TED (10) – 1016 B

(REVISION — 2010)

Reg. No. .....

Signature .....

SECOND SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/ TECHNOLOGY— MARCH, 2015

APPLIED SCIENCE – II (CHEMISTRY)

(Common except CABM and DCP)

[*Time* : 1½ hours

(Maximum marks : 50)

PART—A

(Maximum marks : 4)

Marks

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

1. Name the functional group present in : (i) CH_3COOH (ii) CH_3COCH_3.

2. Explain photochemical smog. (2×2=4)

PART—B

(Maximum marks : 16)

(Answer *any two* full questions. Each question carries 8 marks.)

II (a) What are the effects of temperature and surface area on adsorption ?

(b) Adsorption is a surface phenomenon. Explain.

III (a) Describe the working of Daniel cell.

(b) Write notes on : (i) Anodising (ii) Electroplating.

IV (a) Explain the electrochemical theory of corrosion.

(b) How do the following affect the rate of corrosion of metals ?

(a) Humidity (b) pH (c) Temperature (d) Purity of metals.

(2×8=16)

Marks

PART—C

(Maximum marks : 30)

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

UNIT—I

V (a) Distinguish between physical adsorption and chemical adsorption. 4

(b) Write any four applications of adsoption. 4

(c) What is electrochemical series ? Write any two applications of electrochemical series. 3

(d) What are fuel cells ? Give example. Write any two advantages of fuel cells. 4

OR

VI (a) How can saturated and unsaturated compounds be distinguished ? 3

(b) Differentiate between thermoplastics and thermosetting plastics. 4

(c) Explain the term vulcanization ? Why natural rubber need vulcanization ? 4

(d) Write notes on : (i) Cracking (ii) Calorific value. 4

UNIT—II

VII (a) Explain structural isomerism and sterio isomerism with examples. 4

(b) Explain the uniqueness of carbon atom. 4

(c) What are composites ? Mention different types of composites. 4

(d) Write a brief note on gobar gas production. 3

OR

VIII (a) Write notes on Green chemistry. 4

(b) Give relative advantages of gaseous fuels over solid and liquid fuels. 4

(c) Explain radioactive pollution. 3

(d) Explain the harmful effects of four major water pollutants. 4