

- I. JOB TITLE : REFRIGERATION/AIR-CONDITIONING/  
VENTILATION MECHANIC  
(UNITARY SYSTEM)
- II. JOB LEVEL : SKILLED WORKER
- III. JOB DESCRIPTION : Fits, assembles, erects, installs, commissions, maintains and repairs unitary air-conditioning and refrigeration systems including refrigerating, air-handling and ventilation 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. Use electric and gas welding equipment, perform simple machining and fabrication operations.
  3. Install, test, maintain and repair unitary air-conditioning and refrigeration systems and associated components.
  4. Commission unitary air-conditioning and refrigeration systems.
  5. Locate and repair faults in unitary air-conditioning and refrigeration systems.
  6. Read and interpret simple refrigeration/air-conditioning/ventilation specifications, building plans, refrigeration and electrical circuit diagrams.
  7. Use approved mechanical handling and lifting equipment.
  8. Use safety equipment, and protective devices and equipment.
  9. 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, compressors and related accessories
2. Basic workshop practice, engineering materials, welding and wiring.
  3. Line and wiring diagrams and layout drawings for refrigeration/air-conditioning/ventilation systems.
  4. Thermal and acoustic insulating materials and techniques.
  5. Electrical devices including motors and their control gears.
  6. Relevant control components for unitary air-conditioning and refrigeration systems.
  7. Use of test equipment and measuring instruments.
  8. Industrial hazards, safety and health precautions, energy saving and environmental concerns.
  9. Installation practice and regulations, and relevant codes of practice.
  10. Relevant ordinances and regulations.

VI. ENTRY ROUTE : Preferred Minimum Entry Qualification:

Completion of Secondary 3.

Training:

3-year organized apprenticeship or 2-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.