PVP 17

Code: **17ECMC2T6D**

I M.Tech - II Semester – Regular/Supplementary Examinations
July - 2019

RADAR SIGNAL PROCESSING
(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 60

Answer the following questions.

1. a) Derive the Radar equation. 8 M

   b) What is Bistatic radar? Explain the factors involved in the bistatic range equation. 7 M

OR

2. a) Explain the principle of a matched filter and derive the expression for Frequency response of a matched filter. 7 M

   b) Discuss about matched filter and correlation function. 8 M

3. a) Explain about the detection criteria involved in sequential observer. 7 M

   b) Explain in detail about CFAR loss and CFAR uses in radar. 8 M

OR

4. a) Explain the operation of Neyman-pearson detector. 7 M

   b) Discuss envelop detector. 8 M

5. a) Draw the Radar ambiguity diagram for periodic pulse train and explain. 8 M

   b) What are the Optimum Waveforms for Detection in clutter? 7 M

OR

6. a) Define the Ambiguity function and Discuss the various properties of Ambiguity Function. 8 M

   b) Write short note on Radar waveforms. 7 M

7. a) Explain the Generation and Decoding of FM Waveforms. 7 M

   b) Discuss SAW pulse Compression. 8 M

OR

8. a) Explain the linear FM pulse compression with neat block diagram. 7 M

   b) What is stretch technique? Explain. 8 M