Hall Ticket Number:

Code No.:14111 AS N(D)

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD

B.E. (CBCS) IV-Semester Advanced Supplementary Examinations, July-2019

Basics of Refrigeration and Air Conditioning

(Open Elective-II)

Time: **2** hours Max. Marks: **40**

*Note: Answer **ALL** questions in **Part-A** and any **FIVE** from **Part-B***

Part-A (5 × 2 = 10 Marks)

1. Define Ton of refrigeration and convert 10TR into kW.
2. Draw the reversed carnot cycle on T-s Plane and label the processes.
3. Define DBT and WBT.
4. Sketch sensible cooling process on psychrometry chart.
5. List any four applications of RAC.

Part-B (5×6 = 30 Marks)

6.a) Define heat engine, refrigerator and heat pump. [3]

b) List different eco friendly refrigerants and classify the refrigerants. [3]

7.a) Distinguish between refrigeration and air conditioning. [2]

b) Illustrate the working of VCR system with a neat diagram. [4]

8.a) State the function of compressor and condenser in the VCR system. [2]

b) Draw the schematic diagram of water cooler and label the parts. [4]

9.a) List different psychrometers and explain the working of any one. [3]

b) Distinguish between summer and winter air conditioning. [3]

10.a) Draw the line diagram of window air conditioner and label the parts. [3]

b) Compare split air conditioning system with central air conditioning system. [3]

11.a) Sketch: [3]
i) Sensible heating process
ii) Heating and Humidification
iii) Dehumidification processes on psychrometry chart.

b) Explain the working of central air conditioning system with a diagram. [3]

12.a) Sketch the domestic refrigerator and label the parts. [3]

b) Draw the split air conditioning system and mention its advantages. [3]