



17211

21718

2 Hours / 50 Marks

Seat No.

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- Instructions :** (1) *All questions are compulsory.*
(2) *Answer **each** next main question on a **new** page.*
(3) *Illustrate your answers with neat sketches **wherever** necessary.*
(4) *Figures to the **right** indicate **full** marks.*
(5) *Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.*

Marks

1. Attempt **any nine** of the following : (18)
- a) Name two ores of Aluminium with chemical formulae. 2
 - b) Name the sequential steps involved in extraction of copper from its copper pyrite ore. 2
 - c) Write the action of Conc.HNO₃ on Aluminium metal. 2
 - d) State the factors affecting immersed corrosion. 2
 - e) Write two applications of metal cladding process. 2
 - f) Galvanised containers are not used for storage of food. Give reason. 2
 - g) Name any two constituents of paint with two functions of each. 2
 - h) Define the term equivalent conductance. Write its unit. 2
 - i) Why does a dry cell become dead after a long time even if it has been not used ? 2
 - j) Write any two advantages of Adhesives. 2
 - k) Give any two points of difference between Dielectrics and insulators. 2
 - l) Write two applications of phenol formaldehyde resin as an adhesives. 2
2. Attempt **any four** of the following : (16)
- a) Describe Bessimerisation process with neat labelled diagram. 4
 - b) Explain electrolytic refining of aluminium with neat labelled diagram. 4
 - c) Write composition, properties and applications of rose metal. 4
 - d) Differentiate between primary cell and secondary cell. 4
 - e) Explain construction and working of daniel cell. 4
 - f) Give any four applications of electrically conducting polymers. 4

P.T.O.

**Marks****(16)****3. Attempt any four of the following :**

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| a) Draw diagram and explain sherardizing process. | 4 |
| b) Describe hydrogen evolution mechanism of immersed corrosion. | 4 |
| c) Define atmospheric corrosion. Write mechanism of atmospheric corrosion with diagram. | 4 |
| d) Describe construction and working of dry cell with neat labelled diagram. | 4 |
| e) Describe construction and working of $H_2 - O_2$ fuel cell. | 4 |
| f) Explain construction and working of Ni-Cd cell with labelled diagram. | 4 |
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