



Paper Code : CHEOE 14L

B.A./B.Sc./B.B.A./B.Com./B.C.A. IV Semester Degree Examination (NEP),
October/November 2023

Subject : CHEMISTRY

Paper : Open Elective : Electrochemistry, Corrosion and Metallurgy

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer *all* the **three** Sections.

SECTION – A

I. Answer **any five** of the following : (5×2=10)

- 1) a) Define the terms specific and molar conductance.
- b) State Kohlrausch's law.
- c) What are fuel cells ?
- d) Define the term corrosion.
- e) What is electroplating ?
- f) Define the terms ore and mineral.
- g) What is roasting and calcination ?

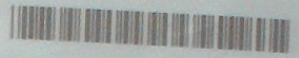
SECTION – B

II. Answer **any four** of the following : (4×5=20)

- 2) Explain electrolytic and galvanic dry cells with neat labelled diagrams.
- 3) Describe working of Lead acid and lithium storage batteries.
- 4) Explain the factors affecting corrosion rate.
- 5) Write a note on Electroplating.
- 6) Give a brief account of general principles of pyrometallurgy.
- 7) Write a note on Ferro alloys.

P.T.O.

Paper Code : CHEOE 14L



SECTION - C

III. Answer **any three** of the following :

(3×10=30)

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| 8) a) Write Nernst equation and explain its application. | 5 |
| b) Explain the determination of pH using glass electrode. | 5 |
| 9) a) Describe electroless plating of copper. | 5 |
| b) Write a note on prevention of corrosion. | 5 |
| 10) a) Explain any two techniques employed for purification of metal. | 5 |
| b) Describe the extraction of Manganese. | 5 |
| 11) a) Write a note on Electrochemical series. | 5 |
| b) Explain any two environmental factors affecting corrosion rate. | 5 |
| 12) a) Write a note on Gravity separation and froth flotation process. | 5 |
| b) Give a brief account of fuel cells. | 5 |