Fifth Semester B.E. Degree Examination, Jan./Feb. 2023
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. Explain Ottocycle and diesel cycle with the help of PV diagrams.   (10 Marks)
   b. List the differences between 4 stroke and 2 stroke engines.   (10 Marks)

OR

2 a. Explain two stroke diagram with neat sketch.   (10 Marks)
   b. Explain heat balance sheet and thermal efficiency.   (10 Marks)

Module-2

3 a. List the main components of an engine and write their functions (any 5).   (10 Marks)
   b. With neat sketch, explain cylinder liners.   (10 Marks)

OR

4 a. With neat sketch, explain A-Frame.   (10 Marks)
   b. Explain water cooling and oil cooling system in marine diesel engines.   (10 Marks)

Module-3

5 a. With neat sketch, explain loop scavenging.   (10 Marks)
   b. With neat sketch, explain cross flow scavenging.   (10 Marks)

OR

6 a. List out the merits and demerits of highly rated propulsion engines.   (10 Marks)
   b. With neat sketch, explain constant pressure type turbo charger.   (10 Marks)

Module-4

7 a. List and explain the causes and prevention of crank-case explosions.   (10 Marks)
   b. Explain causes and prevention of scavenger fires.   (10 Marks)

OR

8 a. Explain treatment of fuel for contaminants including microbiological infections.   (10 Marks)
   b. What is compression ratio and explain its effects on engines.   (10 Marks)

Module-5

9 a. List the types of lubricants used in diesel engines and explain their properties.   (10 Marks)
   b. With neat sketch, explain hydrodynamic lubrication.   (10 Marks)

OR

10 a. List out the requirements of cylinder lubrication and explain.   (10 Marks)
   b. Explain onboard tube oil testing and shore testing.   (10 Marks)

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