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Roll No .....

AU/ME-803 (GS)

B.E. VIII Semester

Examination, November 2019

Grading System (GS)

Refrigeration and Air Conditioning

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Explain Electrolux refrigeration system. How the system is operated to obtain different pressure in the cycle without a pump?

2. a) State the advantages of vapour compression refrigeration system over air refrigeration.

   b) What is Superheating? Why is superheating considered good in certain cases?

3. A refrigeration system operates on the reverse Carnot Cycle. The higher temperature of the refrigeration in the system is 35°C and the lower temperature is –15°C. The capacity is to be 12 tonnes. Neglecting all losses determine

   i) C.O.P

   ii) Heat rejected from the system

   iii) Power required

4. a) Explain Li-Br absorption refrigeration system with suitable diagram.

   b) Explain thermodynamic and chemical properties of refrigerants.

5. Define cooling load? What are the different factors considered in load estimation for comfort application?

6. a) Why is a vapour absorption system very popular.

   b) Discuss favourable properties of a ideal refrigerant.

7. Differentiate between RSH and GSH. Explain the procedure of drawing GSHF line on a psychrometric chart.

8. Write a short note of the following:

   i) Cascade system

   ii) Joule Thomson effect

   iii) Production of dry ice

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