

INDIAN MARITIME UNIVERSITY

(A Central University, Government of India)

End Semester Examination Dec 2019/Jan 2020

B.Tech (Marine Engineering)

Semester -V

UG11T1503/T2503- Marine Internal Combustion Engines-I

Date: 13.12.2019

Max Marks: 70

Time: 3 Hours

Pass Marks: 35

Part – A

(10 x 2 = 20 marks)

Answer all questions

1. What is meant by super long stroke engines?
2. What is A-frame?
3. Define-Brake Thermal Efficiency.
4. What is supercharging?
5. List out any two interlock provided in M/E starting air system.
6. What is meant by Knocking in Diesel engine?
7. Define-Ignition delay.
8. What is Scavenging?
9. Define- Flash point.
10. What is Crank-Case explosion?

Part-B

(5X10 =50 Marks)

Answer any FIVE questions from the following

11. a) List out the differences between 2-stroke and 4-stroke engines. (8 Marks)
b) Define- Engine horse power. (2 Marks)
12. Draw a neat sketch of hydraulically operated M/E Exhaust valve and explain in detail. (10 Marks)
13. a) List out different types of scavenging and explain each with neat sketches. (8 Marks)
b) Where "Bursting Disc" is used as safety device? (2 Marks)
14. a) What are the types of Turbocharging system? And list out the differences. (5 Marks)
b) Draw a schematic diagram of T/C system and explain. (5 Marks)
15. a) Draw a fuel injector and label the parts. (5 Marks)
b) List out the differences between compression pressure and peak pressure of Marine propulsion engine. (5 Marks)
16. a) How M/E piston is cooled? (3 Marks)
b) Draw and explain M/E Piston bore cooling system. (7 Marks)
17. Write short notes on following: (4X2.5=10 Marks)
 - a) Scavenge fire
 - b) Crank case relief door
 - c) Uptake fire
 - d) Start airline explosion