

CBCS Scheme

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15MR53

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

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Write a short note on water hammering and steam hammering. (06 Marks)
b. What is Bunkering? Explain the precautions to be taken during Bunkering. (10 Marks)

OR

- 2 a. Sketch and explain main engine lubrication system. (10 Marks)
b. Where do we use compressed air onboard? (03 Marks)
c. Write the colour coding for sea water, bilge water and compressed air. (03 Marks)

Module-2

- 3 a. What is the difference between valve and cock? (02 Marks)
b. Sketch and explain globe valve. (10 Marks)
c. Write a short note on refractory material. (04 Marks)

OR

- 4 a. What is the use of gland packing? How do you insert it? (08 Marks)
b. What are the differences between safety valve and relief valve? (04 Marks)
c. With a simple sketch, explain duplex filter. (04 Marks)

Module-3

- 5 a. Draw the characteristic curve of centrifugal pump. (06 Marks)
b. Sketch and explain external gear pump. (10 Marks)

OR

- 6 a. Explain centrifugal pump, with a sketch. (08 Marks)
b. Write a note on NPSH. (04 Marks)
c. Explain cavitation in centrifugal pump. (04 Marks)

Module-4

- 7 a. Explain the construction and working of shell and tube heat exchanger. (12 Marks)
b. What are the causes of fouling? Explain chemical fouling. (04 Marks)

OR

- 8 a. With a neat sketch, explain flash evaporator. (08 Marks)
b. Explain Osmosis and reverse osmosis with sketches. (08 Marks)

Module-5

- 9 a. Sketch and explain four ram type steering gear system. (12 Marks)
b. What is the purpose of stern tube? (04 Marks)

OR

- 10 a. Sketch and explain two ram steering gear system. (12 Marks)
b. How do you conduct emergency steering operation? (04 Marks)

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