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C14-EC-501

4630

BOARD DIPLOMA EXAMINATION, (C-14)

JUNE—2019

DECE—FIFTH SEMESTER EXAMINATION

ADVANCED COMMUNICATIONS—I

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 transmission line.
2. Define propagation constant of a transmission line.
3. List the application of magnetron oscillator.
4. Define dominant mode in rectangular wave guide.
5. Give any three differences between ordinary semiconductor devices and microwave semiconductor devices.
6. Write applications of Gunn diode.
7. Define Doppler effect.
8. Give the disadvantages of pulsed radar.
9. Define uplink frequency and down link frequency.
10. List the advantages of geostationary satellite.

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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. (a) Define reflection co-efficient.
(b) Derive the relation between the reflection co-efficient and standing wave ratio.
12. Explain the construction and working of TWT amplifier.
13. (a) State the need for Isolator.
(b) Explain the operation of isolator.
14. (a) State the tunnelling phenomena. 3
(b) Explain the operation of Tunnel diode. 7
15. Draw and explain the block diagram of MTI Radar.
16. Draw and explain the block diagram of Pulsed Radar.
17. Draw and explain the block diagram of Communication Satellite
18. (a) Explain the basic principle of geostationary satellite.
(b) Explain bandwidth allocation of a Satellite.

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