

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2711107**Date: 04/01/2016****Subject Name: Automobile Refrigeration & A/C****Time:2:30 pm to 5:00 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) Differentiate automobile air conditioning system from other air conditioning system **07**
 (b) Explain construction and working of Refrigerated transport truck with neat sketch **07**
- Q.2** (a) Describe important properties and selection criteria for refrigerant used in automobile. **07**
 (b) Define eco friendly refrigerants. Compare properties of conventional and eco friendly refrigerants. **07**
- OR**
- (b) Describe effect of air conditioning load on automobile engine performance **07**
- Q.3** (a) Define the following psychrometric terms **07**
 (i) Specific humidity (ii) Wet bulb temperature (iii) wet bulb depression
 (iv) Adiabatic saturation temp.
 (b) Enlist different types of cooling loads. Explain how to calculate cooling load for designing A/C system for an automobile **07**
- OR**
- Q.3** (a) Explain following psychrometric processes on psychrometric chart **07**
 (i) Sensible cooling (ii) Cooling and dehumidification
 (b) Describe human comfort and discuss factors affecting human comfort **07**
- Q.4** (a) Draw and describe lay out of an automobile air conditioning system with location of major components **07**
 (b) Explain construction and working of automobile heater system with sketch **07**
- OR**
- Q.4** (a) Draw and describe layout of air distribution ducting in automobile including rear seat air conditioning as well. **07**
 (b) Give classification of air conditioning systems and explain central system. **07**
- Q.5** (a) Enlist and describe different Air conditioning controls in automobile **07**
 (b) Describe charging and testing of Automobile Air conditioning system **07**
- OR**
- Q.5** (a) Describe trouble shooting of air conditioning system in Automobile **07**
 (b) Explain complete procedure to detect leak in air conditioning system **07**
