328872(28)

APR-MAY

B. E. (Eighth Semester) Examination, 2020

(Old Scheme)

(ET & T Engg. Branch)

RADAR ENGINEERING and NAVIGATIONAL AIDS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note :Attempt all questions. Part (a) of each
question is compulsory and carries 2 marks
and attempt **two** parts from (b), (c) and (d)
and carry 7 marks each.*

Unit-I

1. (a) What is RADAR?   2

   (b) Derive the expression for RADAR range equation
and give its application.   7

(c) Discuss the limitation to the backing accuracy of Radar. 7

(d) Draw the basic block diagram of pulse RADAR and explain the various block in brief. 7

Unit-II

2. (a) Define Doppler effects. 2

(b) Draw the block diagram of MTI Radar. Explain the functioning of each block alongwith delay line canceller. 7

(c) Write a short notes on : 7

(i) Conical Scan

(ii) Law Angle Tracking

(d) Draw the block diagram of sequential lobing trucker radar and explain its operation. 7

Unit-III

3. (a) What is refruction and diffruction of radar wave? 2

(b) What are the various external noise limit the detedability of radar tanget. 7

(c) Write short notes on the terms : 7

(i) Refruction

(ii) Scattering

(iii) Diffruction

(d) Describe forward scattering from flat candle. 7

Unit-IV

4. (a) What are the various function performed by antenna? 2

(b) Write short notes on cosecant squared antenna. 7

(c) Explain the various types of parabolic reflector. 7

(d) Write short notes on Radome. 7

Unit-V

5. (a) Define Noise figure. 2

(b) Draw and explain the block diagram of super hetrodyne receiver. 7

(c) Explain different types of Radar display. 7

(d) Write short notes on :

    (i) Magnetron

    (ii) ECM