G 633 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

Seventh Semester

Branch : Electronics and Communication Engineering

MICROWAVE AND RADAR ENGINEERING (L)

(Old Scheme – Prior to 2010 Admissions)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 4 *marks.*

1. Explain the two-hole directional coupler and determine the S-matrix.
2. Explain the working of Isolator.
3. Draw the various slow wave structures of TWT.
4. With neat sketch, explain Reflex Klystron Oscillator.
5. Explain the working of IMPATT diode.
6. Differentiate between Microwave transistors and TED's.
7. Explain Radar Range Equation.
8. With diagram, explain Simple CW Radar.
9. Explain Radio direction finders.
10. Explain LORAN.

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*

Each question carries 12 *marks.*

11. Explain the basic characteristics of Magic Tee. Derive the S-matrix for an ideal matched Magic Tee.

Or

12. Discuss the characteristics, features and applications of microwaves.

Turn over

13. Explain in detail the operation and application of Magnetron.

Or

14. Explain with neat block diagram of microwave transmitter and receiver.

15. Explain the different modes of operation of Gunn diode with neat diagrams.

Or

16. Explain the operational principles of :

    (a) TRAPATT diode.

    (b) INP diode.

17. With block diagram, explain :

    (a) FMCW radar.

    (b) HTI radar.

Or

18. Explain with block diagram, pulse doppler radar.

19. Explain different types of microwave antenna.

Or

20. Explain (a) GPS ; (b) LORAN.

(5 × 12 = 60 marks)