

CBCS SCHEME

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15MR71

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Marine Boilers

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Give the various types of tubes used in water tube boilers, together with their main functions. (10 Marks)
b. Explain how circulation takes place in water tube boiler. (06 Marks)

OR

- 2 a. Sketch and describe a dual pressure boiler capable of supplying low pressure steam for Auxiliary purpose. (10 Marks)
b. Discuss the reasons for the use of de – super heaters. Describe how a de – super heater operates. (06 Marks)

Module-2

- 3 a. With neat sketch, explain boiler gauge glass fitted to a boiler and how it is tested for accuracy when the boiler is steaming. (12 Marks)
b. Write a short note on boiler feed check valves. (04 Marks)

OR

- 4 Sketch and describe an improved high lift safety valve. (16 Marks)

Module-3

- 5 a. Briefly explain the objectives of Boiler water treatment. (06 Marks)
b. What are the causes of corrosion in boilers? What precautions would you take to prevent corrosion? (10 Marks)

OR

- 6 a. Describe the boiler water tests carried out for boilers and results expected from low pressure boiler. (10 Marks)
b. Write a short note on Galvanic Action and Caustic Embrittlement. (06 Marks)

Module-4

- 7 a. Sketch and describe an air register suitable for the supply of combustion air to the furnace of a water tube boiler. (10 Marks)
b. Sketch and explain boiler feed water system. (06 Marks)

OR

- 8 a. Sketch and describe a pressure jet fuel oil burner. State how the throughput of oil is controlled. (10 Marks)
b. Briefly explain the problems associated with operation of marine boiler. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. State a basic procedure to be followed for the cleaning of a boiler after a period of service. (10 Marks)
- b. Give a routine procedure for a soot blowing operation, suitable for use with high performance water tube boiler. (06 Marks)
- OR**
- 10 a. Describe a procedure for closing up and then raising steam on a water tube boiler. (10 Marks)
- b. If you find the boiler water level gauge glass to be empty and burner firing. What is your course of Action? (06 Marks)
