



17211

21314

2 Hours/50 Marks

Seat No.

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- Instructions :**
- (1) **All** questions are **compulsory**.
 - (2) *Illustrate your answers with neat sketches wherever necessary.*
 - (3) Figures to the **right** indicate **full** marks.
 - (4) **Assume** suitable data, if necessary.
 - (5) Preferably, write the answers in **sequential** order.

MARKS

1. Attempt **any nine** :

18

- a) Name any two ores of copper with their formulae.
- b) Give chemical reaction for the action of Conc. hydrochloric acid (Conc. HCl) on aluminium.
- c) Write any four uses of copper.
- d) State the types of corrosion. Give one example of each type.
- e) Mention the types of oxide films formed in atmospheric corrosion. Which film is protective ?
- f) "Tin coated utensils are mostly preferred to zinc coated utensils for the storage of food stuff". Explain.
- g) Give two points to distinguish between Galvanizing and Sherardizing.
- h) Mention two applications of Hydrogen-Oxygen fuel cell.
- i) Write discharging reactions in Lead-Acid storage cell.
- j) What is the difference between dielectrics and insulators ?
- k) Define adhesives. Give two examples of it.
- l) Mention two applications of electrically conducting polymers.
- m) State two applications of Liquid Crystal Polymers (LCP).

P.T.O.

2. Attempt **any four** :

16

- a) Describe the process of smelting of copper ore with labelled diagram.
- b) What is the role of cryolite in electrolytic reduction of alumina ? Explain the process.
- c) Write composition, properties and applications of rose metal.
- d) Write two properties and two uses of bakelite.
- e) Differentiate between primary cell and secondary cell.
- f) Explain construction and working of Dry cell with diagram.

3. Attempt **any four** :

16

- a) Describe the mechanism of electrochemical corrosion by evolution of hydrogen.
 - b) Explain the factors affecting rate of atmospheric corrosion.
 - c) Name the method is used for the protection of irregular surface of metal ? Explain it with diagram.
 - d) Define :
 - 1) Specific conductance
 - 2) Equivalent conductance
 - 3) Electrolytic cell
 - 4) Electrochemical cell.
 - e) Explain construction and working of Ni-Cd cell with diagram.
 - f) Explain construction and working of Daniel cell.
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