

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 58764

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

One credit

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)

1. A one ton refrigerating machine means that
 - (a) One ton is the total mass of machine
 - (b) One ton refrigerant is used
 - (c) One ton of water can be converted into ice
 - (d) One ton of ice when melts from and at 0° C in 24 hours, the refrigeration effect is equivalent to 210 kJ/min.
2. Absorption system normally uses the following refrigerant
 - (a) Freon-11
 - (b) Freon-22
 - (c) CO₂
 - (d) Ammonia
3. 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
4. One Ton refrigeration is equivalent to
 - (a) 1 kW
 - (b) 2.5 kW
 - (c) 3.5 kW
 - (d) 5 kW
5. During humidification process, dry bulb temperature
 - (a) Remains constant
 - (b) Increases
 - (c) Decreases
 - (d) None of these
6. Ammonia absorption refrigeration cycle requires
 - (a) Very little work input
 - (b) Maximum work input
 - (c) Nearly same work input as for vapour compression cycle
 - (d) Zero work input

7. Carbon dioxide is
(a) Colourless (b) Odourless (c) Non-flammable (d) All of these
8. The domestic refrigerator uses following type of compressor
(a) Centrifugal (b) Axial
(c) Miniature sealed unit (d) Piston type reciprocating
9. 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) None of these (d) Low pressure vapour refrigerant
10. 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

PART – B (1 x 20= 20 Marks)

11. (a) Write about types of condensers and working principle of water cooled (20) condensers.

Or

- (b) Explain in detail about Lithium bromide-Water Absorption Refrigeration (20) Systems With neat sketch.