



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Engg.) 2017 Admission**  
**III Semester Final Examination-January 2019**

Fden.2103

**Refrigeration and Cold storage (1+1)**

**Marks: 50**  
**Time: 2 hours**

- I Fill in the blanks: (10x1=10)**
- 1 In vapour compression refrigeration system, the component used to decrease the temperature and pressure of the refrigerant is \_\_\_\_\_
  - 2 Air refrigerator works on \_\_\_\_\_ cycle.
  - 3 One tonne of refrigeration is equal to \_\_\_\_\_
  - 4 The ratio of heat rejected to the work done on the refrigerant is called as COP of \_\_\_\_\_
  - 5 The highest temperature during the cycle, in a vapour compression refrigeration system, occurs after \_\_\_\_\_
  - 6 \_\_\_\_\_ is used to remove water vapours in a vapour absorption refrigeration system.
  - 7 R-500 is a mixture of \_\_\_\_\_
  - 8 The \_\_\_\_\_ temperature lines are vertical i.e. parallel to the ordinate and uniformly spaced on psychrometric chart.
  - 9 Steam jet refrigeration system can be used to maintain the temperature above \_\_\_\_\_ °C.
  - 10 In electrolux refrigeration system the fluids used are \_\_\_\_\_

- II Write Short notes on ANY FIVE of the following (5x2=10)**
- 1 Applications of refrigeration system
  - 2 Compressor
  - 3 Psychrometry
  - 4 Refrigerant
  - 5 Electrolux refrigeration
  - 6 Azeotrope
  - 7 Evaporator

- III Answer ANY FIVE of the following (5x4=20)**
- 1 Different types of air conditioning system.
  - 2 What are the desirable properties of ideal refrigerant?
  - 3 Differentiate between sensible heating and sensible cooling.
  - 4 Differentiate between dry bulb and wet bulb temperature.
  - 5 Functions of expansion device.
  - 6 Differentiate between air cooled and water cooled condensers.
  - 7 A machine working on a Carnot cycle operates between 305 K and 260 K. Determine the COP, when it is operated as refrigerator and heat pump.

- IV Write an essay on ANY ONE of the following (1x10=10)**
- 1 Cold storage structure
  - 2 Vapour absorption refrigeration system

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