

TED (15)-6045  
(Revision- 2015)

**A20-00500**

Reg.No.....  
Signature. ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE – APRIL -2020.

**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. State full form of RADAR and what is its purpose?
2. Write what is DNS.
3. List different methods of Tracking.
4. State Navigation and list the four methods navigation.
5. State GNSS.

(3x2=6)

**PART - B**

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

1. List applications of Radar.
2. Describe block diagram of CW Radar.
3. Discuss the operation of delay-line cancellers.
4. State Radar performance factors.
5. Describe working principle of DECCA navigation systems.
6. Describe Global Positioning System (GPS)
7. List Branches of Navigation and explain in brief.

[4x6 =24]

**PART - C**

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

**UNIT I**

**III** (a) Illustrate basic block diagram of Radar. (10)

(b) State the Radar frequency ranges (5)

**OR**

- IV** (a) Derive Radar range equation. (9)
- (b) List the specific applications of Radar. (6)

**UNIT- II**

- V** (a) Describe different Radar displays (any five). (9)
- (b) Draw block diagram of FM-CW super heterodyne receiver. (6)

**OR**

- VI** (a) Illustrate MTI signal processor with necessary block diagram. (8)
- (b) Briefly explain Doppler effect with equation (no derivation). (7)

**UNIT- III**

- VII** (a) Discuss the principle of DME. What is its limitation and its solution?. (8)
- (b) Compare LORAN A and LORAN C. (7)

**OR**

- VIII** (a) Illustrate a loop antenna with necessary diagrams. (9)
- (b) Describe Doppler V O R. (6)

**UNIT – IV**

- IX** (a) Describe M L S. (9)
- (b) Discuss the functions of Instrument Landing System (ILS). (6)

**OR**

- X** (a) Illustrate Glide slope system. (9)
- (b) Describe satellite navigation system. (6)

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