

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
END SEMESTER EXAMINATION June-July 2019
B.Tech (Marine Engineering)
Semester: V

Marine Internal Combustion Engine -I (UG11T2503)

Date: 15-07-2019

Maximum Marks: 100

Time: 3 Hrs

Pass Marks: 50

PART – A

(10x3= 30 Marks)

(All Questions are compulsory)

- 1.(a) What do you mean by Stroke of Diesel Engine, explain 2-stroke & 4-Stroke. (3)
- (b) Explain valve timing diagram of 4-stroke engine. (3)
- (c) Explain "Tie rods "of a Diesel Engine. (3)
- (d) Explain various types of scavenging in 2-strokes engines. (3)
- (e) Explain the function of fuel injectors in marine diesel engine. (3)
- (f) How SO_x Can be controlled in exhaust emission? (3)
- (g) Explain bore cooling of liners. (3)
- (h) Why oil is preferred for piston cooling in modern engines? (3)
- (i) What is the advantage of increased stroke bore ratio? (3)
- (j) Explain the advantages of long-stroke engines. (3)

PART – B

(5x14 = 70 Marks)

(Answer any 5 of the following)

2. **Write short notes on the following:** (7+7)

(a) Slow speed Diesel Engine

(b) Medium speed Diesel Engine

3. Sketch & describe a bore cooled (oil cooled) piston fitted with spray nozzles. (14)

4. Explain at least seven features of below mentioned engines: (7+7)

(a) Sulzer RTA Engines

(b) MAN-B&W SMC Engines

5. Write short notes on

(a) Main Bearing & Cross head Bearing of a slow speed diesel Engine (7)

(b) Maintenance of coolant & cooling system on board ship. (7)

6. Explain the following:-

(a) Constant pressure turbocharging (7)

(b) Pulse turbocharging. (7)

7. Explain the following:-

(a) Ignition Delay & After Burning (7)

(b) Design aspects of combustion chamber (7)

8. Describe the following:-

(a) Crankcase Inspection after scavenge fire (7)

(b) Starting air line Explosion (7)