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Roll No

MMTP-203**M.E./M.Tech., II Semester**

Examination, June 2017

Advance Refrigeration Systems**Time : Three Hours****Maximum Marks : 70**

- Note :** i) Attempt any five questions out of eight.
ii) All questions carry equal marks.

1. a) Why is that the most popular halocarbon refrigerants are being phased out.
b) Why are secondary refrigerants used. Briefly describe a system where a secondary refrigerant is used.
2. a) What are the reasons of vapour superheat before suction. Discuss it's effect on the performance of system.
b) What are the reasons for multistageing in refrigeration system.
3. A two stage compression machine with a flash intercooler is to produce 25 tons of refrigeration while working between -30°C and 42°C . Sketch the system and cycle on the p-h diagram. The working medium is R-22. Find out
 - i) COP
 - ii) Power
 - iii) Fluid flow through LP and HP compressors and volume handled by LP compressor if flash intercooler is the geometric mean of the upper and lower pressure values.

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4. What type of compressors are generally used in refrigeration systems. Describe the working of screw compressor and it's advantages.
5. a) What do you mean by the faced and induced draught evaporative condensers.
b) Sketch a thermostatic expansion valve.
6. a) Why are large air cooled condensers not manufactured. Explain.
b) Discuss the design steps of an condenser.
7. a) Why is the ammonia water absorption system so popular.
b) Compare between a two fluid and three fluid vapour absorption system.
8. Write short notes on any two:
 - a) Mixed Refrigerants.
 - b) Auxiliary equipments in refrigeration system
 - c) Heat pump.

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