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***B.Tech. Degree IV Semester Examination in  
Marine Engineering May 2017***

**MRE 1405 MARINE AUXILIARY MACHINERY I  
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) With the aid of a diagram briefly explain various machinery in engine room. (10)  
(b) Sketch and describe main engine lub oil system, mark the various items in the system. (10)

**OR**

- II. (a) Sketch and describe MIE fuel oil system. (10)  
(b) What are the precautions to be taken during bunkering operations? (10)

- III. (a) What are the uses of compressed air on board ships? What are the precautions to be taken while using equipments operated by compressed air? Name few equipments using compressed air. Compare advantages over electric equipments. (10)  
(b) What are the advantages of multistage compression over single stage? Sketch and describe pressure reducing v/v used in compressed air system. (10)

**OR**

- IV. Write short notes on: (20)  
(i) Colour coding of pipe line system.  
(ii) Different types of valves used on board.  
(iii) Quick closing valves.  
(iv) Relief valves.

- V. (a) Sketch and describe shell and tube type heat exchanger. What are the various expansion provision provided? (10)  
(b) What are the various faults normally noticed during operations of these types heat exchanger? How are they tackled? (10)

**OR**

- VI. Write short notes on: (20)  
(i) Wind loss.  
(ii) Different type of anchors.  
(iii) Chain locker.  
(iv) Hawse pipe.  
(v) Devils clan.

**(P.T.O.)**

- VII. (a) Explain centrifugal purifier with the aid of a sketch. Describe gravity disc and its functions. (10)
- (b) Enumerate various factors affecting purification. Describe paring disc and its function. What is the function of conical discs in the purifier? (10)

OR

- VIII. Write short notes on: (20)
- (i) Types of centrifugal pumps.
  - (ii) Types of casings provided for centrifugal pumps and their functions.
  - (iii) Gear pump.
  - (iv) Main differences of dynamic and positive displacement pumps.
  - (v) Watering Priming pump.

- IX. (a) Explain fresh water generator using plate type heat exchangers. Evaluate the factors which can lead to deterioration of performance of the unit. (10)
- (b) What are the maintenances needed to be done to get optimum performance? (10)

OR

- X Write short notes on: (20)
- (i) Life boat davit.
  - (ii) Hatch cover.
  - (iii) Derrick system.
  - (iv) Duplex oil filter.

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