



21718

17620

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--

Instruction : All questions are compulsory.

- | | Marks |
|---|--------------|
| 1. A) Attempt any three of the following : | 12 |
| 1) Explain different modes of heat transfer. | |
| 2) Explain scroll compressor with sketch. | |
| 3) Explain Air Intake section with sketch. | |
| 4) Explain function and location of superheat switch with sketch. | |
| B) Attempt any one of the following : | 6 |
| 1) Draw and explain “Layout of Automobile Air Conditioning System.” | |
| 2) Explain Construction, Working and Function of “Rear Heating System” with neat sketch. | |
| 2. Attempt any four of the following : | 16 |
| a) Explain construction and working of Electromagnetic clutch with neat sketch. | |
| b) Explain “Orifice Tube” with neat sketch. | |
| c) What is “Climatic Control” ? | |
| d) Explain with neat sketch, the Electronic temperature control system. | |
| e) Draw the layout of comfort heating system and name important components. State the function of it. | |
| 3. Attempt any four of the following : | 16 |
| a) State the requirements of heating, ventilation for | |
| i) Light motor vehicle | |
| ii) Heavy passenger vehicle. | |
| b) Explain the effect of following parameters on Human control : | |
| i) Odour | |
| ii) Air Movement | |
| c) Explain the working of time delay relay for heater control. | |

P.T.O.



- d) State the function of Evaporater in A.C. System.
- e) How charging and discharging of refrigerant is carried out in Automobile Air Conditioning System ?

4. A) Attempt **any three** of the following : 12

- 1) Explain “Outside Temperature Sensor.”
- 2) State any four faults and their remedies in compressor.
- 3) Compare controlled and uncontrolled ventilation.
- 4) Explain “Freon Leak Detector” with sketch.

B) Attempt **any one** of the following : 6

- 1) Explain with figure “Hybrid Case System.”
- 2) Differentiate between Thermostatic Expansion Valve and Fixed Orifice Tube with six aspects.

5. Attempt **any four** of the following : 16

- a) Explain pressure switch along with it’s location.
- b) Explain throttling and modulating action of thermostatic expansion valve.
- c) Explain construction of “Ambient Switch” with neat sketch.
- d) Explain construction and working of condenser.
- e) Explain “Visual and Acoustic check”.

6. Attempt **any four** of the following : 16

- a) Explain the function of high pressure switch and low pressure switch.
 - b) Write the general faults occurred in comfort heating system and suggest remedies over it. (any four).
 - c) What are the effects of humidity on human comfort ?
 - d) List four refrigerant with their colour code.
 - e) List different service equipments and tools used in Automobile Air Conditioning.
-