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Sixth Semester B.E. Degree Examination, July/August 2022 Marine Internal Combustion Engine – II

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain in detail about stresses in Marine Diesel Engine. (15 Marks)
- b. Define static and dynamic balancing. (05 Marks)

OR

- 2 a. Briefly describe the principle of the fuel injection pump and give reasons for the important points of design. (12 Marks)
- b. Why VIT is required? Explain. (08 Marks)

Module-2

- 3 a. What is Crash manoeuvring? Explain. (10 Marks)
- b. Explain about MC engine reversing. (10 Marks)

OR

- 4 a. Write the preparation and procedure for taking indicator diagram. (10 Marks)
- b. Draw the diagrams for following faults and explain their causes, indication and effects:
i) Early ignition ii) Late ignition iii) Leaky fuel injector. (10 Marks)

Module-3

- 5 a. Explain different types of cylinder liner wear. (10 Marks)
- b. Explain cylinder lubrication system. (10 Marks)

OR

- 6 a. Explain gas turbine which includes Inter Cooler, Re-heat arrangements with neat sketch. (14 Marks)
- b. What are the advantages of marine gas turbine over marine diesel engine? (06 Marks)

Module-4

- 7 a. With a neat sketch, explain the basic concepts of electronic governor. (10 Marks)
- b. What are the minimum requirements of automation for UMS operation? (10 Marks)

OR

- 8 a. What is Crankshaft deflection? With neat sketch, explain the procedure for taking Crankshaft deflection. (10 Marks)
- b. Describe the procedure for tie-rod tensioning of marine diesel engine. (10 Marks)

Module-5

- 9 a. What do you mean by Crankshaft slippage? Explain in detail. (10 Marks)
- b. Write a note on regulations for control of NO_x. (05 Marks)
- c. Explain briefly about MAN B and W's dual fuel ME-GI engines. (05 Marks)

OR

- 10 a. With a neat sketch, explain "FIVA" valve mechanism. (10 Marks)
- b. What is intelligent engine? Explain the basic concepts of intelligent engine. (10 Marks)