KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg) 2012 Admission

V th Semester Final Examination- January -2015

Cat. No: Phpt.3104

Title: Refrigeration and Air conditioning (2+1)

Marks: 80

Time: 3 hours

Part A

Answer the following (10 x 1 =10.0)

Fill up the blanks

1. In domestic window type air conditioner capacity may be approximately _____ton.
2. One ton of refrigeration equal to _____ kcal/h.
3. Dry ice is _____
4. The COP is always _____ one.
5. The refrigerant used in industrial application of cold storage plant is _____.

State the following statement True or False

6. The COP of refrigerant is the ratio of heat absorbed to work done in compressor
7. Sling psychrometer is used to determine dry bulb and enthalpy
8. Thermo static expansion value operates when change in degree of super heat at the exit from evaporator
9. In vapour absorption system, the function of compressor is substituted by pump only.
10. During sensible heating of air the specific humidity remains constant

Part B

Answer any TEN of the following (10 x 3 =30)

Explain

1. COP
2. Enthalpy
3. Refrigerant
4. Tons of refrigeration
5. Throttle value
6. evaporator and condenser
7. Winter air conditioning
8. Bypass factor.
9. Principles of air conditioning
10. Refrigerator and heat pump
11. Dry and wet compression
12. Sub cooling

Part C

Answer any SIX questions (6 x 5 =30)

Write short notes on:

1. Types of compressor
2. Lithium bromide absorption system
3. Factors influencing cooling load
4. Psychometric process
5. Classification of refrigerants.
6. Solar refrigeration system
7. Cryogenics.
8. Centrifugal refrigeration system.

Part D

Answer any ONE questions (1 x 10 =10)

1. Explain with neat sketch working of Electrolux refrigerator
2. a. Discuss briefly about cold storage design and types of cold storage.
   b. Discuss various applications of refrigeration and air conditioning.

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