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

**MRE 405 MARINE AUXILIARY MACHINERY I**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. Explain the jacket cooling water system for a marine diesel engine, with the help of a neat sketch. (20)

OR

- II. (a) Sketch and describe functioning of a hydrophore system. (12)  
(b) What are the standard colour codes used for marking various systems in E/R. (8)

- III. (a) Sketch and describe the functioning of a fresh water generator. (15)  
(b) Mention various uses of fresh water onboard. (5)

OR

- IV. (a) Sketch and describe the operation of a 2 stage air compressor. (15)  
(b) What are the safety features provided in the compressor? (5)

- V. (a) Sketch and describe an oily water separator. (15)  
(b) With regard to MARPOL Annex 1, what are the conditions to satisfy before operating the oily water separator? (5)

OR

- VI. Write short notes on the following: (4 × 5 = 20)  
(i) Auto clean filter  
(ii) MARPOL convention  
(iii) Oil content monitor  
(iv) Priming of filters

- VII. (a) Sketch and describe a shell and tube heat exchanger. (16)  
(b) What is a tell tale hole? What is the use of providing the same? (4)

OR

- VIII. (a) Explain the responsibilities of a watch keeping engineer officer. (12)  
(b) What are the parameters to be noted before taking over an engine room watch? (8)

- IX. (a) Describe the method of purification of heavy fuel oil from bunker oil tank to HFO service tank. (15)  
(b) What are the uses of viscotherm? (5)

OR

- X. (a) What are the precautions to be taken before entering a fuel oil tank? (10)  
(b) Explain the principle of operation of a centrifugal separator, with the help of a diagram. (10)