TED (15) -6045
(Revision -2015)

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Reg.No…….....
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL -2021.

RADAR AND NAVIGATION

(Maximum Marks : 75) [Time : 2.15 hours]

PART–A

Marks

I. Answer **any three** questions in one or two sentences. Each question carries 2 marks.

1. Define PRF in radar system.
2. List the advantages of microwave landing system.
3. State the use of duplexer in radar system.
4. Write the equation for Doppler frequency.
5. List any two types of hyperbolic navigation system. (3x2=6)

PART - B

II Answer **any four** of the following questions . Each question carries 6 marks.

1. Describe the block diagram of radar.
2. Explain the operation of delay line cancellers.
3. Explain the working principle of DME.
4. Describe the working principle of Loop antenna.
5. State the basic principle of DNS.
6. List the different types of tracking radars.
7. Explain the significance of glide slope in ILS.

[4x6 =24]

PART - C

(Answer **any of the three units** from the following. Each full question carries 15 marks)

UNIT I

III (a) Derive Radar Range Equation. (8)

(b) Describe different frequency ranges used in radar. (7)

OR

IV (a) Explain radar performance factors. (8)

(b) List the applications of radar. (7)

UNIT- II

V (a) Explain the block diagram of MTI Signal processor. (8)

(b) Explain Doppler effect. (7)

OR

VI (a) Explain the block diagram of FM CW Radar. (8)

(b) Explain A Scope & PPI display. (7)

UNIT- III

VII (a) Explain the four methods of navigation. (8)

(b) Describe the working principle ADF. (7)

OR

VIII (a) Explain the working principle of LORAN. (8)

(b) Describe the working principle of VOR. (7)

UNIT – IV

IX (a) Explain the operation of ILS. (8)

(b) Write short notes on satellite navigation system. (7)

OR

X (a) Explain Microwave landing system. (8)

(b) Briefly explain inertial navigation system. (7)

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