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***B. Tech. Degree V Semester Examination in
Marine Engineering December 2015***

MRE 1505 MARINE AUXILIARY MACHINERY II

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) Sketch and describe 4-ram steering system with safematic arrangement. (12)
 (b) Explain the working of variable delivery pump in steering system. (8)
OR
- II. (a) Explain with sketch how the forward and aft part of stern tube is sealed in oil cooled stern tube. (10)
 (b) Explain the purpose of intermediate shaft and how it is supported. (10)
- III. (a) Explain inspection and checks before entering Dry-dock and when un-docking. (10)
 (b) Explain inspection and testing of anchor chains and survey requirements. (10)
OR
- IV. (a) How to overhaul and inspect a two stage main air compressor? (10)
 (b) Discuss procedure for removal and fitting of propeller in dry-dock. (10)
- V. (a) Explain free, forced, axial, transverse and torsional vibrations in ship. (10)
 (b) With the help of sketch, explain in detail the axial dampers fitted to the engine. (10)
OR
- VI. (a) Importance of L.O testing and method of testing. (10)
 (b) Explain how the cylinder lubrication is carried out and properties of cylinder Lub. Oil. (10)
- VII. Sketch and describe an oily water separator with MARPOL regulations. (20)
OR
- VIII. (a) Explain the significance of settling tanks in ships and what are the fittings in settling tank. (10)
 (b) Explain with line diagram the preparation of fuel oil for efficient combustion. (10)
- IX. (a) What are the additives and their properties for main engine Lub. Oil and cylinder oil. (10)
 (b) Explain lubrication methods adopted for main bearing, bottom end bearing, cross head bearing, gears and chain drive and cross head guide. (10)
OR
- X. (a) What are the details to be recorded in Oil Record Book of a merchant ship as per MARPOL. (10)
 (b) Sketch and describe Lub. Oil cooling piston and the properties required for the Lub. Oil. (10)