

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : CY8101

B.E./B.Tech. DEGREE EXAMINATION, 2017

First Semester

Marine Engineering

CY8101 – CHEMISTRY FOR MARINE ENGINEERING

(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A(10×2=20 Marks)

1. What are volatile acids ? Give examples.
2. How to estimate turbidity and pH ?
3. Write any four applications of zeolites.
4. Define RO process with an example.
5. What is fretting ? Give an example.
6. Define the term “dezincification”.
7. Abbreviate EDTA with structure.
8. What is dissolved oxygen ? How it is expressed ?
9. What are fuel cells ? Give one application of it.
10. What are carbon nano tubes ? Give its applications.

PART – B(5×16=80 Marks)

11. a) i) Explain how to estimate DO, BOD and COD in detail. (8)
ii) What is water ? Give its various impurities in detail. (8)
(OR)
b) i) What are residual chlorine and sulphates ? Explain its estimation. (8)
ii) Explain zeolite and Ion exchange process in detail. (8)

12. a) i) Elaborate the lime and soda treatments in water. Give its importance. (8)
ii) How do you estimate the amount of acidity, chlorides, fluorides and phosphates in water sample. (8)

(OR)

- b) i) Explain the uses of litmus paper towards water treatment in detail. (8)
ii) What is electro dialysis ? Give its importance in detail. (8)
13. a) i) What are electrochemical corrosions ? Give two protection methods. (8)
ii) Explain the types and causes of corrosion and its control. (8)

(OR)

- b) i) Explain the formation and prevention of scale and sludge in boilers. (8)
ii) What is boiler corrosion ? Give any three methods of protection. (8)
14. a) i) What are coagulants ? Explain its application in water treatment. (8)
ii) How is hardness of water estimated using EDTA ? Give detailed mechanism. (8)

(OR)

- b) i) Explain the various treatments against hardness of water. (8)
ii) What are water tube boilers ? Give its mechanism and its applications. (8)
15. a) i) Explain the function and applications of Ni-Cd batteries. (8)
ii) What are gold nanoparticles ? Explain its synthesis and its applications. (8)

(OR)

- b) i) What are alkaline batteries ? Explain the lead acid batteries in detail. (8)
ii) Explain the principle and applications of solar cells in detail. (8)
-