

(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) Explain design rules which is to be considered in order to minimize corrosion. 10  
(b) Define corrosion and explain eight forms of corrosion in brief. 10
- Q2. (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
- Q3. (a) Describe different types of corrosion inhibitors used to prevent corrosion 10  
in industry .  
(b) Describe the use of organic coatings for corrosion prevention in industry. 10
- Q4. (a) Discuss various types of corrosion test and explain briefly the general 10  
procedure used in corrosion testing  
(b) Explain the following terms and their use in economic analysis of corrosion 10  
control problems with suitable example.  
i) Return on investment  
ii) Net present Value
- Q5. (a) How are stainless steel classified? Explain the four important classes of 10  
stainless steel .  
(b) Discuss some examples of catastrophic corrosion failures. 10
- Q6. (a) Explain corrosion in plastics and elastomers and their prevention methods. 10  
(b) Explain the use of Dimensionally stable anodes in electrochemical industries. 10

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