

# CBCS SCHEME

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15MR834

## Eighth Semester B.E. Degree Examination, July/August 2021 Marine Corrosion and Prevention

Time: 3 hrs.

Max. Marks:80

Note: Answer any FIVE full questions.

- 1 a. Define corrosion. Explain the different types of corrosion. (08 Marks)  
b. Write a note on EMF and Galvanic series. (08 Marks)
- 2 a. Explain any four forms of corrosion. (12 Marks)  
b. What is concentration cell? Explain. (04 Marks)
- 3 a. Explain the following corrosion phenomena :  
i) Oxidation (08 Marks)  
ii) Passivity. (08 Marks)  
b. Explain the material degradation problems in marine environments and petrochemical industries. (08 Marks)
- 4 a. Explain the following corrosion phenomena :  
i) Stress corrosion cracking (10 Marks)  
ii) Weld decay. (06 Marks)  
b. Explain the degradation problems associated with ceramics. (06 Marks)
- 5 a. List and explain preventive controlling measures of MIC. (10 Marks)  
b. Write a short on MIC and biofilms. (06 Marks)
- 6 a. Explain the role of aerobic and anaerobic micro organisms in MIC. (08 Marks)  
b. What is SRB corrosion? Explain its mechanisms. (08 Marks)
- 7 a. What is boiler corrosion? Explain the effect of corrosion while boiler not in service. (08 Marks)  
b. Explain any three methods to remove corrosion Mill scale during plate preparation. (08 Marks)
- 8 a. What are the reasons for corrosive wear of cylinder liners? Explain the remedies. (10 Marks)  
b. List the causes of point failures. (06 Marks)
- 9 a. Explain PVD technique. List its advantages and disadvantages. (12 Marks)  
b. What is chemical corrosion and electro chemical corrosion? (04 Marks)
- 10 a. With a neat sketch, explain galvanization and list its uses. (08 Marks)  
b. Explain anodizing and phasphating. (08 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.