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18MR54

## Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 Marine Auxiliary Machines

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. Draw the line diagram of the Bilge system on board ship with all fittings. (12 Marks)
- b. List the various line systems on board ship. Briefly stating the use of each system. (08 Marks)

OR

- 2 a. Draw the line diagram of the heavy oil/diesel oil transfer system with the fittings. Briefly explain the need and use of the system. (15 Marks)
- b. Write a brief note on Bunkering. (05 Marks)

### Module-2

- 3 a. List the different types of valves used on board ship. Briefly explaining where each type of valve would be used. (10 Marks)
- b. Sketch and explain SDNR r/r. (10 Marks)

OR

- 4 a. Sketch and explain a gate r/r. (14 Marks)
- b. What are Seals? Explain the different types of seals used in engine room machinery. (06 Marks)

### Module-3

- 5 a. Define and explain NPSH. (05 Marks)
- b. Sketch and mark the parts of a centrifugal pump and explain its working. (15 Marks)

OR

- 6 a. Compare the centrifugal pump and reciprocating pump and list the important differences. (05 Marks)
- b. Sketch and explain the parts of a gear pump and explain its working. (15 Marks)

### Module-4

- 7 a. Define Conduction, Convection and Radiation. (03 Marks)
- b. Draw and explain the working of a Fresh water generator. (17 Marks)

OR

- 8 a. Explain the differences between Shell and tube type and Plate type heat exchanger. (08 Marks)
- b. Draw and explain the working of a Shell and tube heat exchanger. (12 Marks)

### Module-5

- 9 a. Explain briefly about the Hydraulic telemotor system and control. (10 Marks)
- b. Explain Steering system testing and regulations. (10 Marks)

OR

- 10 a. Explain the working of 2 – ram Steering gear hydraulic system with a neat sketch. (10 Marks)
- b. Explain the working of the hunting gear mechanism, with a neat sketch. (10 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.