

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)  
**End Semester Examination Dec 2019/Jan 2020**  
**B.Tech (Marine Engineering)**  
**Semester -V**  
**UG11T3505 – Marine Auxiliary Machinery - I**

**Date: 18.12.2019**

**Max Marks: 70**

**Time: 3 Hours**

**Pass Marks: 35**

**PART – A (Compulsory)**

**(10 X 2 = 20 Marks)**

**Answer ALL Questions**

1. What is meant by Emergency bilge suction in E/R?
2. What is Cavitation in Centrifugal pumps?
3. Define-Intercooler.
4. What are the materials used in Heat Exchangers?
5. Define-ODMCS.
6. What is Gravity Disc?
7. Define- Hunting Gear.
8. What is Pintle Clearance?
9. Define- Propeller drop.
10. What is MARPOL Annexure-VI?

**PART– B**

**(5X10 =50 Marks)**

**Answer any FIVE questions from the following**

11. a) Draw and Explain briefly on E/R Bilge system of a Crude oil tanker. (5)  
b) What are the safety practices followed during Bunkering operation (5)
12. a) Draw and Explain a Duplex filter (5)  
b) Explain the working principle of a Centrifugal pump with a simple diagram. (5)
13. a) List out the differences between centrifugal pump and reciprocating pump (5)  
b) Sketch and label the air bottle and its mountings (5)
14. a) Draw a simple plate type cooler and explain (5)  
b) Draw and explain OWS operation (5)

15. a) What is ALCAP system (5)  
b) Draw a Rotary vane steering gear system and explain its operation (5)
16. a) List out the differences between Axial and Radial displacement pumps (5)  
b) Write short note on "Reverse Osmosis" (5)
17. Write short notes on following (4X2.5=10)  
a) Thrust Block  
b) Intermediate Shaft  
c) Incinerator  
d) Bow Thruster

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