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**Question Paper Code: 58764**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

One credit course

Mechanical Engineering

15UME864-BASICS IN REFRIGERATION AND AIRCONDITIONING

(Regulation 2015)

Duration: 1.30 hours

Maximum: 30 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- The relative coefficient of performance is
  - Actual COP/theoretical COP
  - Theoretical COP/actual COP
  - Actual COP  $\times$  theoretical COP
  - None of the above
- In a vapour compression system, the condition of refrigerant before passing through the condenser is
  - Saturated liquid
  - Wet vapour
  - Dry saturated vapour
  - Superheated vapour
- One Ton refrigeration is equivalent to
  - 1 kW
  - 2.5 kW
  - 3.5 kW
  - 5 kW
- The C.O.P. of a Carnot refrigerator in winter will be \_\_\_\_\_ as compared to C.O.P. in summer
  - Same
  - Lower
  - Higher
  - None of these
- Presence of moisture in a refrigerant affects the working of
  - Compressor
  - Condenser
  - Evaporator
  - Expansion valve

6. The COP of a vapour compression plant in comparison to vapour absorption plant is  
(a) More (b) Less  
(c) Same (d) More/less depending on size of plant
7. The conditioned air supplied to the room must have the capacity to take up  
(a) Room sensible heat load only (b) Room latent heat load only  
(c) Both room sensible heat and latent heat loads (d) None of the above
8. The evaporator changes the low pressure liquid refrigerant from the expansion valve into  
(a) High pressure liquid refrigerant (b) Low pressure liquid and vapour refrigerant  
(c) Low pressure vapour refrigerant (d) None of these
9. Under cooling in a refrigeration cycle  
(a) Increases C.O.P (b) Decreases C.O.P  
(c) C.O.P remains unaltered (d) Other factors decide C.O.P
10. The evaporator changes the low pressure liquid refrigerant from the expansion valve into  
(a) High pressure liquid refrigerant  
(b) Low pressure liquid and vapour refrigerant  
(c) Low pressure vapour refrigerant  
(d) None of these

PART – B (1 x 20= 20 Marks)

11. (a) Write about properties of any three types of Refrigerants. (20)
- Or
- (b) Write about types of condensers and working principle of water cooled (20) condensers.