



17211

11718

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) *Assume suitable data, if necessary.*
 - (6) *Use of Non-programmable Electronic Pocket Calculator is permissible.*

Marks

1. Attempt any nine of the following :

(9×2=18)

- a) Write two ores of copper with their chemical formulae.
- b) What is the action of Conc. HCl in Aluminium metal ? Give chemical reaction.
- c) Give the composition of rose metal and its one application.
- d) Define Atmospheric Corrosion. State the factors affecting rate of atmospheric corrosion.
- e) Write two applications of metal cladding process.
- f) Give any four constituents of paint.
- g) Write any two examples of sacrificial anodic protection.
- h) Define Equivalent Conductance. Give its unit.
- i) Draw a neat labelled diagram of Dry cell.
- j) Write the working of Daniel Cell.
- k) Write any two applications of Silicon fluid.
- l) Define adhesive. Write two characteristics of Adhesive.

P.T.O.



2. Attempt **any four** of the following :

(4×4=16)

- a) Describe Bessemerisation process with the help of chemical reaction and diagram.
- b) Describe Bayer's process for extraction of Aluminium from bauxite.
- c) Write the composition, properties and applications of Tinmann's solder.
- d) Explain the mechanism of oxidation corrosion and name the types of oxide films.
- e) Explain the mechanism of immersed corrosion by absorption of oxygen gas with diagram.
- f) Define cementation. Describe Sherardizing with help of neat labelled diagram.

3. Attempt **any four** of the following :

(4×4=16)

- a) Differentiate between primary and secondary cell.
 - b) Explain the construction and working of Ni-Cd Cell.
 - c) Define fuel cell. Give the advantages and limitations of H₂-O₂ fuel cell.
 - d) Write the charging and discharging reactions of lead-acid storage cell.
 - e) Define photo conductive polymer. Give its examples and applications.
 - f) Give the applications of phenol formaldehyde resin.
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