

- 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.

1. Attempt any **NINE** of the following: [18]
- State the composition of Rose metal.
  - Explain cathodic protection. Give one example.
  - Define paint. Give its two properties.
  - Write the difference between dielectrics and insulator.
  - Give two application of epoxy resins.
  - Write two ores of copper with their chemical formulae.
  - Which oxide film is most protective against corrosion? Why?
  - Why does a dry cell become dead after a long time, even if it has not been used?
  - Why aluminium cannot be obtained by heating alumina with coke?
  - Explain characteristic of good paint.
  - Define the terms:
    - Specific conductance
    - Equivalent conductance
  - Write two applications of Teflon.
2. Attempt any **FOUR** of the following : [16]
- Explain the electrolytic refining of aluminium.
  - Write charging and discharging chemical reactions of lead acid storage cell.
  - Describe Bessemerisation process for extraction of copper.
  - Describe Bayer's process for extraction of Aluminium.
  - Define adhesives. Write three characteristics of adhesives.
  - Describe construction and working of Daniel cell with the help of diagram.
3. Attempt any **FOUR** of the following : [16]
- Write the mechanism of corrosion of metal due to action of oxygen.
  - Define cementation. Explain sherardizing process.
  - Classify electro chemical cells. Give examples of each type.
  - Explain mechanism of immersed corrosion with evolution of hydrogen gas.
  - Write two characteristics and two use of Ni-Cd battery.
  - Give construction and working of hydrogen-oxygen fuel cell.

**Paper Discussion Schedule for all Subject: FY Diploma Sem-II**

Date	Day	Timing	Centre
9 April 2017	Sunday	9 a.m. to 11 a.m.	Dadar
9 April 2017	Sunday	12 p.m. to 2 p.m.	Thane
9 April 2017	Sunday	9 a.m. to 11 a.m.	Ghatkopar
9 April 2017	Sunday	12 p.m. to 2 p.m.	Borivali
9 April 2017	Sunday	12 p.m. to 2 p.m.	Nerul
9 April 2017	Sunday	3 pm to 5 pm	Kalyan