antenna and state its applications. 7+3
15. Draw and explain the operation of branch type duplexer. 10
16. Explain the application of FMCW radar as altimeter. 10
17. Draw and explain the block diagram of earth station. 10
18. (a) Explain the working of regenerative type of transponder. 7
(b) List the functions of a transponder. 3
