

Code: ECMC2T5C

I M.Tech-II Semester–Regular/Supplementary Examinations – July 2017

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

Duration: 3 hours

Max Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Enumerate and explain the applications of Radar. 7 M

b) Explain in detail pulse Radar block diagram and its operation. 7 M

2. a) Explain the following. 7 M
i) Jamming techniques ii) spectral model

b) What are the types of radar signals? Explain them briefly. 7 M

3. a) Explain in detail about sampling in the fast time domain and sampling in the slow time domain. 7 M

b) Give an account on “sampling the Doppler spectrum”. 7 M

4. a) Explain the output signal-to-noise ratio is increased in matched filter. 7 M

- b) Explain in detail about Radar Ambiguity function and ambiguity diagram. 7 M
5. a) Explain the linear frequency modulation for pulse compression. 7 M
- b) Explain about costas frequency codes. 7 M
6. a) Explain the limitations of MTI improvement factor in detail. 7 M
- b) Write short on “Clutter mapping and the moving target detector”. 7 M
7. a) Explain binary integrator with a neat sketch. 7 M
- b) Explain the concept of signal integration/correlation as applied to radar. 7 M
8. a) Explain in detail the synthetic aperture radar signal processor. 7 M
- b) Explain the concept of cell averaging in CFAR Receivers. 7 M