

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations- June-July 2019
B.Tech (Marine Engineering)
Semester – VI
Marine Internal Combustion Engine II
(UG11T1602 / UG11T2602)

Date: 26-06-2019

Max Marks: 100

Duration: 3 Hrs

Pass Marks: 50

PART – A

Marks: 10 x 3 =30

(All Questions are compulsory)

1. a. What is an Intelligent Engine?
- b. Explain the minimum requirement of automation for UMS operation of ships
- c. What is the function of governors? Also mention the types of governors
- d. What are effects of poor quality residual Fuel oil on Marine Diesel Engine?
- e. What are the properties required for the L.O used in a trunk piston four stroke marine diesel engine
- f. What is the use of marine diesel engine lubricating oil analysis report?
- g. Explain the principle function of a starting air distributor
- h. List the safety provisions in a marine diesel engine air starting system
- i. What is effective stroke of a fuel pump
- j. Write short notes on Variable Injection Timing (VIT)

Part – B

Marks: 5 x 14 =70

(Answer any 5 of the following 7 Questions)

2. (a) Sketch and explain the working of a jerk type fuel pump (10 Marks)
- (b) What is electronic fuel injection system (4 Marks)
3. (a) Sketch & Explain starting air system of a long stroke 2 cycle large marine diesel engine (8 Marks)
- (b) Explain the reversing mechanism fitted in a long stroke 2 cycle large marine diesel engine . (6 Marks)
4. (a) Sketch and describe the four types of indicator diagrams (8 Marks)
- (b) Describe an Indicator Instrument (6 Marks)

5. (a) Explain the concept of reduction gear used for medium speed Engines. (4 Marks)
(b) Draw and explain the working of a Hydraulic Governor (10 Marks)
6. With respect to Marine Diesel Engine Governors, Explain the following
(a) Sensitivity (3 Marks)
(b) Stability (3 Marks)
(c) Speed Droop (3 Marks)
(d) Hunting (3 Marks)
(e) Promptness (2 Marks)
7. (a) Explain how cylinder liner wear is measured or gauged. (8 Marks)
(b) Explain microbial degradation of fuel & lub oil (6 Marks)
8. (a) Explain how Crankshaft Deflection is measured for a Large 2 Stroke Diesel Engine (8 Marks)
(b) Explain the procedure followed for tightening of Tie Bolts (6 Marks)
