

# 17211

**15116**

**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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any NINE of the following: **18****
- Name any two sulphide ores of copper along with formulae.
  - Enlist any two uses of aluminum in field of industries.
  - Define corrosion. State the types of corrosion.
  - State the type of oxide film which is more protective towards corrosion with one example.
  - Define Electro - chemical corrosion.
  - “Metal cladding can be done only on plain surfaces”. Give reason.
  - Define fuel cell.
  - Define equivalent and specific conductance.
  - State two applications of lead - acid storage cell.

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- j) Define liquid crystal polymers.
- k) Differentiate between dielectrics and insulators.
- l) Give two applications for epoxy resins.

**2. Attempt any FOUR of the following: 16**

- a) Write the process of Bessemerisation of copper.
- b) Describe the process of electrolytic reduction of AC.
- c) Give the composition, properties, uses of Rose metal.
- d) Describe the hydrogen evolution mechanism of immersed corrosion.
- e) Differentiate between galvanising and tining. (Any four points)
- f) Describe sherardizing process for protection of small articles of iron from corrosion. Write its applications.

**3. Attempt any FOUR of the following: 16**

- a) Describe the construction and working of lead - Acid storage cell.
  - b) Explain construction and working of Daniel cell.
  - c) Describe the mechanism of Electro - chemical corrosion by oxygen absorption.
  - d) Draw a neat labelled diagram of fuel cell and write any two advantages and two limitations.
  - e) Define adhesives with two examples. Write any two advantages.
  - f) State two properties and two uses of silicone fluids.
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