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***B.Tech. Degree IV Semester Examination in
Marine Engineering May 2016***

MRE 1405 MARINE AUXILIARY MACHINERY I

Time : 3 Hours

Maximum Marks : 100

(5 × 20 = 100)

- I. (a) Describe with a neat line diagram Bilge and Ballast system of a ship. (12)
(b) Specify the international colour coding for fresh water, sea water and fuel oil pipings. (8)

OR

- II. (a) Explain the procedure and precautions to be followed for HFO and LDO bunkering. (12)
(b) Draw a dimensional sketch of international shore connection. (8)

- III. (a) Draw a line sketch of a 2-stage reciprocating air compressor and explain its working. (14)
(b) Write a brief note on safety devices fitted on an air bottle. (6)

OR

- IV. (a) Explain the function of a fresh water generator used on board ship. (14)
(b) How is the salinity maintained in fresh water generator output? (6)

- V. (a) Explain the overhauling procedure and inspection of the following. (3 × 4 = 12)
(i) Gate valve
(ii) Globe valve
(iii) SDNR
(b) Draw a steam trap and explain its functions (8)

OR

- VI. (a) Write notes on: (3 × 4 = 12)
(i) Duplex filters
(ii) Auto clean filters
(iii) Jointing materials and its selection.
(b) Draw a mechanical seal and explain its working. (8)

- VII. (a) Explain the function of a plate type heat exchanger used in ship. (12)
(b) How is leaking tube detected in a tubular heat exchanger? (8)

OR

- VIII. Write notes on: (4 × 5 = 20)
(i) Windlass and mooring winch
(ii) Hydraulic deck cranes
(iii) Life boat davits
(iv) Corrosion protection of coolers

- IX. (a) What is the difference between purifier and clarifier? Explain the method of lubricating oil purifier with the help of a sketch. (12)
(b) What is gravity disc? How is it selected for heavy oil purification? (8)

OR

- X. (a) Draw a neat sketch of a single end suction centrifugal pump and explain its parts and maintenance. (14)
(b) What is meant by NPSH? Explain its importance in working of a centrifugal pump. (6)