

# KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food.Engg) 2013 Admission

III<sup>rd</sup> Semester Final Examination- December -2014

Cat. No: Fden.2103

Marks: 50.00

Title: Refrigeration and Cold Storage (1+1)

Time: 2 hours

## I Fill up the blanks

(10 x 1=10)

1. One tonne of refrigeration is equal to \_\_\_\_\_
2. In vapour compression refrigeration system , heat is absorbed from \_\_\_\_\_
3. A domestic refrigerator uses \_\_\_\_\_ convection air cooled condenser
4. The refrigerant used in the industrial application of cold storage plant is \_\_\_\_\_
5. Wet bulb depression is Zero, and then relative humidity is equal to \_\_\_\_\_

## State True or False

6. For unsaturated air the dew point temperature is less than the wet bulb temperature
7. In vapour absorption system, the function of compressor is substituted by pump only
8. Room sensible heat is 30 KW ,Room latent heat is 70 KW ,Then room sensible heat factor is 0.7
9. Specific humidity is also called as humidity ratio
10. Psychrometric is the study of properties of refrigerants

## II Write short notes on any FIVE questions

(5x 2=10)

1. Super heating
2. Heat pump
3. Throttle valve
4. Expansion valve
5. Ice plant
6. Bypass factor
7. p-h chart

## III Write short notes on any FIVE questions

(5x 4=20)

1. Reversed carnot cycle
2. Dry and wet compression
3. Refrigeration system capacity
4. Steam jet refrigeration system
5. Functions of refrigerants
6. Types of condenser
7. Vapour compression

**IV Write an essay on any ONE**

**(1 x 10=10)**

1. Explain with neat sketch the various components in vapour absorption system and its working principle
2. Atmospheric air at 760 mm of barometric pressure has 25<sup>o</sup> C of DBT and 15<sup>o</sup> C WBT .With the help of Psychometric chart ,determine (i) RH (ii) humidity ratio (iii) dew point temperature (iv) enthalpy of air per kg of dry air (v) Volume of air per kg of dry air (vi) partial pressure of vapour

\*\*\*\*\*