Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER - I EXAMINATION - SUMMER 2017

Subject Code:2711107 Date:11		05/2017	
Tir	•	t Name: Automobile Refrigeration & A/C 2:30 PM to 5:30 PM Total Marks: ons:	70
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Draw and describe lay out of an automobile air conditioning system with	07
	(b)	location of major components. Describe construction and working of Refrigerated transport truck with neat sketch.	07
Q.2	(a)	Discuss important properties of any two refrigerants used in current automobile air conditioning system.	07
	(b)	Explain summer and winter human comfort conditions using comfort chart. OR	07
	(b)	Describe comfort chart with neat sketch.	07
Q.3	(a)	Enlist and describe different factors forming cooling load on car air conditioning system.	07
	(b)	Discuss effects of air conditioning load on engine performance. OR	07
Q.3	(a)	Using psychrometric chart explain following psychrometric processes: (1) Sensible heating (2) Heating and humidification	07
	(b)	Define following psychrometric terms: (1) Specific humidity (2) Wet bulb temperature (3) Wet bulb depression (4) Adiabatic saturation temperature	07
Q.4	(a) (b)	Discuss fans and blowers used in air conditioning system with sketch. Enlist expansion devices. Explain Automatic expansion valve with sketch. OR	07 07
Q.4	(a)	Describe construction and working of swash plate type compressor used in car A/C system.	07
	(b)	Explain various types of grills and diffusers used in air conditioning system.	07
Q.5	(a)	Enlist different leak detection techniques for refrigeration system and explain any one technique in detail.	07
	(b)	Describe trouble shooting of automobile air conditioning system. OR	07
Q.5	(a)	Enlist different controls used in car air conditioning system. Explain any three controls with neat sketch.	07
	(b)	Describe periodic maintenance, service and checks required in car air conditioning system.	07
