

INDIAN MARITIME UNIVERSITY
(A Central University, Govt. of India)
B.Tech(MARINE ENGINEERING)
December 2015 - END SEMESTER EXAMINATIONS
Marine Boiler and Steam Engineering
UG11T2402/UG11T1402

Time: 0300 Hrs
Date:12.12.2015

Max Marks-100
Pass Marks-50

Part-A (3x10=30 Marks)
Compulsory Questions

1. a. State few important uses of steam onboard ship.
b. State advantages of water tube boiler over smoke tube boiler.
c. Explain the term Economizer.
d. Explain the function of easing gear.
e. How to check the correctness of flame inside the furnace of the boiler.
f. What is the material of refractory in the furnace? Mention the reason for the failure of Refractory material.
g. Mention few safety alarms and trips of the Boiler automation.
h. What is gland steam in an steam turbine.
i. What is the necessary of drain cocks in the steam system?
j. with a simple sketch explain the function of a Labyrinth seal.

PART-B

Answer any FIVE questions

(5 X 14 = 70 marks)

2. A neat sketch of a composite boiler and label the parts. (14)
3. W.r.t. boiler , Explain
 - a. Procedure for blowing thru gauge glass. (5)
 - b. Blow down of boiler. (4)
 - c. Soot blowing and precautions to be taken before soot blowing.(5)
4. a. With a neat sketch explain the working principle of a Improved High Lift Safety Valve. (10)
b. Explain pressure accumulation test for a boiler safety valve setting. (4)
5. Explain
 - a. Pre purging and post purging requirements of a boiler furnace. (5)
 - b. Functions of cascade tank or hot well of the boiler feed sytem. (5)
 - c. Requirement of Dump steam condenser. (4)
6. a. Differentiate between Reaction turbine and Impulse turbine. (10)
b. explain any two types of fixing of blades in the steam turbine. (4)

7. a. Explain the procedure for warming up and preparation of steam turbine plant for operation.(10)
b. What are the safeties present in a steam turbine. (4)
8. Draw and explain the function of all the components of a closed feed boiler operated steam turbine plant. (14)