

ONE TIME EXIT SCHEME

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10MR53

Fifth Semester B.E. Degree Examination, April 2018 Marine Internal Combustion Engine I

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Draw and explain TWO stroke port timing diagram. (10 Marks)
b. Difference between two stroke and FOUR stroke engines. (10 Marks)
- 2 a. What is crankshaft? Write different types of crankshaft and explain. (10 Marks)
b. Explain about types of wear in liner. (05 Marks)
c. Draw and explain hydraulic exhaust valve. (05 Marks)
- 3 a. What is scavenging? (02 Marks)
b. Explain inflow scavenging with neat sketch and write down its advantages. (08 Marks)
Explain loop and cross flow scavenging with neat diagram. Write down its advantages and disadvantages. (10 Marks)
- 4 a. What is constant pressure turbocharging and pulse type turbocharging? Write down the advantages and disadvantages of both. (10 Marks)
b. Explain turbocharger surging and reasons for surging. (05 Marks)
c. Explain various parts of turbochargers and write down the turbochargers faults. (05 Marks)

PART – B

- 5 a. Describe briefly about factors affecting combustion. (05 Marks)
b. What is flash point and calorific value? (05 Marks)
c. Explain the functions and requirements of fuel injectors and write down the fuel injector faults. (10 Marks)
- 6 a. Draw and explain freshwater cooling system. (10 Marks)
b. Explain briefly about cooling in piston and what are all the various medium used for cooling. (05 Marks)
c. Write about flow of piston cooling oil in 2 stroke piston and 4 stroke piston. (05 Marks)
- 7 a. What is crankcase explain and how to prevent it? (05 Marks)
b. Explain starting air line explosion. (05 Marks)
c. Write about causes, indications and prevention measures for scavenge fires. (10 Marks)
- 8 a. Write briefly about the developments in Marine internal combustion engine. (10 Marks)
b. What is stroke-Bore ratio? AND short stroke? (05 Marks)
c. What is long stroke and super long stroke? Write the advantages of super long stroke. (05 Marks)

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Important Note: 1. On completing your answers, computers will be scanned and all equations written eg. $4.2 \times 8 = 50$, will be treated as malpractice.