

CRASH COURSE

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10MR54

Fifth Semester B.E. Degree Examination, May 2017 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 central cooling system on ships. Explain the purpose of this system. (10 Marks)
b. Explain with neat diagram the lub oil system on board a ship. (10 Marks)
- 2 a. Sketch a self-cleaning filters and describe its operation. (10 Marks)
b. Draw the line diagram of heavy fuel oil and diesel oil transfer system with all fittings. Explain the requirement of fittings. (10 Marks)
- 3 a. Draw the characteristic curve of centrifugal pump and reciprocating pump. (05 Marks)
b. Explain cavitation in centrifugal pump. (05 Marks)
c. List out various pumps and its application on-board ship. (05 Marks)
d. Explain net positive suction head and its importance. (05 Marks)
- 4 a. Sketch and describe a sea water evaporation plant using engine coolant as the heating medium. (10 Marks)
b. Explain with neat sketch, the compressed air line system on a ship. (10 Marks)

PART – B

- 5 a. Sketch and describe a plate type heat exchanger. State one advantage and one disadvantage of this design compared to the tubular type. (10 Marks)
b. Sketch and describe an oily-water separator and how you would check that it was working satisfactorily. (10 Marks)
- 6 a. Describe a centrifugal oil purifiers and explain in detail how separation occurs. (10 Marks)
b. Explain the necessity for regular laboratory analysis of lubricating oils and the importance of obtaining a truly representative sample for this purpose. (10 Marks)
- 7 a. Explain 2-ram Electro-hydraulic steering gear system with neat sketch. (12 Marks)
b. What is stern type? What is the purpose of it? (08 Marks)
- 8 a. Explain the methods of dry docking of ships? List the inspection should carried out in dry dock. (12 Marks)
b. Draw a sewage treat plant and label all the parts. (08 Marks)

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Important Note - 1 On completing your answers, immediately draw a horizontal line across the top of the answer sheet. If you do not do this, your answers may be treated as malpractice. ... may receive no remuneration, appear to evaluator and /or equations written eg. 4/2/8 - 30, will be treated as malpractice.