Reg. No. : .....

Name : .....

8/h Sem EC Apr/2015

M 26861

VIII Semester B.Tech. Degree (Reg./Sup. – Including Part Time) Examination, April 2015

(2007 Admn. Onwards)

PT2K6/2K6 EC 801 : RADAR AND NAVIGATION

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

I. a) Write the different radar frequencies used for transmission.

b) Explain, how PRF affects range ambiguity.

c) What is digital MTI processing ? Also write the advantages.

d) Write the limitations to MTI performance.

e) Explain the working of a crossed field Amplifier.

f) Discuss about reflector antenna.

g) What is track stabilized antenna ? Explain.

h) Briefly explain about LF/MF four course radio range. **(8×5=40)**

PART – B

II. a) i) Derive the radar range equation. **10**

ii) Discuss the factors affecting the maximum range. **5**

OR

b) Write the different losses associated with the radar system. **15**

III. a) i) Explain about AMTI radar. **5**

ii) What is the principle used in Monopulse radar ? With a block diagram explain the working of monopulse tracking radar. **10**

OR

P.T.O.

b) i) Write about automatic tracking with surveillance Radar. **5**

ii) With a block diagram, explain the conical scan method of tracking. Also write the characteristics. **10**

IV. a) Using Waveforms explain the different Radar displays. **15**

OR

b) i) With a block diagram, explain a superheterodyne receiver. **9**

ii) Explain the radiation pattern in phased array antennas. **6**

V. a) i) Explain about Decca receiver with block diagram. **10**

ii) Write a note on doppler navigation. **5**

OR

b) With block diagrams explain the working of coherent and incoherent pulsed doppler system. **15**