

Date: 29/11/2016.

Student Exam No. \_\_\_\_\_

GANPAT UNIVERSITY

B. TECH SEM- V (Marine) REGULAR EXAMINATION- NOV-DEC 2016

2MR507 MARINE INTERNAL COMBUSTION ENGINE - I

Time: 3 Hours

Total Marks: 60

- Instruction:** (1) This Question paper has two sections. Attempt each section in separate answer book.  
(2) Figures on right indicate marks.  
(3) Be precise and to the point in answering the descriptive questions.

**Section - I**

**Que. 1** Describe the properties of marine fuel oils. (10)

**OR**

**Que.1** What do you understand by the term 'pulse system' and 'constant pressure system' of exhaust turbo charging? Write merits and demerits. (10)

**Que.2 (a)** Write the reasons for manufacturing Liner separately from Cylinder Block. (4)

**(b)** How blower and turbine side of a turbocharger is cleaned during operation of a diesel engine. (6)

**OR**

**Que. 2** What is NOX and SOX? Write methods to reduce NOX and SOX emission from ship. (10)

**Que. 3** What is the purpose of a crosshead bearing? Draw and explain crosshead bearing. (10)

**Section II**

**Que.4 (a)** Define the terms - MCR & CSR. (4)

**(b)** Write down the PLAN formula for derivation of Power in HP and KW giving the various units (6)

**OR**



**Que.4** What are the special features of exhaust valve of medium speed Engine? (10)  
Explain the function of Valve Rotator.

**Que.5 (a)** Explain the principle of Common Rail System used in modern marine diesel engine? (5)

**(b)** Match the following: (5)

1	MC to ME	V- Type Engine
2	Super VIT	RTA to RT Flex
3	Articulated Con Rods	Affect life of Liner
4	Low Temperature Corrosion	Affect life of Exhaust Valve
5	High Temperature Corrosion	Adjustable Fuel Timings and adjustable Break point

**OR**

**Que.5** What are the trends of development in Medium Speed Marine Diesel Engines? (10)  
How are they achieved?

**Que.6** Describe the various features of RT Flex Camshaft less Intelligent Engine. (10)

-----END OF PAPER-----