

B.Tech Degree V Semester Examination in Marine Engineering, March 2008

MRE 502 MARINE BOILERS AND STEAM ENGINEERING

Time : 3 Hours

Maximum Marks : 100

- I. Sketch and describe a Cochran fire tube boiler. What are the different mountings fitted on a boiler and its uses? (20)
- OR**
- II. (a) Describe destructive and non destructive tests on boiler tubes. (8)
(b) What are the class requirements for construction of boilers? (12)
- III. Sketch and describe an Improved High lift safety valve. What are the advantages of using the same? (20)
- OR**
- IV. (a) What are the means available for monitoring and regulating the water levels in a boiler? (8)
(b) Why it is important to closely monitor the water level? (12)
- V. (a) What is mean by blow down and Scumming of a Boiler? (10)
(b) Why we should monitor the chloride level of feed water? What are the different ways to minimize the chloride level of feed water? (10)
- OR**
- VI. Write short notes on any four:
(i) Boiler refractory (ii) Boiler survey
(iii) Flashing up procedure of a boiler (iv) Types of atomizers
(v) Boiler control systems (5 x 4 = 20)
- VII. What are the fundamental differences between reciprocating Steam Engine and Steam Turbine? With the aid of a line diagram describe the layout of a marine steam turbine plant. (20)
- OR**
- VIII. Draw a neat sketch of a Steam Turbine Rotor and describe its parts. What is the function a labyrinth gland in Steam Turbine? Describe its parts with the help of a sketch. (20)
- IX. Describe general construction of a steam condenser. What are the maintenance and inspections carried on steam condensers? (20)
- OR**
- X. Discuss briefly the maintenance and checks carried out on a steam Turbine. (20)

