

17211

21819

2 Hours / 50 Marks

Seat No.

--	--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. Attempt any NINE :

18

- (a) Name two ores of copper with their chemical formula.
- (b) Draw flow chart for the extraction of metal from its ore.
- (c) Write chemical reaction of Aluminium with concentrated sulphuric acid.
- (d) Define :
  - (i) Atmospheric corrosion.
  - (ii) Electrochemical corrosion.
- (e) Define corrosion. State its types.
- (f) Define :
  - (i) Cementation
  - (ii) Sherardizing
- (g) State two characteristics of good paint.
- (h) Define :
  - (i) Specific Conductance
  - (ii) Equivalent conductance

[1 of 2]

P.T.O.

- (i) State two applications of photo conductive polymers.
- (j) Distinguish between dielectric and insulator.
- (k) Define : (i) Discharging  
(ii) Charging
- (l) Write two properties of silicon fluids.

**2. Attempt any FOUR :****16**

- (a) Explain smelting process in the extraction of copper metal.
- (b) Explain construction and working of Dry cell.
- (c) Write chemical reactions involved during discharging of Lead acid storage cell.
- (d) Explain purification of Bauxite ore by Bayer's process.
- (e) Write two properties and two applications of Epoxy resin.
- (f) Write composition, properties and applications of tinmann's solder.

**3. Attempt any FOUR :****16**

- (a) Explain factors affecting rate of electrochemical corrosion.
  - (b) Explain mechanism of electrochemical corrosion with evolution of Hydrogen gas.
  - (c) Explain Galvanizing process with neat and labelled diagram.
  - (d) Define electrochemical cell. Distinguish between primary cell and secondary cell.
  - (e) Explain construction and working of Hydrogen oxygen fuel cell.
  - (f) Explain only construction, working and applications of Ni-Cd cell with neat and labelled diagram.
-