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INDIAN MARITIME UNIVERSITY
(A CENTRAL UNIVERSITY, GOVERNMENT OF INDIA)
B.TECH (MARINE ENGINEERING)
DECEMBER 2014/JANUARY END SEMESTER EXAMINATION
V SEMESTER
MARINE AUXILIARY MACHINES - I (T 1505)

Time: 03.00 Hrs
Semester: 13-12-2014

Max Marks-100
Pass Marks-50

Part-A (3 x 10 = 30 Marks)

PART A (Question no.1) IS COMPULSORY

Q. 1: Explain the following:

- a) Characteristics of Ship Board Bilge Line Valves.
- b) Safety fittings on a Bunkering Line.
- c) Priming of a Fuel Line Filter.
- d) Characteristics of a Reciprocating Pump
- e) Reverse Osmosis Process.
- f) Prevention of Corrosion in a Tubular Heat Exchanger.
- g) ALCAP System of Oil Purification.
- h) SOLAS requirements w.r.t Fail Safe Steering Gear.
- i) Stresses in Propeller Shaft.
- j) MARPOL regulations w.r.t Ship Board Incinerator.

Part-B (14 x 5 = 70 Marks)

ANSWER ANY FIVE FROM THE FOLLOWING QUESTIONS

- Q.2: a) Describe the standard Colour Codes of Pipe Lines of a Sea Going Vessel. 4
b) Sketch and Describe the Sea Water Cooling Line of a Sea Going Vessel. 10
- Q 3: a) Describe the method of cleaning a Hot Fuel Oil Filter. 6
b) Sketch and Describe operation of a Gear Pump. 8

- Q.4: a) Describe use of Compressed Air and method of getting Compressed Air on board Vessel. 4
b) Sketch and Describe operation of Flash Type Fresh Water Generator. 10
- Q.5: a) Sketch and Describe operation of a Tubular Lub. Oil Cooler. 10
b) Describe the method of cleaning such a Cooler. 4
- Q.6: a) Describe MARPOL Regulations w.r.t operation of Oily Bilge Separator 4
b) Sketch and Describe operation of a Fuel Oil Purifier. How do you convert a purifier into a clarifier? 10
- Q.7: a) Sketch and Describe operation of 2-Ram Hydraulic Steering Gear. 10
b) What are the causes of excessive wear down of Stern Tube Bearing 4
- Q.8: a) Sketch and Describe a Hydraulic Method of Removal of a keyless Propeller 10
b) Explain the principle behind Cathodic Protection of Ship's Hull against corrosion. 4
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