

# 17211

**14115**

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

**Marks**

- 1. Attempt any NINE of the following :** **18**
- Define the term metallurgy. Name the process of extraction of Aluminium.
  - Name two ores of Copper and Aluminium each.
  - Write the action of Nitric acid on Aluminium.
  - State the two methods of Hot dipping.
  - Why tinned containers are used for storage of food.
  - Define paint. Name the constituents of paint.
  - State the factors affecting the rate of atmospheric corrosion.
  - Draw the labelled diagram of Daniel cell.
  - Distinguish between primary-cell and secondary cell.
  - Define extrinsic polymers with examples.
  - Define dielectric's and insulators with examples.
  - Write two applications of Teflon.

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- 2. Attempt any FOUR of the following :** **16**
- a) Describe Bessimerisation process with neat labelled diagram.
  - b) Explain the process electrolytic refining of Aluminium.
  - c) Write the composition, properties and applications of rose metal.
  - d) Write down the properties and uses of ceramics.
  - e) Explain the construction and working of Ni-cd cell.
  - f) Define fuel cell with proper labelled diagram, give its advantages, applications and limitations.
- 3. Attempt any FOUR of the following :** **16**
- a) Explain different types of oxide film formed due to attack of oxygen. Which is the most protective ones ?
  - b) Explain the process hydrogen evolution mechanism.
  - c) Describe the process galvanizing for protection of metal from corrosion. Write its applications and limitations.
  - d) Explain the sherardising process with proper diagram.
  - e) Define charging, discharging, specific resistance and Ohm's law.
  - f) Define adhesives, give its characteristic's and advantages.
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