



DIPLOMA IN MECHANICAL ENGINEERING

CENTRALIZED QUESTION BANK

**4020652 - Refrigeration and Air-Conditioning
Practical**

**DIRECTORATE OF TECHNICAL
EDUCATION GOVERNMENT OF
TAMILNADU**

DIPLOMA END SEMESTER / YEAR EXAMINATION – 2023

Course : Mechanical Engineering

Subject : Refrigeration and Air-Conditioning Practical

QP Code : 4020652

Time : 3 Hours Date :

Session:

Max Marks: 100

ANSWER ALL THE QUESTION

1. a) Determine the refrigerating effect, C.O.P and the compressor capacity of a open type system with any one expansion device. (Thermostatic expansion valve / Capillary tube / Automatic Expansion Valve. (50 Marks)
- b) Conduct the service to pump down the system and to purge air from the system. (40 Marks)
2. a) Conduct Leak tests in a split air conditioning system, detect the failures and suggest the remedies. Conduct the Refrigerant Charge Test. (50 Marks)
- b) Study and carry out the various operations on copper and steel tubing– Flaring, Swaging and Soldering methods used in R& A.C. (40 Marks)
3. a) Determine the capacity of a window air conditioner. (50 Marks)
- b) Study the various sizes of copper and steel tubing. To study the various tools used for operations. (40 Marks)
4. a) Determine the C.O.P of sealed system by using electrical measurements. (50 Marks)
- b) Conduct the service to check the oil level in the compressor and trace the common faults in R & A.C units and their remedies. (40 Marks)
5. a) Conduct the flush test to remove the contaminants of refrigeration system and recharge. (50 Marks)
- b) Conduct the service to change refrigerant into service cylinder from storage cylinder. (40 Marks)
6. a) Determine the efficiency of a cooling tower. (50 Marks)
- b) Study the methods to set and adjust the following a) Thermostats, b) Low pressure and high pressure cut-outs c) Thermostatic expansion valve d) Automatic Expansion Valve. (40 Marks)