Sample Test Paper - I

Course Name : Electronics & Computer Engineering Group

Course Code : EE/EP/EJ/EN/ET/EX/EV/IC/IE/IS/MU/DE/ED/EI/IU/CO/CM/IF/CD/CW

Semester   : Second

Subject Title : Applied Science (Chemistry)

Marks   : 25

17211

Time: 1 Hour

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.

Q1. Attempt any FOUR of the following.   **08 Marks**

   a) Write four physical properties of copper.

   b) State the purposes of roasting of copper ore.

   c) Draw the flow chart for extraction of aluminium form its ore.

   d) Define corrosion. Mention types of corrosion with one example of each.

   e) Mention factors affecting electrochemical corrosion.

   f) Why rate of corrosion is more at Mumbai than Pune?

Q2. Attempt any THREE of the following.   **09 Marks**

   a) What is the action of air, water and dilute HCl on copper.

   b) Describe the process of electrolytic reduction of alumina.

   c) Write the composition, properties and applications of tinmanns solders.

   d) Describe mechanism of corrosion of metal due to action of oxygen.

   e) Describe process of sherardizing with the help of diagram.

Q3. Attempt any TWO of the following.   **08 Marks**

   a) Write Bessimerization of copper ore with neat labeled diagram.

   b) Distinguish between galvanizing and tinning.

   c) How is sacrificial anodic protection can be done?

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Subject Title : Applied Science (Chemistry)

17211

Marks   : 25   **Time: 1 Hour**

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Q.1 Attempt any FOUR of the following.   **08 Marks**

   a) State Ohm's law.

   b) Write two limitations of fuel cells.

   c) Define cells and batteries.

   d) What is electrically insulating polymers?

   e) Write properties and applications of epoxy resin.

   f) What is the drawback of urea formaldehyde resin?

Q.2 Attempt any THREE of the following.   **09 Marks**

   a) Differentiate between primary and secondary cell.(any three)

   b) Explain construction and working of Daniel cell.

   c) Define specific conductance and equivalent conductance with their unit.

   d)   Define photoconductive polymers. Write examples and two uses of them.

   e) Write three properties and three uses of Bakelite.

Q.3 Attempt any TWO of the following.   **08 Marks**

   a) Explain construction, working of lead acid storage cell with labeled diagram.

   b) Write four advantages of Fuel cell.

   c) Define intrinsic and extrinsic polymers. Write examples and uses of each type.

Sample Question Paper

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Course Code : EE/EP/EJ/EN/ET/EX/EV/IC/IE/IS/MU/DE/ED/EI/IU/CO/CM/IF/CD/CW

Semester   : Second

Subject Title : Applied Science (Chemistry)

17211

Marks   : 50

Time: 2 Hrs.

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.

Q1. Attempt any NINE   **18 Marks**
   a) Name two ores of copper with their formulae.
   b) Name the sequential steps involved in extraction of copper from its sulphide ore.
   c) Write the action of air on aluminium.
   d) Define atmospheric corrosion. Give two types.
   e) Name two methods used for applying protective coating.
   f) Why galvanized containers are not used for storage of food?
   g) Write two applications of sherardizing process
   h) Draw labeled diagram of Dry cell.
   i) Why do dry cells stop working after some time?
   j) Define intrinsic and extrinsic polymers with one example of each.
   k) What are dielectrics? Differentiate between dielectrics and insulators.
   l) Mention two applications of silicon fluids.

Q.2 Attempt any FOUR   **16 Marks**
   a) Write the process of smelting of copper ore with labeled diagram.
   b) Describe the concentration method of alumina by Bayer's process.
   c) Write composition, properties and applications of brazing alloy.
   d) Write properties and uses of Bakelite.
   e) Define electrochemical cell. How they are classified. Give one example of each.
   f) Explain construction and working of Danial cell.

Q3. Attempt any FOUR   **16 Marks**
   a) Write mechanism of corrosion of metal due to action of oxygen.
   b) Describe the mechanism of electrochemical corrosion by oxygen absorption.
   c) Describe metal cladding process for protection of metal from corrosion. Write its applications.
   d) Explain construction and working of Ni- Cd cell with labeled diagram.
   e) Explain discharging and charging process of lead acid cell.
   f) Write advantages and limitations of fuel cell.