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***B.Tech. Degree IV Semester Examination in  
Marine Engineering June 2015***

**MRE 1405 MARINE AUXILIARY MACHINERY I**

Time : 3 Hours

Maximum Marks : 100

- I. (a) Describe main engine lubricating oil system with the aid of a line diagram (10)  
 (b) Draw the line diagram of main sea water system of a ship. Mark the various fittings and equipments connected to the system. (10)
- OR**
- II. (a) Describe bunkering procedure. What are the precautions to be taken during bunkering operation? (10)  
 (b) Draw a line diagram of main engine fuel oil system. (10)
- III. (a) Sketch and describe a pressure reducing valve fitted in compressed air system. Enumerate various uses of compressed air on board ship. (10)  
 (b) What are the benefits of multi stage compression? (10)
- OR**
- IV. (a) Sketch and describe a fresh water generator fitted with plate type heat exchanger. Mention the parameters to observe when the plant is working. (10)  
 (b) What are the maintenance to be carried out to the fresh water generator to get optimum performance? (10)
- V. Write short notes on: (20)  
 (i) Quick closing valve (ii) Butterfly valve (iii) Swing check valve  
 (iv) boiler guage glass cocks.
- OR**
- VI. Write short notes on (i) Auto clean filter (ii) Bucket filter (iii) Duplex filter (20)  
 (iv) Coalescer filter.
- VII. Write short notes on: (20)  
 (i) Life boat davit (ii) Hydraulic crane (iii) Windlass & mooring winch  
 (iv) Hatch cover.
- OR**
- VIII. (a) Sketch and describe shell and tube type heat exchanger. Mention the different metals used for construction of the parts. (10)  
 (b) What are the various problems which may come across during operation of this type of heat exchangers? (10)
- IX. (a) Sketch and describe centrifugal purifier. Explain the function of gravity disc. (10)  
 (b) What are the factors affecting the performance of a purifier? (10)
- OR**
- X. (a) What are the different types of centrifugal pumps? (5)  
 (b) Enumerate differences between dynamic and positive displacement pump. (5)  
 (c) Describe with a sketch a gear pump. (5)  
 (d) Why do centrifugal pump require priming? (5)