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B.Tech. Degree V Semester Examination in Marine Engineering December 2016

MRE 1505 MARINE AUXILIARY MACHINERY II (2013 Scheme)

Time : 3 Hours

Maximum Marks : 100

(5 × 20 = 100)

- I. (a) Explain SOLAS requirements on an emergency steering gear of a ship. (8)
 (b) Describe with the help of a sketch, the function of 4-ram steering gear. (12)
- OR**
- II. (a) What is the purpose of a thrust block of main propulsion engine? Explain the function with a neat sketch. (12)
 (b) Describe briefly an intermediate shaft bearing. (8)
- III. (a) Explain in detail the various inspections and major repairs done during dry docking of a vessel. (12)
 (b) Enumerate the safety measures to be taken while dry docking. (8)
- OR**
- IV. Write short notes on:
 (a) Decarbonisation method of an Auxiliary Engine. (5)
 (b) Impressed current system for hull protection. (5)
 (c) Ship's stabilizer. (5)
 (d) Inspection and survey of lifting equipments. (5)
- V. (a) Explain various modes of vibration and its effect on running machine. (10)
 (b) What is meant by critical speed? Discuss the effect of critical speed in engine performance. (10)
- OR**
- VI. (a) Describe sources of noise in ship and its suppression techniques. (8)
 (b) Write short notes on: (2×6=12)
 (i) Torsional vibration dampers.
 (ii) De-Tuners
- VII. (a) Draw a sketch of an oily bilge water separator and describe the construction and functioning. (10)
 (b) Explain the function of sewage treatment system used on board ship. (10)
- OR**
- VIII. (a) Explain in detail the MARPOL convention with particular reference to its clauses on oil pollution. (12)
 (b) Describe the working of an incinerator used on board ship with the help of a neat sketch. (8)
- IX. (a) Describe theory of lubrication. Discuss the method of lubricating oil treatment. (12)
 (b) Explain the effects of lubricating oil additives. (8)
- OR**
- X. (a) Explain in detail the various analysis of lubricating oil carried out. (10)
 (b) Write notes on: (2×5=10)
 (i) Theory of lubrication.
 (ii) Main bearing lubrication of a 2 stroke diesel engine.