

Code No: **R164224C**

**R16**

**Set No. 1**

**IV B.Tech II Semester Advanced Supplementary Examinations, Aug/Sep - 2022**

**AUTOMOBILE AIR CONTIDITIONING**

**(Automobile Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any FOUR questions from Part-B*

\*\*\*\*\*

**PART-A(14 Marks)**

1. a) Outline the basic air conditioning system? [3]
- b) Name the significance of expansion devices? [3]
- c) What is the effect of cooling and heating in load analysis in brief? [2]
- d) Outline the impact of sizing and ventilation in air distribution system? [2]
- e) List the objectives of air routing and temperature control? [2]
- f) Write the short notes on servicing heater system? [2]

**PART-B(4x14 = 56 Marks)**

2. a) Explain the principles of air conditioning. [5]
- b) Discuss various types of compressors with neat sketches? [9]
3. a) Analyze the central and unitary air conditioning systems? [7]
- b) Difference between car, truck & bus air conditioning. [7]
4. a) Explain the factors forming the load on refrigeration & air conditioning systems. [7]
- b) Discuss the various load calculations for automobiles? [7]
5. a) Explain the distribution duct system in detail. [7]
- b) Analyze the type of grills in air distribution system? [7]
6. a) Discuss the automatic temperature control? [7]
- b) Explain duct system and the effect of vacuum reserve. [7]
7. a) Evaluate the leak testing guide, discharging the system, evacuating the system, removing and replacing components? [8]
- b) Explain the methods of dehydration, charging and testing. [6]

