

INDIAN MARITIME UNIVERSITY
(Central University, Government of India)

May/June 2016 End Semester Examinations
B.Tech. (Marine Engineering)

Fourth Semester – Marine Boiler Steam Engineering - (UG11 T2402/UG11T1402)
Date : 10.06.2016 **Time: 3 Hrs**

Part-A
Compulsory Question

(3 x 10 = 30 Marks)

- 1) a) Necessity of fitting ogee ring.
- b) Reason of feed water heating.
- c) Undercooling of condensate is avoided in regenerative condenser, why.
- d) Reason of warming up a steam turbine plant.
- e) Justify selection of turbine blade materials.
- f) Fitting of Shroud Rings and Lacing Wires on turbine blades.
- g) Advantage of water tube boiler over smoke tube boiler.
- h) Effect of Very High Fuel temperature before the burner.
- i) What are the different method of steam turbine compounding?
- j) Labyrinth Packing Gland.

Part-B
Answer any Five Questions

(14 x 5 =70 Marks)

- 2) Sketch & Describe a Cochran composite boiler suitable for producing low pressure steam for auxiliary purpose. (14)
- 3) a) Discuss action is to be taken in the event when water level is not seen in Gauge Glass.
- b) State Possible reasons of failure of Refractory in boiler furnace. (7+7)
- 4) Sketch & Describe a regenerative condenser & show direction of flow of vapour, air, circulating water and condensate. State reasons of dropping of efficiency. (12+2)
- 5) (a) Justify purpose of warming through a turbine.
- (b) Describe in detail a procedure for warming through a turbine plant from cold. (4+10)
- 6) (a) With a neat sketch , describe a Three Element Feed Water control system giving reasons for its location.
- (b) Explain why three element control is superior to two element Control. (10+4)
- 7) With the help of a neat sketch , describe turbine main bearing & show locking arrangement of bearing half. State purpose of oil catcher & rubbing strip. (10+4)
- 8) a) Discuss safety arrangements incorporated on a boiler to safe guard personnel
- b) Write down the mountings fitted on steam drum of a water tube boiler. (7+7)
