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Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Marine Auxiliary Machinery - II

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting atleast TWO questions from each part.*

PART – A

1   a. With a neat labeled sketch, explain Marine Vapour Compression System.   (10 Marks)
    b. List the different properties of an ideal refrigerant.   (06 Marks)
    c. Write the chemical formula and chemical name for following refrigerant :   (04 Marks)
        i) R_{22} ii) R_{717}.

2   a. With a neat sketch of Thermostatic expansion valve. Explain its working.   (10 Marks)
    b. Explain the various safety devices on the refrigeration system.   (08 Marks)
    c. What are the safties on a compressor?   (02 Marks)

3   a. Explain the process of pressure testing on a refrigeration plant.   (08 Marks)
    b. Explain the two different process of lube oil charging to a refrigeration compressor.   (08 Marks)
    c. Name two refrigerant leak detection devices.   (04 Marks)

4   a. Explain the method of Air circulation inside cargo hold.   (10 Marks)
    b. Explain the operation of starting and stopping of a reefer plant.   (10 Marks)

PART – B

5   a. Explain with the neat sketch, the Marine Air Conditioning Unit.   (10 Marks)
    b. With a neat sketch, explain ventilation of CO_2 room.   (06 Marks)
    c. Define Comfort zone. What are the criteria for a Comfort zone?   (04 Marks)

6   a. Explain the different types of Air conditioning system, with neat labeled sketches. (12 Marks)
    b. With reference to psychrometry chart :   (08 Marks)
        i)   Define Relative humidity   ii)   Wet bulb temperature.
        iii) Dry bulb temperature   iv)   Dew point temperature.

7   a. Write the classification of Fuels.   (08 Marks)
    b. With a neat line diagram, explain the process of treatment of fuel for marine I.C engine.   (12 Marks)

8   a. List and explain the properties of an Ideal Lubricant oil for marine use.   (10 Marks)
    b. Name the different types of Lubricants with their uses.   (05 Marks)
    c. Explain the process of Hydrodynamic Lubrication with example.   (05 Marks)

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