M 22904

Reg. No. : .....

Name : .....

VIII Semester B.Tech. Degree (Reg./Sup.– Including Part Time) Examination, April 2013
(2007 Admn. Onwards)
PT 2K6/2K6 EC 801 : RADAR AND NAVIGATION

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions :

I. 1. Explain about the propagation effects on radar performance.

2. Explain how PRF affects the maximum range of a radar.

3. Write the different methods to achieve angle tracking in radar system.

4. Explain the need and working of a delay line canceller.

5. Explain the operation of a diode phase shifter.

6. Write a short note on parabolic reflector antenna.

7. What is the basic principle of operation in Navstar LPS ? Explain .

8. Briefly explain about radio Navigation. **(8×5=40)**

PART – B

II. 1. Explain in detail about the system losses affecting the performance of a radar.

OR

2. What are the different applications of a radar ? Explain. **(1×15=15)**

P.T.O.

III. 1. i) Explain how multiple PRF reduces the effect of blind speed.

ii) What are the different limitations to MTI performance ?

OR

2. i) Explain with a neat diagram the operation of MTI radar using range gates.

ii) What is blind speed ? Explain . **(1×15=15)**

IV. 1. What are the different types of radar displays ? Explain in detail the different types.

OR

2. i) Explain the difference between standard and non standard propagation.

ii) What are the different methods to obtain phase shift between elements of an antenna array ? Explain. **(1×15=15)**

V. 1. What is hyperbolic system of Navigation ? Explain the different types.

OR

2. Derive the Doppler range equation and also explain the factors affecting the maximum range. **(1×15=15)**
