Hi. a) I) With a block diagram explain it

is) Explain about automatic tracking with surveillance radar.

VIII Semester B.Tech. Degree (Supplementary - Including Part Time) Examination, October 2014 galagmient of dumo (2007 Admn. Onwards)

PT 2K6/2K6 EC 801: RADAR AND NAVIGATION

Time: 3 Hours

Max. Marks: 100

PART - A mistopre menosib idold s rayy (ii.

b) i) Expiain the eparation of a 3-cavity Klystron.

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Answer all questions:

- What are multiple time around echoes? Explain.
 - b) Write the applications of radar.
 - Briefly explain about doppler filter banks.
 - What is a tracking radar? Explain the sequential lobing method.
 - Explain about A-scope and B-scope radar displays.
 - f) Write a note on cross field amplifiers.
 - g) What is Navstar Global positioning system? Explain.
 - h) Draw and explain doppler spectrum.

 $(8 \times 5 = 40)$

PART-B.

i) What are the different antenna parameters? Explain.

ii) Write down the different radar frequencies used for transmission.

OR

Derive the radar range equation.

ii) Briefly explain about the propagation effects in radar.

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| 111. | a) | i) With a block diagram explain the working of non coherent MTI radar. | 9 |
|------|----|--|----|
| | | ii) Explain about automatic tracking with surveillance radar. | 6 |
| | | OR | |
| | b) | Write down the principle of monopulse tracking. Also explain the working of a 1-D monopulse tracking radar with a block diagram. | 15 |
| IV. | a) | What is a matched filter receiver? Explain. Derive the formula for the impulse response of the matched filter to make noise minimum. | 15 |
| | | SHIEM NAM OR | |
| | | i) Explain the operation of a 3-cavity Klystron. | 8 |
| | | ii) With a block diagram explain a superheterodyne receiver. | 7 |
| ٧. | a) | What are the different methods of navigation? Explain. | 15 |
| | | a) What are multiple time around echoes ? Explain RO | |
| | b) | i) What is doppler effect? Derive the formula for the doppler frequency shift. | 8 |
| | | ii) What is the role of satellites in navigation? Explain. | 7 |
| | | d). What is a tracking radar ? Expisin the sequential lobing method. | |
| | | e) Explain about A-scope and B-acope radar displays. | |

B-TRAS

(I. a) i) What are the different entenna parameters i Explain.

ii) Write down the different radar frequencies used for transmission.

b) i) Derive the radar range equalion.

it) Briefly explain about the propagation effects in radar.

g) what is Navistar Global positioning system? Explain.

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