PVP 14

Code: EC7T5C

IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2018

RADAR SYSTEMS
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22 M

1.

a) Discuss about Minimum Detectable Signal.

b) What are Radar ambiguities?

c) Write the applications of CW Radar.

d) What is Doppler Principle?

e) Define Delay Line Cancellers.

f) What is meant by Staggered PRF?

g) Discuss Sequential Lobing briefly.

h) Write the limitations of the conical scanning.

i) Define Noise figure.

j) Discuss about Duplexers.

k) Define Efficiency of Non-matched filter.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Derive radar range equation. 8 M

   b) What is minimum detectable signal? Explain how it will affect the target locations. 8 M

3. a) Explain the working of a FM-CW radar with the help of a neat block diagram. 7 M

   b) What is Doppler shift? Derive expression for the Doppler shift. 9 M

4. a) How the blind speed can be minimized in the MTI radars? 8 M

   b) Explain the filter characteristics of Delay line cancellers. 8 M

5. a) Draw the block diagram of conical scan tracking radar and explain the complete operation. 8 M

   b) Explain in detail about limitations to tracking accuracy. 8 M

6. a) Give the theory of matched filter receiver and derive the matched filter characteristics. 8 M

b) What is purpose of duplexers? Explain about balanced duplexer using TR tubes. 8 M