

Code: ECMC2T5C

**I M.Tech-II Semester-Regular Examinations-August 2014**

**RADAR SIGNAL PROCESSING  
(MICROWAVE & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

- 1 a) What are various applications of RADAR? Explain in brief.  
7 M
- b) Explain about Imaging and detection of a basic RADAR signal processing.  
7 M
- 2 a) What are the components of a RADAR signal? Explain. 7 M
- b) What is the effect of Target Fluctuations on Doppler Spectrum? Explain.  
7 M
- 3 a) What is the concept of sampling in fast time domain? Explain.  
7 M
- b) What is the criterion for sampling of RADAR signals? Explain.  
7 M

- 4 a) What is the concept of Matched Filtering of Moving Targets? Explain. 7 M
- b) Explain about the Ambiguity Function of the Simple Pulse through necessary equations and supporting figures. 7 M
- 5 a) What is Pulse-by-Pulse Processing? Explain. 7 M
- b) What is PMP? Explain in detail. 7 M
- 6 a) Write is MTI Figures of Merit? Derive the form. 7 M
- b) What is Pulse Pair Processing? Explain clearly. 7 M
- 7 a) What is The Neyman-Pearson Detection Rule? Explain. 7 M
- b) Where the Albersheim's and Shnidman's Equations are used? Explain. 7 M
- 8 a) What are limitations of CA CFAR? Explain. 7 M
- b) What is SAR? Explain about Cross-Range Resolution in Radar. 7 M