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10MR54

**Fifth Semester B.E. Degree Examination, June/July 2015**  
**Marine Auxiliary Machines - I**

Time: 3 hrs.

Max. Marks:100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART - A**

- 1 a. Draw the Bilge and Ballast line diagram. (10 Marks)  
b. Explain the colour coding of different pipelines in ship. (05 Marks)  
c. i) What is the need of hydrophore system on board? (02 Marks)  
ii) How will you change the hydrophore? (03 Marks)
- 2 a. Explain the procedure and precautions while bunkering. (10 Marks)  
b. Draw the line diagram of heavy fuel oil and diesel oil (H.F.O & D.O) with all fittings. (10 Marks)
- 3 a. Explain types of pumps with examples. (05 Marks)  
b. Explain cavitation in centrifugal pump. (05 Marks)  
c. Explain gear pump with neat sketch and mention its parts. (10 Marks)
- 4 a. Draw the starting air system for main diesel on board. (10 Marks)  
b. Explain Reverse osmosis process. (10 Marks)

**PART - B**

- 5 a. Explain oily water separator construction and operation, with neat sketch. (10 Marks)  
b. Explain 15 PPM alarm, with neat sketch. (10 Marks)
- 6 a. Explain precautions to be taken while entering into enclosed space (or) tanks. (10 Marks)  
b. Explain starting and stopping procedure of a purifier. (10 Marks)
- 7 a. i) What is the function of Thrust block? (03 Marks)  
ii) What do you know about thrust pad? (03 Marks)  
b. Explain 2 – Ram steering gear hydraulic system, with neat sketch. (14 Marks)
- 8 a. Explain sewage treatment plant, with neat sketch. (10 Marks)  
b. i) Explain MARPOL with its Annex. (05 Marks)  
ii) What are the special areas in Annex – I? (05 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.