

Total No. of Pages : 2

Register Number :

7774

Name of the Candidate :

DIPLOMA EXAMINATION DECEMBER 2013.

(MAINTENANCE ENGINEERING AND MANAGEMENT)

130 — TERRO TECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

All questions carry equal marks.

1. (a) Define corrosion. Explain the corrosion by electro chemical mechanism. Why does corrosion normally take place at the anode? What determine whether the given region is anodic or cathodic? (10)
- (b) What is the important of distance between metals in galvanic series on the rate of corrosion? Discuss. (10)
2. (a) What is galvanic corrosion? What three factors are necessary to form a galvanic cell? Briefly discuss. (10)
- (b) Describe at least eight forms of corrosion of metals. (10)
3. (a) How is selective oxidation used as an advantage to improve oxidation resistance? Small amount of beryllium does not allow tarnishing of silver. Why? (10)
- (b) In principle, a diffusion controlled oxidation may be decreasing the concentration of lattice defects in the scale. Explain. (10)
4. (a) Explain the following terms related to friction : (10)
 - (i) Contact Area/Contour Area of Contact
 - (ii) Real Area of Contact
 - (iii) Apparent Area of Contact
- (b) Briefly explain the following theories friction : (10)
 - (i) Coulomb's Classical Theory
 - (ii) Electro Static Theory of Friction
 - (iii) Tomlinson's Theory of Molecular Attraction.

5. (a) Describe the characteristics of adhesive and abrasive wear. (10)
(b) What are the different parameters which affect viscosity of oil? Discuss in brief. State physical and chemical properties of lubricants. (10)
6. Write short notes on following : (4 × 5 = 20)
(a) Electroplating
(b) Anodizing
(c) Metal Spraying
(d) Hard Facing
7. (a) Explain the mechanism of squeeze film lubrication. Where does it occur? (10)
(b) Discuss the mechanism of elasto-hydrodynamic lubrication and give its applications. (10)
8. (a) Explain the modes of lubrication. What are different additives used in lubricant oils? (10)
(b) Enlist desirable properties, types and give its applications of bearing materials. (10)
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