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Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 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. What do you understand by the term "Boiler" onboard a ship? (03 Marks)
b. Explain classification of Boilers in detail. (08 Marks)
c. List out the uses of steam in ships. (09 Marks)

OR

- 2 a. List out the differences between smoke tube boiler of water tube boiler. (10 Marks)
b. What are the main components of a water tube boiler? Explain them in detail. (10 Marks)

Module-2

- 3 a. Explain Tubular water level gauge glass with the help of neat sketch in detail. (15 Marks)
b. Write down the principle of water level indicator. (05 Marks)

OR

- 4 a. Explain Reflex type gauge glass in detail with suitable diagrams. (10 Marks)
b. Explain setting the boiler safety valve in detail. (10 Marks)

Module-3

- 5 Write a detail notes on Effects of Salts in feed water. (20 Marks)

OR

- 6 a. Explain the need of Onboard boiler water tests. (02 Marks)
b. Explain the following Boiler water tests : i) Hydrazine test ii) Phosphate test
iii) Chlorides test iv) Phenolph and total Alkalinity test v) Neutralised conductivity
test vi) Condensate pH test. (18 Marks)

Module-4

- 7 a. Explain Boiler fuel oil service system in detail. (10 Marks)
b. Explain Rotary Cup Burner in detail. (10 Marks)

OR

- 8 a. What are the drawbacks of a simple water level control by Float method? (04 Marks)
b. Explain Z – term water level control in detail. (16 Marks)

Module-5

- 9 a. Explain Flashing up the boiler in detail. (10 Marks)
b. Explain Action taken in case of shortage of water. (10 Marks)

OR

- 10 a. Explain Blowing Down the Boiler in detail. (10 Marks)
b. Explain the general maintenance of boilers for safe and efficient operation in detail. (10 Marks)

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