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Fifth Semester B.E. Degree Examination, June/July 2024 Marine Internal Combustion Engine – I

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Give a comparative study of Slow, Medium and High speed diesel engines. (12 Marks)
- b. Sketch a 2-stroke "PV incorporated valve/port timing diagram. (08 Marks)

OR

- 2 Explain the following Abbreviations/terms used in Marine Diesel Engines:
i) M.C.R. ii) C.S.R. iii) M.P.S. iv) M.E.P. v) Heat balance diagram. (20 Marks)

Module-2

- 3 Explain the following components of a large 2-stroke marine diesel engines in detail:
i) Crankshaft ii) Connecting rod. (20 Marks)

OR

- 4 a. What are the various cooling media available for the cooling system of large 2-stroke marine diesel engines? (06 Marks)
- b. Explain in detail about piston cooling system of a super long stroke marine diesel engine. (14 Marks)

Module-3

- 5 What is meant by scavenging? Explain its different types in detail. (20 Marks)

OR

- 6 Explain in detail about pulse and constant pressure type turbocharging arrangements. (20 Marks)

Module-4

- 7 Explain the causes and prevention of crank-case explosions, at Scavenge fires in detail. (20 Marks)

OR

- 8 a. Sketch a fuel injector and label its parts. (10 Marks)
- b. Explain in detail about fuel injector faults. (10 Marks)

Module-5

- 9 a. What are the available lubrication types available for marine diesel engine? Explain them in detail. (10 Marks)
- b. Write down the lube oil properties and explain any 4 properties in short. (10 Marks)

OR

- 10 Explain in detail about cylinder lubrication system. (20 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.