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Fifth Semester B.E. Degree Examination, June/July 2016
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 line diagram of machine jacket cooling water system on board the ship with all fittings. (10 Marks)
- b. i) Explain the colour coding of different pipelines in ship (10 Marks)
ii) List out the various line systems in ship. (10 Marks)
- 2 a. Explain the procedure and precautions while bunkering. (10 Marks)
- b. Draw the line diagram of heavy fuel oil and diesel oil transfer system with all fittings. (10 Marks)
- 3 a. Draw the characteristic curve of centrifugal pump. (05 Marks)
- b. Explain cavitations in centrifugal pump. (05 Marks)
- c. List out various pumps and its application on –board the ship. (05 Marks)
- d. Define priming and why it is required in centrifugal pump. (05 Marks)
- 4 a. Define bumping clearance and explain the causes for varying bumping clearance. (05 Marks)
- b. Draw the P – V diagram of 2 stage air compressor. (05 Marks)
- c. Draw and explain the operation of fresh water generator in ship. (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. Define interface and explain how it is maintained in purifier. (05 Marks)
- b. Explain precautions to be taken before entering and cleaning tanks. (05 Marks)
- c. Draw and explain ALCAP system. (10 Marks)
- 7 a. Explain 2–ram electro–hydraulic steering gear system with neat sketch. (15 Marks)
- b. How many seals are there in stern tube bearing (oil lubricated) and what is the name and function of that seals? (05 Marks)
- 8 a. Draw sewage treatment plant and label all the parts. (10 Marks)
- b. Explain MARPOL and list out all annexes. (05 Marks)
- c. List out the discharge criteria for sewage with respect to MARPOL Annex IV. (05 Marks)

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