

B.E./B.Tech. Degree Examination, September 2020

Semester - VIII

**MR16009 Marine Corrosion & Prevention**

(Regulation 2016)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions**PART A - (8 X 2 = 16 marks)**

1. Corrosion depends upon
  - a. concentration of solution surrounding the metal
  - b. nature of the metal
  - c. concentration of dissolved oxygen
  - d. all of the above
2. Performance of painting on ship's hull plate depends on
  - a. humidity
  - b. surface preparation
  - c. quality of paint
  - d. All of the above
3. TBT stands for
  - a. Tri Bromide Tin
  - b. Tetra Bromide Toluene
  - c. Tri Butyl Tin
  - d. None of the above
4. Chloride level in boiler can be minimized by
  - a. proper blow down
  - b. by adding chemicals
  - c. avoid seawater ingress
  - d. A & C
5. What do you understand by electro chemical corrosion ?
6. Name some of the suitable abrasives used for blasting that prevents environment pollution.
7. Mention suitable methods available for protecting ferrous material components from corrosion.
8. What could be done in order to maintain low level dissolved oxygen in boiler water ?

**PART B - (4 X16 = 64 marks)**

09. (a) With a help of simple sketch explain the corrosion mechanism that occurs in ferrous material. **(16)**  
**(OR)**
- (b) Enumerate various factors that influence the corrosion rate and justify suitable remedial measures for Corrosion attack. **(16)**
10. (a) As an engineer onboard ship, list the steps involved in preparation of surface painting in different region of a ship. Also Write about any two types of paint applied in ship's hull. **(16)**  
**(OR)**
- (b) (i) Write short notes on Sand blasting and Hydro jet blasting. **(8)**  
(ii) With a help of flow diagram explain the Hull surface plate preparation process. **(8)**
11. (a) (i) Why Tri Bromide Tin is banned in Marine environment ? **(8)**  
(ii) Write short note on self polishing Antifouling paints. **(8)**  
**(OR)**
- (b) As an Engineer enumerate the criteria for selection of paints used for various area in ship. **(16)**
12. (a) As a duty engineer onboard the ship enumerate the reasons and remedy for Corrosion in Boiler when it is in lay-off. **(16)**  
**(OR)**
- (b) Onboard the ship discuss the reasons for corrosion in bearing and remedial measures. **(16)**