

R09

Code No: 56082

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2019

AUTO AIR CONDITIONING

(Automobile Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) With the help of line diagram explain the working feature of vapour compression Refrigeration system and derive for COP of the same.
- b) Which cycle is followed in auto air conditioning, give complete details along with line diagram and explain salient features. [7+8]
- 2.a) Explain the concept of ADP and its significance in the air conditioning applications.
- b) Explain cooling and dehumidification, heating and humidification with processes on psychometric chart and give examples. [7+8]
- 3.a) Explain different circuits / relays used for the control of compressor working conditions.
- b) Compare and contrast the working of thermostatic and automatic expansion valves it the help of line diagrams. [8+7]
- 4.a) Explain the factors/ loads to be taken into consideration of vehicle air conditioning in detail.
- b) What are the factors required for capacity requirements of vehicle A/C and troubles to encounter? [8+7]
- 5.a) Using the circuit diagram, explain the car air conditioning working and indicate different relays and controls.
- b) What are different heating systems used in automobile A/C applications and explain them. [8+7]
- 6.a) How the ducts are arranged and shapes of the ducts in the latest cars.
- b) Explain the role of registers and filters and their usage in detail. [7+8]
- 7.a) Explain the trouble shooting air conditioner and one method of evacuation method.
- b) Explain the steps in A/C visual inspection. [8+7]
- 8.a) Explain different problems encountered in the compressor and the servicing of the same.
- b) What are the servicing methods of air conditioners? Explain them with line diagrams. [7+8]

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