



## 2018 21<sup>st</sup> ANNUAL SKILLS MANITOBA COMPETITION CONTEST DESCRIPTION

**CONTEST NAME:** Refrigeration and Air Conditioning

**CONTEST NO:** 38

**LEVEL:** Post-Secondary

**CONTEST LOCATION:** Red River College - Notre Dame Campus – B103

**CONTEST START TIME AND DURATION:** 6 hours maximum, starting at 9 AM immediately after opening ceremonies

**PURPOSE OF CHALLENGE:** To assess the contestant's problem-solving skills relating to the installation, operation, maintenance and repair of Refrigeration systems.

### **SKILLS AND KNOWLEDGE TO BE TESTED:**

1. Apply basic electrical control systems concepts in the wiring of a ventilation system interlock. Contestant will be required to prepare an electrical schematic diagram prior to wiring the components. After wiring, the contestant will test the simulation for proper control operation.
2. Apply basic refrigeration test equipment procedures in identifying different refrigerants in unmarked cylinders by matching up temperatures and pressures of the refrigerants with the appropriate ambient temperature.
3. Apply advanced brazing techniques and piping skills required in the day to day installation of refrigeration and air conditioning systems.

Prerequisites:

- Thorough knowledge of the refrigeration cycle.
- The ability to use refrigeration tools and specialized equipment.

- Knowledge of and compliance with current industry codes and safety regulations.
- The ability to use precision electrical test equipment.
- A good operating knowledge of typical controls used in refrigeration and air-conditioning systems.

**EQUIPMENT, TOOLS, MATERIALS TO BE PROVIDED BY COMMITTEE:**

- All hand tools, testing equipment, and specialized equipment and consumables will be provided by the organization.
- Any additional safety equipment that may be required

**EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR:**

- Contestants must provide their own person protective equipment.
- Contestants must wear the appropriate clothing and standard safety gear. (CSA approved safety boots and safety glasses as required for the function they are performing).

**NATIONAL COMPETITION ELIGIBILITY:**

- A mark of **70% or higher** must be scored by the gold medalist to attend the National Skills Competition

**WORKSITE SAFETY RULES / REQUIREMENTS:**

- As per Red River College shop/lab policies.

**THE IMPORTANCE OF ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES;**

Essential skills are used in nearly every job and at different levels of complexity. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills means you will understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high as or higher than it is for many office jobs.

The following 9 skills have been identified and validated as key essential skills for the workplace: Numeracy, Oral Communication, Working with Others, Continuous Learning, Reading Text, Writing, Thinking, Document Use, Digital.

Essential skills required for Refrigeration and Air Conditioning: All areas required.

**FOR MORE INFORMATION PLEASE CONTACT:**

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