

CBCS SCHEME

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Fifth Semester B.E. Degree Examination, June/July 2024 Marine Boilers

Max. Marks: 100

Time: 3 hrs.

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

Module-1

- 1 a. Draw and explain a fire tube boiler with a neat sketch. Also list its mountings. (15 Marks)
b. Explain the reliance of steam in merchant vessels and list the places the steam is used. (05 Marks)

OR

- 2 a. Draw and explain with the help of a simple diagram a dual pressure boiler. (14 Marks)
b. List the advantages of a water tube boiler over a fire tube boiler. (06 Marks)

Module-2

- 3 a. List and explain the boiler mountings on a water tube boiler. (16 Marks)
b. What is soot blowing and why do we need to do it? (04 Marks)

OR

- 4 a. Draw and explain the working of a full lift safety valve with the help of a neat cross sectional diagram. (16 Marks)
b. Write a short note on safety valve materials. (04 Marks)

Module-3

- 5 a. List and explain the common impurities in raw water. (10 Marks)
b. Explain the parameter generally tested in boiler water testing. (10 Marks)

OR

- 6 a. Explain the boiler water tests conducted with the help of a UNITOR spectrapak 310 test kit (or any other). Explain the procedure for any 3. (16 Marks)
b. List the common boiler water treatment chemicals used. (04 Marks)

Module-4

- 7 a. Explain the various factors affecting the combustion of the boiler. (10 Marks)
b. Draw and explain the working of a air register in a boiler. (10 Marks)

OR

- 8 a. Draw and explain the working of a jet type boiler burner. (14 Marks)
b. Explain the maintenance routines on the main and pilot burner of a boiler. (06 Marks)

Module-5

- 9 a. Explain the heed and procedure for blow down of the boiler with the help of a neat diagram. (10 Marks)
b. Explain the daily and weekly checks to be done on the boiler. (10 Marks)

OR

- 10 a. Explain the wet and dry layup of boilers. (10 Marks)
b. Write short notes on boiler tube renewal. (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.