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TED-[15] 1252
(REVISION-2015)

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

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL- 2018

FOUNDATIONS IN SCIENCE AND TECHNOLOGY

[Maximum Marks: 100] [Time: 3 Hours]

PART – A
[Maximum Marks : 10]

Marks

I. Answer the following question in one or two sentences. Each question carries two marks

1. List two examples to illustrate method of science
2. Define food chain
3. Explain the term dimension of a physical quantity
4. Write two characteristics of nuclear force
5. Define the term green house effect (5x2 = 10)

PART – B
[Maximum Marks : 30]

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

1. Differentiate between inductive and deductive logic method
2. Explain SI system. Write its advantages over other systems
3. Distinguish between nuclear fission and nuclear fusion
4. Explain nitrogen cycle
5. State the law of conversation of momentum. Also explain force and inertia
6. Write the consequences of ozone layer depletion
7. Briefly explain the structure of nucleus (5x6=30)

PART – C
[Maximum Marks : 60]
Answer one full question from each unit. Each full question carries 15 marks

UNIT - I

III. Explain the steps in scientific method (15)

OR

IV. a) Explain the nature of scientific knowledge (10)
b) Give the role of hypothesis in scientific method (5)

UNIT - II

V. a) Write a note on acid rain. (6)
b) Briefly explain Bhopal disaster (6)
c) What do you mean by ecology crisis. (3)

OR

VI. a) Describe water cycle (10)
b) Explain the effect of population increase on environment (5)

UNIT – III

VII. a) State Newton's second law of motion and derive the equation F =ma (10)
b) A bullet is fired into a fixed block of wood of thickness 0.1m with velocity 300m/s. It comes out with velocity 100m/s. Find out the retardation produced. Find also the time taken by the bullet to cross the block. (5)

OR

VIII. a) Derive expression for recoil velocity of gun. (5)
b) Find out the dimensional formula for
i) Momentum ii) Force iii) Power (6)
c) Distinguish between uniform velocity and uniform acceleration (4)

UNIT – IV

IX. Define radio activity? Explain important applications of radio activity (15)

OR

X. a) Write a note on mass defect and binding energy. (7)
b) Explain radiation hazards (4)
c) Explain the term nuclear holocaust (4)

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