

INDIAN MARITIME UNIVERSITY

(A Central University, Government of India)

May/June 2016 End Semester Examinations

B.Tech. (Marine Engineering)

Fifth Semester – Marine Auxiliary Machines – I (UG11T1505/ UG11T2505)

Date : 28.06.2016

Time: 3 Hrs

Max. Marks: 100

Pass Marks: 50

Part-A

(3 x 10 = 30 Marks)

Compulsory Question

- 1) a) What is the colour code for Fuel Oil, Seawater, Freshwater, Fire Hydrant, Lub oil, Air, Bilges Pipes.
- b) Write three precautions to be taken before bunkering fuel oil in the ship.
- c) What is the difference between strainer and filter?
- d) Name the different types of pumps used in the ship.
- e) Explain the Reverse Osmosis principle.
- f) As per MARPOL what is the discharge criteria for Machinery space bilgewater ?
- g) What is the function of a telemotor in a steering system?
- h) Explain STOKES LAW & its application for purification of fuel oil
- i) Explain two major causes of propeller shaft misalignment
- j) Enumerate the list of underwater repairs carried out during the vessel's stay in a dry-dock.

Part-B

(14 x 5 =70 Marks)

Answer any Five Questions

- 2) Sketch and describe the Main Seawater piping system in medium size cargo ship Engine room (14)
- 3) Sketch and describe two stage Main air compressor for 30 bar system (14)
- 4) Sketch and describe a tubular heat exchanger with expansion arrangement (14)
- 5) Explain procedure for removal & fitting of a keyless Propeller. • (14)
- 6) What are the different methods of generating fresh water on board a vessel? Draw & describe a low pressure boiling type fresh water Generator widely used in modern vessels. (14)
- 7) State the principle of operation of a centrifugal purifier. With the help of a sketch explain the operation of a centrifugal purifier. How would you convert a purifier into a clarifier? (14)
- 8) Sketch & describe a 4-Ram type electro hydraulic steering gear used in large modern vessels. Explain how it operates. (14)
