

(3Hours)

Total marks: 80

N.B.: (1) Question No 1 is compulsory.

(2) Attempt any three questions out of remaining five questions.

(3) Assume suitable data if necessary and indicate it clearly.

(4) Figures to the right indicate full marks.

- Q1. (a) What is corrosion rate expression? Explain corrosion rate expression in different forms. 10
(b) Define corrosion and explain eight forms of corrosion in brief. 10
- Q2. (a) Describe different types of corrosion inhibitors used to prevent corrosion in industry . 10
(b) Describe the use of organic coatings for corrosion prevention in industry. 10
- Q3. (a) What is cathodic protection? How it is used for buried pipe lines. 10
(b) What is stray current effect? How we can avoid stray current effect. 10
- Q4. (a) Discuss various types of corrosion test and explain briefly the general procedure used in corrosion testing 10
(b) Explain the use of dimensionally stable anodes in electrochemical industries. 10
- Q5. (a) Explain corrosion in plastics and elastomers and their prevention methods. 10
(b) What is corrosion monitoring? Discuss the various corrosion monitoring techniques used in industry. 10
- Q6. (a) How are stainless steel classified? Explain the four important classes of Stainless steel. 10
(b) Discuss various types of nonferrous metals and alloys used as materials of construction in the chemical process industries including their properties and applications. 10