

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – OCTOBER/NOVEMBER -2019.

APPLIED SCIENCE-II (CHEMISTRY)

(Maximum Marks : 50)

[Time : 1 ½ hours]

PART-A

(Maximum marks: 4)

Marks

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

(a) What is co-polymer? Give one example.

(b) Can we store Copper sulphate in a bottle made of Zinc. Why?. (2x2=4)

PART - B

(Maximum Marks : 16)

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

II. (a) Distinguish between metallic and electrolytic conductor. (4)

(b)What are the factors affecting adsorption? (4)

III (a) Distinguish between saturated and unsaturated compounds. (4)

(b) Write a note on ozone depletion. (4)

IV. (a) Explain electrochemical theory of the rusting of iron with all the necessary chemical equations. (4)

(b) Distinguish between thermoplastic and thermosetting plastics. (4)

[2x8 =16]

PART - C

(Maximum marks : 30)

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

UNIT I

- V.** (a) Suggest a method for protecting underground iron pipe. Explain with required chemical equations. (4)
- (b) Differentiate between electrolytic and electrochemical cell. (4)
- (c) Write four applications of adsorption. (4)
- (d) What is meant by anodising? Write any two advantages. (3)

OR

- VI** (a) What are the factors affecting corrosion. (4)
- (b) Briefly explain H_2-O_2 Fuel cell with detailed chemical equation. (4)
- (c) An electrochemical cell is made up Nickel and Copper with their standard reduction potential $-0.25V$ and $+0.34V$ respectively.
- (i) Write the cell reaction.
- (ii) Calculate EMF of the cell.
- (iii) Select the cathode and anode (4)
- (d) Compare physical and chemical adsorption. (3)

UNIT- II

- VII** (a) Distinguish between addition polymer and condensation polymer. (4)
- (b) What is meant by producer gas? How is it prepared? (4)
- (c) Define: (i)Cracking (ii)Acid rain (4)
- (d) Mention any three major air pollutants and their harmful effects. (3)

OR

- VIII** (a) Write the functional group of (i) ketone (ii) amine (iii) ester (iv) aldehyde (4)
- (b) Name the monomers of the following (i)Bakelite (ii)Buna-N (iii) PVC (iv)Nylon (4)
- (c) What is meant by propellants? How are they classified? (4)
- (d) List three techniques generally used in green chemistry to reduce environmental pollution. (3)
