



TED (15) – 2021

Reg. No.....

(REVISION — 2015)

Signature

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

BASIC MECHANICAL ENGINEERING

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define the term viscosity.
2. Write any two properties of grey cast iron.
3. Define the term dryness fraction.
4. List any four parts of an IC engine.
5. Write any two disadvantages of diesel power plant.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Briefly explain the terms (i) hardness (ii) toughness (iii) stiffness.
2. Write any two high speed steels & their compositions.
3. Define boiler mounting. List important boiler mountings.
4. Differentiate between petrol and diesel engines.
5. Write the classification of steam boiler.
6. Write any six advantages of hydroelectric power plant.
7. Draw the schematic diagram of solar thermal power plant. Write any two methods used to convert solar energy to electric energy.

(5×6 = 30)

[P.T.O.]

PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) Define non destructive testing. With the help of a neat diagram explain X-ray radiography test. 8
- (b) Discuss any four differences between steel and cast iron. Write a short note on gunmetal. 7

OR

- IV (a) With the help of a neat diagram illustrate the working of blast furnace. 8
- (b) With examples briefly explain the classifications of engineering materials. 7

UNIT — II

- V (a) Explain the concept of wet steam, dry steam and superheated steam. 8
- (b) Briefly explain the classifications of steam engines. 7

OR

- VI (a) With the help of a neat diagram explain the working of LaMont boiler. 8
- (b) List important parts of a steam engine. Explain the functions of D-slide valve and eccentric in steam engine. 7

UNIT — III

- VII (a) Illustrate the working of four stroke petrol engine. 8
- (b) Write the advantages of IC engines. 7

OR

- VIII (a) Briefly explain the classification of IC engines. 8
- (b) Differentiate between two stroke and four stroke engines. 7

UNIT — IV

- IX (a) With the help of a neat diagram explain the working of nuclear power plant. 8
- (b) Write the advantages and disadvantages of wind power plant. 7

OR

- X (a) Draw the schematic diagram of a steam power plant. Briefly explain different components used in the steam power plant. 8
- (b) Write the merits and demerits of geothermal power plant. 7