

ONE TIME EXIT SCHEME

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10MR54

Fifth Semester B.E. Degree Examination, April 2018 Marine Auxiliary Machinery – I

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Sketch and explain the layout of main engine and auxiliary machineries in middle deck of a cargo ship. (10 Marks)
b. Draw and explain Bilge line diagram showing all valves. (10 Marks)
- 2 a. Sketch and explain fuel oil transfer system of a cargo ship. Show the temperature of fuel oil in various stages. (10 Marks)
b. Explain the bunkering procedure and precaution to be taken during bunkering. (10 Marks)
- 3 a. Draw the characteristic curve of centrifugal pump. (05 Marks)
b. Explain net positive section head and its importance. (05 Marks)
c. List out various pumps and its application on-board the ship. Mention which type of pump required priming. (05 Marks)
d. Explain cavitation in centrifugal pump and its effect on pump. (05 Marks)
- 4 a. Draw the P-V diagram of 2 stage air compressor. What is the purpose of inter cooler and after cooler in two-stage compressor? (05 Marks)
b. Define bumping clearance and importance in compressor. (05 Marks)
c. Describe with a neat sketch the process of water production by low pressure evaporation onboard ship. (10 Marks)

PART – B

- 5 a. Sketch and describe shell and tube type heat exchanger and different material used. (10 Marks)
b. Sketch and explain a bilge water separator (ows) used on board ship. (10 Marks)
- 6 a. Explain difference between purifier and clarifier used in board ship. (05 Marks)
b. Explain what all checks to be carried out before entering fuel oil tanks. (05 Marks)
c. Explain starting and stopping procedure of a purifier. (10 Marks)
- 7 a. Explain 2-ram steering gear hydraulic system with neat sketch. (10 Marks)
b. What is the purpose of stern tube and thrust block? (10 Marks)
- 8 a. Explain what all the inspection should be carried out during dry-dock. (10 Marks)
b. Draw sewage treatment plant and label all the parts. Explain the discharge criteria of Annex IV. (10 Marks)

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