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10MR61

Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Marine Internal Combustion Engine – II

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 spill valve type fuel pump? (08 Marks)
b. What do you understand by 'variable injection timing'? (07 Marks)
c. What are the causes for engine vibration? (05 Marks)
- 2 a. Describe starting procedure of auxiliary engine. (10 Marks)
b. What is crank maneuvering? Explain crank maneuvering procedure? (07 Marks)
c. Mention safety interlocks on a marine diesel engine. (03 Marks)
- 3 a. Draw and explain, construction and working of a engine indicator instrument in detail. (10 Marks)
b. Discuss with related indicator diagram, causes of poor combustion in a diesel engine cylinder when
(i) Fuel injection too late (10 Marks)
(ii) Fuel injection too early.
- 4 a. Explain linear wear and the preventive measures? (10 Marks)
b. Name and briefly describe the various types of couplings used with geared diesel propulsion machinery. (10 Marks)

PART – B

- 5 a. Explain with diagram the heat exchanger and reheat arrangement in gas turbine plant. (12 Marks)
b. Give advantages and disadvantages of marine gas turbine over marine diesel engine. (08 Marks)
- 6 a. With sketch explain how a mechanical-hydraulic governor works. (10 Marks)
b. State minimum requirement of automation for UMS operation. (10 Marks)
- 7 a. Describe the procedure of cylinder lines removal. Explain the inspections and calibration carried on cylinder lines. (12 Marks)
b. With sketch explain electronic governor. (06 Marks)
c. Give trials carried on engine during test bed tests. (02 Marks)
- 8 a. What is 'Intelligent engine'? Explain 'camless concept' for modern diesel engine and its advantages. (10 Marks)
b. Explain how lube oil qualities are damaged by microbiological degradation. Explain microbiological degradation indication, prevention measures and treatment. (10 Marks)

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2. Any revealing of identification, appeal to evaluator and/or equations written on the remaining blank pages.