Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018 **Marine Internal Combustion Engine**

Note: Answer FIVE full questions, selecting Time: 3 hrs. at least TWO questions from each part. Max. Marks:100

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PART - A

- Describe the events which takes place in the cylinders of four stroke cycle and two stroke cycle diesel engines. (05 Marks)
 - Compare between slow speed and medium speed and high speed diesel engines. b.
 - (05 Marks) (ii) Mean indicated pressure. Define (i) Mean effective pressure c.
- Explain the difference between cross head and trunk piston type engines. What is the 2 function of the crosshead and piston trunk?
 - Write short notes on construction of,
 - (v) Liner (iv) Bed plate (iii) Crankshaft (ii) Connecting rod (10 Marks) (i) Piston
- Describe with the aid of sketches the loop scavenge, cross scavenge and uniflow scavenge 3 methods of scavenging two stroke cycle engine.
 - What effects does an increase in the stroke, bore ratio have on cross and loop scavenged b. (06 Marks)
 - (ii) Natural aspiration (iii) Super charging. engines. Define: (i) Air charge ratio
- How are the exhaust pipes arranged in a constant pressure exhaust-gas turbo-charging a.
 - (04 Marks) How can the power of a diesel engine be increased? (10 Marks) b.
 - Explain constant pressure turbo-charging with neat sketch

PART – B

- Explain the properties of fuel which is used on board for diesef engine. (10 Marks) What is atomization, penetration and turbulence? Why they are most important in 5 b.
 - combustion of fuel
- What are the media generally employed for cooling pistons? State the advantages and 6
 - Why is is necessary to cool the cylinder head or covers; cylinder liners and piston of diesel engines? What is used as the cooling medium?
- Name the factors which must be present for an explosion to occur in the crankcase of a diesel engine. Describe a pressure-relief device of the type fitted on a diesel engine crank 7 case. Are these devices fitted on all sizes of engine? (05 Marks)
 - List the various factors which must be present for a scavenge fire to start. (05 Marks)
 - What are the actions to be taken in case of uptake fire? С
- What do you understand by the term "Heat treatment"? Name the heat treatment processes. 8 a.
 - (10 Marks) Describe the developments and merits of long stroke diesel engine.

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