

- I. JOB TITLE : REFRIGERATION/AIR-CONDITIONING/  
VENTILATION MECHANIC  
(WATER SYSTEM)
- II. JOB LEVEL : SKILLED WORKER
- III. JOB DESCRIPTION : Fits, assembles, erects, installs, commissions, maintains and repairs water systems for air-conditioning systems including air-handling and water condensing equipment.
- IV. TRADE SKILLS : Ability to:
1. Correctly use and maintain the tools of the trade including power tools, test equipment and measuring instruments.
  2. Perform electric welding, simple machining and fabrication operations.
  3. Install, maintain and repair piping systems and associated accessories for air-conditioning systems.
  4. Install, test, maintain and repair pumping systems.
  5. Perform hydraulic tests according to standards and specifications.
  6. Detect and rectify leaks in hydraulic systems.
  7. Install, test, maintain and repair air-handling units and fan coil units.
  8. Install test, maintain and repair piping for refrigerant, chilled water, condenser, cooling water and steam systems.
  9. Locate and repair faults in the water systems of air-conditioning systems.
  10. Read and interpret refrigeration/air-conditioning/ventilation specifications, building plans, refrigeration and electrical diagrams.
  11. Use approved mechanical handling and lifting equipment.
  12. Use safety equipment, and protective devices and equipment.

13. Correctly instruct, supervise and transfer skills to any apprentice and semi-skilled worker assigned to him to ensure safety and quality of work.

V. TRADE THEORY : Knowledge of:

1. Basic refrigeration / air-conditioning / ventilation technology including:
  - (i) Refrigeration cycles
  - (ii) Fans, pumps and related accessories
2. Basic workshop practice, engineering materials, welding and pipe coupling methods.
3. Engineering drawing and sketching and layout drawings for refrigeration/air-conditioning/ventilation systems.
4. Use of test equipment and measuring instruments.
5. Industrial hazards, safety and health precautions, energy saving and environmental concerns.
6. Installation practice and regulations, and relevant codes of practice.
7. Relevant ordinances and regulations.

VI. ENTRY ROUTE : Preferred Minimum Entry Qualification:

Completion of Secondary 3.

Training:

2<sup>1</sup>/<sub>2</sub>-year organized apprenticeship or 1<sup>1</sup>/<sub>2</sub>-year organized apprenticeship if preceded by a relevant one-year full-time basic craft course, with attendance at a relevant part-time day-release or block-release craft course in an institute of vocational education or equivalent, plus 1 year post-apprenticeship relevant working experience.