TED (15) – 1252

(REVISION — 2015)

Reg. No. .....

Signature .....

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

FOUNDATIONS IN SCIENCE AND TECHNOLOGY

[*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. State Newton's third law of motion. Quote one example in daily life ?
2. What is nuclear holocaust ?
3. Define ecosystem.
4. What is the role of experiments in scientific method ?
5. What do you mean by acceleration ?

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain recoil of gun.
2. Distinguish between deductive and inductive method.
3. A train moving at a speed 72km/hr is brought to rest in 40sec. Find the retardation and the distance covered.
4. Write a note on global warming.
5. Define food chain and food web.
6. Explain nuclear force.
7. Which type of nuclear energy is related to atom bomb and hydrogen bomb ? Explain.

(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 Explain various operations in scientific method with suitable example. 15

OR

IV (a) Explain the use of scientific reasoning and logic to solve problem. 10

(b) Explain the role of observation in scientific method. 5

UNIT — II

V (a) Explain pollution and its effect on our environment. 10

(b) Narrate the steps to control pollution. 5

OR

VI (a) Differentiate between photosynthesis and respiration. 10

(b) Briefly describe Chernobyl disaster. 5

UNIT — III

VII (a) Write a short note on different system of units ? Explain SI System and it's merits. 10

(b) State equations of motion. 3

(c) State the law of conservation of momentum. 2

OR

VIII (a) Explain motion under gravity and 'g'. 6

(b) Derive the expression F = ma. 6

(c) Distinguish between fundamental and derived units. 3

UNIT — IV

IX (a) Explain the structure of nucleus. 10

(b) Write a short note on radiation hazards. 5

OR

X (a) Give the applications of radioactivity. 10

(b) Differentiate between mass defect and binding energy. 5