S.B. Roll No……

AIR CONDITIONING ENGINEERING
5th/Mech.(RAC)/5412/Nov'15

Duration: 3hrs. **M.Marks=75**

SECTION A

Q 1. Note: Attempt all Questions: **10x1.5=15**

I. COP is …… proportional to the capacity of refrigerator.
II. Heat extracted from system in a given time is called ……..
III. If the vapour is not super heated after compression, the operation is called.……
IV. ……. is never used as refrigerant in a domestic refrigerator.
V. ……. is used to detect leakage of Freon.
VI. Air refrigerator works on …… vapour cycle.
VII. The …… is normally used for frozen carbon dioxide.
VIII. Charging of refrigerant in vapour …….. system is difficult.
IX. A vapour absorption system uses …… energy to produce refrigeration.
X. As warm air cools, its relative humidity ……

SECTION B

Q 2. Attempt any FIVE questions: **5x6=30**

I. Differentiate between refrigerator and heat pump.
II. Write the necessities of vapour compression refrigeration system.
III. Write the application of ammonia gas as a refrigerant.
IV. What is the need of water softening system in refrigeration and air conditioning plants?
V. Describe various functions of compressor.
VI. State central air conditioning system and give its advantages.
VII. Name the various lines drawn on the psychrometric chart.
VIII. Name different types of air distribution systems.

SECTION C **10x3=30**

Q3. Attempt any THREE questions:

1) Explain cooling tower, write its classification according to the methods of air circulation.
2) The atmospheric air has a dry bulb temperature of 21˚C and wet bulb temperature of 18˚C. If the barometer reads 750mm of Hg, Find:-
a) Partial pressure of water vapour **b)** Relative humidity **c)** Dew point temperature
3) Write in detail on solar power refrigeration system.
4) Calculate the tons of refrigeration required to cool 50 cubic meter of air per minute from 35˚C DBT and 60% relative humidity to 21˚C DBT and 70% relative humidity.