...RAL UNIVERSITY

...2014 Admission

...Final Examination-January -2016

...storage (1+1)

Marks: 50.00
Time: 2 hours

(10 x 1=10)

...frigeration is equal to _____kcal /h

...

...d condition the dew point temperature is _____the wet bulb temperature

4. In vapour absorption system ,the function of compression is substituted by_____
5. In shell and tube condenser water flows in the _____and refrigerant in_____
6. Sling psychrometer is used to determine_____
7. R-11 is_____
8. Wet bulb depression is zero ,and then relative humidity is equal to_____
9. The ambient temperature recorded by ordinary thermometer is called as _____
10. A domestic window type air conditioner capacity may be approximately_____

II Write short notes on any Five questions **(5 x 2=10)**

1. COP
2. Steam jet refrigeration
3. Rotary compressor
4. Evaporative condenser
5. Ideal refrigerant
6. Psychrometry
7. Specific humidity

III Write short essay on any Five questions **(5 x 4=20)**

1. Differentiate vapor absorption and compression cycle
2. Write a short note on cooling load estimation in cold storage
3. Write a note on T-s diagram and p-h chart
4. Write a note on evaporative condenser
5. Differentiate refrigeration and air conditioning
6. Explain the working of an Electrolux refrigerator with neat sketch
7. Explain various applications of refrigeration in food preservation

IV Write essay on any ONE **(1 x 10=10)**

1. A vapour compression refrigerator works between the pressure limits of 60 bar and 25 bar. The working fluid is just dry at the end of compression and there is no under cooling of liquid before the expansion valve. Determine COP and capacity of the refrigerator, if the fluid flow is at the rate of 5 kg/min.

Pressure bar (bar)	Temperature (K)	Enthalpy (kJ/kg)		Entropy (kJ/kg K)	
		liquid	vapour	liquid	vapour
60	295	151.96	293.29	0.554	1.0332
25	261	56.32	322.58	0.226	1.2464

2. For a sample of air having 22^0 C dry bulb temperature ,relative humidity 30 per cent at barometric pressure 760 mm of Hg, calculate vapor pressure ,humidity ratio , wet bulb temperature ,dew point temperature ,enthalpy and specific volume with the help of Psychometric chart. Locate the points in the schematic diagram of chart