

Seat No.: \_\_\_\_\_

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# **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE- VII<sup>th</sup> SEMESTER-EXAMINATION – MAY/JUNE- 2012**

**Subject code: 170201**

**Date: 24/05/2012**

**Subject Name: Automobile Air Conditioning System**

**Time: 02:30 pm – 05:00 pm**

**Total Marks: 70**

## **Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain vapour compression refrigeration system with neat sketch. **07**  
(b) Explain vapour absorption refrigeration system with neat sketch. **07**

- Q.2** (a) Define: Wet bulb temperature, Dew point temperature, Relative humidity. **07**  
(b) Give important properties of R-22 with its chemical name and formula. **07**

**OR**

- (b) Describe various cooling loads to be considered for sizing the air conditioning system for passenger car. **07**

- Q.3** (a) Explain with neat sketch working of unitary air conditioning system. **07**  
(b) Explain briefly the trouble shooting method of automobile air conditioning system. **07**

**OR**

- Q.3** (a) Explain with figure the refrigerant charging method for a refrigeration system. **07**  
(b) Describe about sources of noise in an automobile air conditioning system. **07**

- Q.4** (a) Explain with neat sketch working of central air conditioning system. **07**  
(b) Explain construction and working of thermostat control of an automobile air conditioning system. **07**

**OR**

- Q.4** (a) Draw the diagram illustrating the location of various components of a typical car air conditioning system. **07**  
(b) Explain layout of duct system for automobiles. **07**

- Q.5** (a) Write short note on “eco-friendly refrigerants”. **07**  
(b) Explain various factors affecting comfort. **07**

**OR**

- Q.5** (a) Explain effect of air conditioning load on engine performance in terms of fuel consumption. **07**  
(b) Write short note on refrigerated transport vehicles. **07**

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