



TED (15) – 5023

Reg. No. ....

(REVISION – 2015)

Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

**POWER PLANT ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

[Note : – Use of steam tables and mollier chart are permitted.]

**PART — A**

(Maximum marks : 10)

Marks

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

1. Define Flash point of a fuel.
2. Define Steam boiler.
3. What is Forced draught cooling tower ?
4. Define Jet propulsion.
5. What is Nuclear fission ?

(5×2 = 10)

**PART — B**

(Maximum marks : 30)

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

1. Explain 3T factors affecting combustion.
2. Explain different types of boiler draughts.
3. Illustrate the working of parallel flow jet condenser.
4. Differentiate between Gas turbine and Steam turbine.
5. Explain the working of Diesel Power Plant with a sketch.
6. Define condenser efficiency and vacuum efficiency.
7. Describe the working of Tidal power plant.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) State the merits and demerits of liquid fuels over solid fuels. 8  
 (b) Explain the working of De-Laval Turbine with sketch. 7

OR

- IV (a) Illustrate velocity compounding in Turbines. 8  
 (b) List the requirements of a good fuel. 7

## UNIT — II

- V (a) Explain Surface condenser with sketch. 8  
 (b) In a surface condenser, the vacuum maintained is 700 mm of Hg. The barometer reads 754mm. If the temperature of condensate is 18°C, determine the vacuum efficiency. 7

OR

- VI (a) Explain Carnot cycle with p-v and T-s diagrams. 8  
 (b) Draw and explain the induced draught cooling tower. 7

## UNIT — III

- VII (a) Explain the working of Hydroelectric Power Plant with sketch. 8  
 (b) List the advantages and limitations of Gas Turbine. 7

OR

- VIII (a) Explain the working of closed cycle gas turbine with flow diagram and T-s diagram. 8  
 (b) Explain the working of Turbo-propeller jet engine. 7

## UNIT — IV

- IX (a) With the aid of a sketch, explain the working of PWR power plant. 8  
 (b) Describe the working of Geothermal Power Plant with sketch. 7

OR

- X (a) Describe the working of solar cooker with the help of a neat sketch. 8  
 (b) List the various types of nuclear reactors and the main products of reactors. 7