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10MR54

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Marine Auxiliary Machinery - I

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. Draw the bilge line diagram. (10 Marks)
b. State the bilge discharge criteria in special and non-special areas. (05 Marks)
c. Draw emergency bilge injection. (05 Marks)
- 2 a. Explain Bunkering procedures and precautions taken before bunkering. (10 Marks)
b. Explain about Bunker delivery notes and its entries. (10 Marks)
- 3 a. Write a short notes on following types of marine application pumps with neat sketch:
(i) Centrifugal pump. (12 Marks)
(ii) Reproccating pump. (04 Marks)
(iii) Diaphragm pump. (04 Marks)
b. Explain net positive suction head and its importance. (04 Marks)
c. What is cavitation? How to avoid it? (20 Marks)
- 4 Draw and explain freshwater generator. (20 Marks)

PART - B

- 5 a. Sketch and describe oily water separator used on board ship. (15 Marks)
b. What is called PPM and how it is measured on board ship? (05 Marks)
- 6 a. Explain the theory of oil purification with neat sketch of HFO purifier. (10 Marks)
b. Explain the following on-board lubricating oil tests:
(i) Alkalinity test. (10 Marks)
(ii) Viscosity test. (10 Marks)
(iii) Crackle test for water in oil. (10 Marks)
(iv) Dispersiveness and contamination test. (10 Marks)
- 7 a. Sketch and explain the two ram type steering gear used in marine applications. (10 Marks)
b. Draw and explain the following steering gear pumps:
(i) Heleshaw pump. (10 Marks)
(ii) Swash plate pump. (10 Marks)
- 8 Explain sewage treatment plant with neat sketch. (20 Marks)

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2. Any revealing of identification, appeal to evaluator and/or equivoque behaviour will be treated as malpractice. Heavy diagonal cross lines on the remaining blank pages.