

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
End Semester Examinations December 2018
B. Tech (Marine Engineering)
Semester: V
Marine Auxiliary Machines I (UG11T2505)

Date: 05-01-2019
Time: 3 Hrs

Maximum Marks: 100
Pass Marks: 50

PART – A

(All Questions are compulsory)

Marks: 10 x 3 =30

1.
 - (a) Name any five Machineries placed in E/R bottom platform and write its purposes.
 - (b) Why is a relief valve fitted on the discharge side of a Positive Displacement Pump?
 - (c) What are the uses of compressed air on board a Ship?
 - (d) What are the advantages and disadvantages of plate type heat exchangers?
 - (e) Define Stokes Law
 - (f) State the purpose of gravity disc in a centrifugal separator
 - (g) State the SOLAS requirements for a single failure criteria (Fail Safe / Safematic Design) steering gear for tankers
 - (h) What is rudder drop allowance?
 - (i) List out the various inspections and routine overhauls to be carried out during dry docking of a vessel
 - (j) Explain the MARPOL regulations for a shipboard incinerator

Part – B

(Answer **any 5** of the following 7 Questions)

Marks: 5 x 14 =70

2. a) Draw and explain a domestic fresh water hydrophore System (7)
b) Explain briefly the precautions to be taken before, during and after bunkering. (7)
3. a) Explain the functioning of Auto-clean filter with a neat sketch. (7)
b) Explain the working of a Centrifugal Pump with a simple diagram (7)
- 4.a) Explain the working principle of a reciprocating pump with a simple diagram. (7)
b) With the help of a neat diagram explain the working principle of a reciprocating air compressor. (7)

- 5.a) Explain the working principle of a Evaporation type Fresh Water Generator with a simple diagram. (7)
- b) With a simple sketch explain a Shell & Tube type Heat Exchanger. (7)
6. a) Explain the working principle of an Oily Bilge Water Separator with a simple diagram (10)
- b) Briefly explain the use of homogenizer in a F.O system. (4)
7. a) Explain briefly on a 2 Ram Electro Hydraulic Steering Gear System with a simple diagram. (7)
- b) Draw and explain Hele-Shaw type Variable Delivery Pump used in Steering Gears. (7)
8. a) Explain an Oil Lubricated Stern Tube with a simple diagram. (10)
- b) Explain the functioning of a bow thrusters with a simple diagram. (4)
