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Seventh Semester B.E. Degree Examination, Feb./Mar. 2022

Marine Corrosion and Prevention

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain any five forms of corrosion with causes and remedies. (10 Marks)
- b. What is electrochemical cell? Explain its working principle with neat sketch. (10 Marks)

OR

- 2 a. Explain the fundamental aspects of Eh – PH diagram help of graph. (10 Marks)
- b. List and explain the types of corrosion. (10 Marks)

Module-2

- 3 a. Explain the following: i) Oxidation ii) Passivity. (10 Marks)
- b. Explain: i) Weld decay ii) Stress corrosion cracking. (10 Marks)

OR

- 4 a. Explain problems associated with material degradation in different industries. (10 Marks)
- b. Explain the degradation of polymers and ceramics. (10 Marks)

Module-3

- 5 a. Explain any three mechanism of SRB corrosion. (10 Marks)
- b. Explain Biofilms and microbial influenced corrosion. (10 Marks)

OR

- 6 a. Explain the role of aerobit and anaerobic micro organisms. (10 Marks)
- b. Explain the prevention and control of (MIC) Microbial Influenced Corrosion. (10 Marks)

Module-4

- 7 a. List and explain preservation methods to avoid boiler corrosion. (10 Marks)
- b. What are the causes of paint failure? Explain any two methods in ship board preparations for painting. (10 Marks)

OR

- 8 a. List the types of corrosive wears in cylinder liners with reasons and mention the remedies. (10 Marks)
- b. Explain any three methods to remove atmosphere mill scale during plate preparation. (10 Marks)

Module-5

- 9 a. With neat sketch explain Tinning process. (10 Marks)
- b. Explain chemical and electro chemical corrosion. List the methods of cathodic protection and explain any two. (10 Marks)

OR

- 10 a. With neat sketch, explain PVD technique and list the advantages. (10 Marks)
- b. Explain Anodizing and Phosphating metallic coating. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.