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***B.Tech. Degree IV Semester Supplementary Examination in  
Marine Engineering April 2021***

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

Time: 3 Hours

Maximum Marks: 100

- I. (a) Sketch and describe the equipment layout suitable for machinery space of a large ocean going vessel. (12)  
(b) Sketch and describe a jacket cooling water system for a marine diesel engine. (8)
- OR**
- II. (a) Explain the procedure followed and the precautions taken for bunkering a vessel. (12)  
(b) Sketch and describe the Lubricating oil system of a marine diesel engine. (8)
- III. (a) Sketch and describe the operation of a 2 stage air compressor. (12)  
(b) What is the purpose of providing intercooler? Explain the importance of Clearance volume. (8)
- OR**
- IV. (a) Sketch and describe the functioning of an evaporator type fresh water generator. (15)  
(b) Explain the purpose and methods used for treatment of fresh water produced on board to make it potable. (5)
- V. (a) Sketch and describe a Screw down non return valve. (12)  
(b) Sketch and describe the operation of a duplex filter. (8)
- OR**
- VI. (a) Sketch and describe a change over valve chest. (15)  
(b) Briefly explain priming of a filter. When this should be done? (5)
- VII. (a) Explain the job requirements of a watch keeping engineer. (12)  
(b) List out various deck mechaneries used onboard a merchant vessel and explain their specific purpose. (8)
- OR**
- VIII. Sketch a shell and tube heat exchanger and explain the constructional details and its routine maintance requirements. (20)
- IX. (a) Theory of purification. (5)  
(b) Sketch and describe the operation of a centrifugal purifier. (15)
- OR**
- X. (a) Explain the transfer and purification system of heavy oil onboard. (15)  
(b) What is the use of homogenizer? (5)

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