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Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Marine Internal Combustion Engine – I

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Draw and explain 2 stroke port timing for petrol engine and diesel engine. (12 Marks)
b. Explain briefly deviation from ideal condition in actual engines. (08 Marks)
- 2 a. Draw and explain hydraulic exhaust valve. (10 Marks)
b. Write down the difference between 2 stroke and 4-stroke engine. (10 Marks)
- 3 a. Explain different types of scavenging and their advantages and disadvantages with neat sketch. (16 Marks)
b. Where is the location of charge air cooler? What is the main purpose of cooling the charge air? (04 Marks)
- 4 a. Explain constant pressure turbo charging with neat sketch. (10 Marks)
b. What are the merits and demerits of pulse type turbo charging? (04 Marks)
c. Write a note on problems occur in turbocharger. (06 Marks)

PART – B

- 5 a. Define compression pressure ratio and write the effects of this ratio on engines. (10 Marks)
b. Explain combustion affecting factors in detail. (10 Marks)
- 6 a. Explain any 6 lubricating oil properties. (10 Marks)
b. Write a brief note on types of lubrication. (10 Marks)
- 7 a. What is uptake fire? Explain its causes. (08 Marks)
b. Explain causes and prevention of crank case explosion. (12 Marks)
- 8 a. Explain implication of stroke-bore ratio. (10 Marks)
b. Define:
 - i) Work hardening
 - ii) Nitriding
 - iii) Annealing
 - iv) Carburizing
 - v) Flame hardening. (10 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.