TED (15) – 2021 Reg. No. .....

(REVISION — 2015) Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

BASIC MECHANICAL ENGINEERING

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. List any four non-destructive test of materials.
2. Define boiler accessories.
3. State the functions of piston rings.
4. Name any four non - conventional energy power plants.
5. List the composition of cast iron.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Illustrate any six important thermal and chemical properties of materials.
2. Write and explain the classification of steel depending on carbon content.
3. List the important mountings and accessories used in boiler.
4. State important classification of steam engines.
5. List out important parts of internal combustion engines.
6. Describe geothermal power plant.
7. Explain the working of wind power plant. (5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III (a) Explain the various mechanical properties of materials. 9

(b) Draw a typical stress - strain diagram for tensile test on mild steel and explain the different points marked on it. 6

OR

IV (a) Draw and explain the working of Cupola furnace. 9

(b) Explain the Brinnel hardness test. 6

UNIT — II

V (a) Explain the working of single cylinder double acting steam engine. 9

(b) With neat sketch explain the working of super heater. 6

OR

VI (a) Explain the working of Cochran boiler. 9

(b) Describe the working of lever safety valve. 6

UNIT — III

VII (a) Explain the working of four stroke petrol engine. 9

(b) Compare two stroke and four stroke engines. 6

OR

VIII (a) Explain the working of two stroke diesel engine. 9

(b) Explain the functions of

(i) Cylinder (ii) Fly wheel (iii) Piston 6

UNIT — IV

IX (a) Describe the working of Nuclear power plant. 9

(b) Describe flat plate solar collector. 6

OR

X (a) Describe the working of Diesel power plant. 9

(b) Illustrate the classification of power plants. 6
