Roll No. ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚   **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech.(AE) (2011 Onwards)   (Sem.–6)
AUTOMOTIVE HEATING, VENTILATION AND AIR CONDITIONING
Subject Code : BTAE-602
Paper ID : [A2381]

Time : 3 Hrs.   **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. **Answer briefly :**

   a. Define the term 1 tone refrigeration.

   b. Define the term comfort.

   c. Name any refrigerant responsible for ozone depletion and its reason.

   d. Name the refrigerant currently used in car air conditioning.

   e. What do you mean by climate control system used in cars?

   f. What is the function of condenser?

   g. What will happen if the condenser fan of the car stops?

   h. Classify various types of refrigerants.

   i. What is purging?

   j. What is halide torch test?

SECTION-B

2. Discuss in detail the construction and working of various types of compressors used in air conditioning system.

3. Explain the construction and working of automatically controlled air conditioner-heater system.

4. How refrigerants are classified? Discuss the desirable properties of refrigerant.

5. What are major difficulties encountered in air- conditioning a car?

6. Explain various types of duct arrangement systems with the help of neat sketches.

SECTION-C

7. The atmospheric conditions are 25°C DBT and specific humidity of 10 gm/kg of air. Determine the following :

   a. Partial pressure of vapour.

   b. Relative humidity.

   c. Dew-point temperature.

8. Explain the process of charging of refrigerant with the help of neat sketch.

9. Write the possible cause and possible remedies for the following failures :

   a. Compressor does not start.

   b. Oil on floor.