

CBCS SCHEME

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17MR71

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021

Marine Boilers

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. With the help of a neat sketch, explain a smoke tube type composite boiler in detail. (15 Marks)
b. Discuss the reasons for the limitation of pressure imposed upon tank type boilers. (05 Marks)

OR

- 2 a. Draw a neat sketch of a forced circulation boiler. (08 Marks)
b. Sketch and describe a steam to steam generator. State the purpose of fitting such a unit. (12 Marks)

Module-2

- 3 a. Sketch and explain a water level indicator suitable for boilers working in the medium pressure range. (12 Marks)
b. What is meant by boiler mountings? List out them. (08 Marks)

OR

- 4 a. Sketch and describe a remote reading type water level indicator suitable for a high pressure water tube boiler. (12 Marks)
b. Sketch a diagram of full bore safety valve operated by means of a pilot control valve. (08 Marks)

Module-3

- 5 a. Explain various boiler water tests in detail. (14 Marks)
b. What is boiler corrosion? How do you stop a boiler from corroding? (06 Marks)

OR

- 6 a. Explain various effects of salts in feed water. (14 Marks)
b. Write a short note on Salinometer. (06 Marks)

Module-4

- 7 a. Sketch and describe a steam blast jet type fuel oil burner. Discuss the reasons for the use of this type of boiler in preference to a pressure jet type fuel oil burner. (14 Marks)
b. Sketch a Rotary cup type fuel oil burner. (06 Marks)

OR

- 8 a. Sketch and explain open feed system. (08 Marks)
b. With the help of line diagram, explain closed feed system in detail. (12 Marks)

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. Discuss some of the common problems that can arise in the operation of marine boilers. (10 Marks)

OR

- 10 a. Describe the procedure for carrying out a hydraulic test on a water tube boiler. To what pressure would you subject the boiler for purpose of testing? (10 Marks)
b. Describe a procedure for closing up, and then raising steam on a water tube boiler. (10 Marks)

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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.