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**B. E. (Seventh Semester) Examination,
April-May 2020
(New Scheme)**

(Automobile Engg. Branch)

AUTOMOTIVE AIR CONDITIONING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

***Note : Part (a) is compulsory in each question.
Attempt any two part from given in (b), (c)
and (d). Make the suitable diagram wherever
necessary.***

Unit-I

1. (a) Differentiate between Automotive air conditioning and house hold air conditioning.

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- (b) What is automotive air conditioning? Explain its importance in providing comfort to the passenger in an automobile. 7
- (c) Explain the factors that affect the performance of an air conditioning system. 7
- (d) With a neat sketch explain the working of a simple automotive air conditioning System. 7

Unit-II

- 2. (a) Write the importance of heating system in an automobile. 2
- (b) What are the different methods of controlling the temperature? Discuss their relative merits. 7
- (c) Explain how air conditioning system can be protected for the engine heat in an automobile. 7
- (d) Discuss the importance of heating system in an automobile. Write the desirable properties of ideal heating system. 7

Unit-III

- 3. (a) Write classification of refrigerants. 2

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- (b) Explain role of refrigerants in the depletion of Ozone layer. 7
- (c) With a neat sketch explain the working of a scroll type compressor. 7
- (d) Differentiate between reciprocating and rotary compressors. 7

Unit-IV

- 4. (a) Write the objectives of Air Routing. 2
- (b) Explain the layout of duct system for automobile and their impact on load calculations. 7
- (c) Explain how automatic temperature control system works in an automotive air conditioning. 7
- (d) Explain the testing of air control in air handling systems. 7

Unit-V

- 5. (a) What safety precautions are to be followed while servicing automotive air conditioning system? 2
- (b) Explain the procedure for evacuating of automotive air conditioning. 7

- (c) Explain the procedure of finding leaks using an electronic leak tester in an automotive air conditioning unit. 7
- (d) Explain in detail the causes of air conditioner failure in an automotive air conditioning system. 7