

Indian Maritime University
(A Central University, Govt. Of India)
End Semester Examination Dec-2019/Jan-2020
B. Tech(Marine Engineering)
Semester –IV
Marine Boilers
UG11T3401

Date: 30-12-2019
Time: 3 Hrs

Max Marks: **70**
Pass Marks: **35**

Part – A (compulsory)
Answer the following (10x2=20 Marks)

1. Mention 4 boiler safety devices and its location.
2. Explain various types of Atomizers and boiler firing methods.
3. Why are boiler manholes elliptical in shape?
4. What is the function of a compensating ring fitted to a boiler shell?
5. How are Hydraulic tests carried out on Boilers?
6. What are super heater and water wall header?
7. What is turndown ratio of a burner, Explain with an example?
8. What are the functions of steam drum?
9. Explain the Functions of Screen tubes in a water tube boiler.
10. What are marine fuels, what is kinematic viscosity?

Part – B

Answer any 5 out of 7 questions (5 x 10= 50 marks)

- 11 Write short notes on
 - a) Refractory
 - b) Super heater
 - c) Economiser

(4+3+3)
- 12 Explain the following.
 - a) Procedure to renew gauge glass
 - b) Procedure to carry out boiler blow down

(5+5)
- 13 Explain
 - a) The purpose of boiler survey
 - b) The preparation for a complete Boiler inspection & Survey.

(2+8)
14. Explain the following
 - a) Boiler safety valves
 - b) Main feed check valve

(5+5)

- 15.** Pertain to boiler water
- a) Explain the term Priming and foaming.
 - b) Explain the three element feed water control system with sketch (5+ 5)
- 16.** Explain
- a) Internal chemical actions of Corrosion and Feed Water Treatment in boilers
 - b) Step to be taken after identification of oil contamination. (5+5)
- 17.** Explain all alarms and trips that are associated with boiler operation (10)
