PVP 12

Code: **ECMC2T5C**

I M.Tech - II Semester – Regular / Supplementary Examinations – AUGUST 2016

RADAR SIGNAL PROCESSING

(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Draw a neat block diagram of pulsed radar and explain its principle in detail. 7 M

   b) Explain the advantages and applications of radar. 7 M

2. a) Discuss the components of a radar signal. 7 M

   b) Explain about amplitude models and clutter. 7 M

3. a) What are the methods of recovery of information from samples? Explain them. 7 M

   b) Give detail account on Sampling the Doppler spectrum. 7 M

4. a) Explain in detail matched filter receiver and its impulse Response. 7 M

b) Explain in detail about Radar Ambiguity function and ambiguity diagram. 7 M

5. a) Write about reduction of side lobes for phase coded pulse compression signals. 7 M

b) Compare different pulse compression waveforms. 7 M

6. a) Explain in detail the working of Moving Target Indication (MTI) radar with neat block diagram. 10 M

b) Explain the following in detail. 4 M
i) Clutter maps
ii) MTI improvement factor.

7. a) Discuss in detail Threshold Detection of Radar Signals. 7 M

b) Give an account on "Binary Integration" 7 M

8. a) Draw a neat block diagram of SAR and explain its working in detail. 7 M

b) Give an account on "CFAR Receivers". 7 M