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**Fifth Semester B.E. Degree Examination, Dec.2016/Jan.2017**  
**Marine Internal Combustion Engine – I**

Time: 3 hrs.

Max. Marks:100

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

**PART – A**

- 1 a. Draw and explain 2 stroke port timing and stroke valve timing diagram. (10 Marks)  
b. Define :  
• mean effective pressure  
• Brake power  
• Indicated power  
• Maximum continuous rating  
• Mechanical efficiency. (10 Marks)
- 2 a. Write down the difference between 2 stroke and 4 stroke engine. (10 Marks)  
b. Sketch and explain hydraulic exhaust valve. (10 Marks)
- 3 a. Explain briefly types of scavenging? (10 Marks)  
b. Give short notes on gas exchange process. (10 Marks)
- 4 a. Sketch and explain constant pressure turbocharger? (10 Marks)  
b. Sketch and explain pulse turbocharger. (10 Marks)

**PART – B**

- 5 a. Explain any 6 fuel oil properties. (10 Marks)  
b. Explain fuel injection with a neat sketch. (10 Marks)
- 6 a. Give short notes on types of lubrication? (10 Marks)  
b. Explain any 6 lubricating oil properties. (10 Marks)
- 7 a. What is crankcase explosions and explain the condition for the same. (10 Marks)  
b. What is scavenge fire and causes, indication of prevention? (10 Marks)
- 8 a. Explain differences between two stroke and four stroke piston. (10 Marks)  
b. Explain variable exhaust closing operation. (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