

Issued: November 13, 2013

Program: Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic)

To: ITA Training Providers
BC Construction Industry Training Organization (CITO)
ACE-IT School Districts

RE: OPSN 2013 025
Launch of ITA Standardized Level Examinations

Timing: Effective: March 31, 2014

Information: Please be advised that effective March 31, 2014, the Industry Training Authority (ITA) will be launching Standardized Level Examinations for Refrigeration Mechanic Level 1, 2 & 3. Refrigeration Mechanic Level 1, 2 & 3 classes completing on or after March 31, 2014 will be required to write an ITA Standardized Level Examination.

Refrigeration Mechanic Level 4 classes will write the Refrigeration & Air Conditioning Mechanic Interprovincial Red Seal examination at the end of Level 4.

All Refrigeration Mechanic Standardized Level Exams will be available to write through an online computer-based platform. Paper-based exams will continue if a training provider is unable to arrange a computer lab. If training providers use the online computer-based platform a computer facility must be booked for a minimum of 4 hours to accommodate the online examination writing. The location of the computer/lab must be noted on the ITA Exam Request Form.

Training providers are to follow the attached *Grading Sheet: Subject Competencies and Weightings* tables to determine an apprentice's final in-school technical training percentage score.

Background In 2012, ITA began launching ITA Standardized Level Examinations for a number of programs.

For each level of technical training that includes an ITA Standardized Level Exam, a training provider in-school percentage score and a standardized level exam percentage score will be blended to produce a final percentage score. The in-school percentage score will be multiplied by 80% and the exam percentage score will be multiplied by 20%. The two blended (80/20) scores will be added by ITA Direct Access to produce a final percentage score for the level of training.

Refrigeration Mechanic classes will write the Level 1, 2 & 3 ITA Standardized Level Exams through an online computer-based platform or by requesting a paper-based level exam writing if a computer laboratory is unavailable.

The benefits of moving to an online platform include:

- immediate processing of exam results and a quicker turnaround for exam marks;
- increased exam protection and security with the removal of paper-based exams;
- the ability to “scramble” questions which enhances security of the exam as questions will be presented in a different sequence for each candidate;
- colour diagrams can be easily reproduced;
- diagrams in the exams can be manipulated to clarify details, i.e., zoom-in capabilities;
- a consistent evaluation process for all examinations with the ability to quickly modify or remove questions as required.

**Scheduling
Refrigeration
Mechanic
Exams**

The Refrigeration Mechanic Level 1, 2 & 3 and the Refrigeration & Air Conditioning Mechanic Interprovincial Red Seal exams are to be requested by training providers via the usual ITA procedure. Training providers are required to complete an ITA Examination Request Form six weeks prior to the exam scheduled date.

**Level 1, 2 & 3
&
Interprovincial
Red Seal
Exams**

ITA will invigilate these exams unless other arrangements are organized between ITA’s Exam Department and the training provider.

**Training
Provider
Component:**

Instructors are expected to follow the *Assessment Guidelines Grading Sheet: Subject Competencies and Weightings* tables on pages 5 - 8 of this document to calculate the final in-school percentage score for each apprentice.

**In-School
Technical
Training
Percentage
Scores**

Training providers are required to enter an in-school percentage score for each apprentice into ITA Direct Access.

As per the *Grading Sheet: Subject Competencies and Weightings* tables, the in-school percentage score for Refrigeration Mechanic Levels 1 & 2 is derived from a combination of theory and practical assessments within each training topic.

Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) Level 1, 2 & 3 in-school percentage scores are calculated by:

- totaling the level theory competency results as noted in the competencies and weightings tables and multiplying the total by 70% for Level 1, 2 & 3 to produce a weighted theory percentage score;
- totaling the level practical competency results as noted in the competencies and weightings tables and multiplying the total by 30% for Level 1, 2 & 3 to produce a weighted practical percentage score;
- adding the weighted theory and practical competency results together to determine the final in-school percentage score.

This final percentage score is entered into ITA Direct Access.

Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) Level 4 in-school percentage scores are calculated by:

- totaling the level theory competency results as noted in the competencies and weightings tables and multiplying the total by 90% to produce a weighted theory percentage score;
- totaling the level practical competency results as noted in the competencies and weightings tables and multiplying the total by 10% to produce a weighted practical percentage score;
- adding the weighted theory and practical competency results together to determine the final in-school percentage score.

This final percentage score is entered into ITA Direct Access.

ITA Component:

ITA will enter the standard level examination percentage score in ITA Direct Access.

Calculating Final Percentage Scores For Standardized Level Exams Level 1, 2 & 3

Once the in-school percentage score and the ITA exam percentage score have been entered into ITA Direct Access, the system will automatically calculate the final percentage score. This final percentage score is calculated by blending the standardized level exam percentage score and the in-school technical training percentage score.

The in-school technical training (combined theory & practical) percentage score is multiplied by 80% and the ITA Standardized Level Exam percentage score is multiplied by 20%. These two scores are combined to determine the percentage score that is recorded in ITA Direct Access.

A percentage score of 70% or greater is required to pass Refrigeration Mechanic Level 1, 2 & 3 when the final in-school percentage score and the final ITA standardized level exam percentage score are blended.

Program Results and Eligibility

After the in-school percentage score and the exam percentage score are blended, there will be situations where an apprentice will have to repeat one or the other component (in-school training or exam) in order to achieve the required 70% to pass Refrigeration Mechanic Level 1, 2 & 3.

In the event that this does occur, the following table outlines the three scenarios an apprentice may encounter once the 80/20 blending is applied and the final percentage score is less than 70%.

<p>Scenario 1</p> <p>The apprentice receives less than 70% for the in-school training and 70% or greater on the level exam resulting in a final score of less than 70%.</p>	<p>The apprentice will:</p> <ul style="list-style-type: none"> • Re-take the level in-school technical training. • Receive credit for the exam.
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<p>Scenario 2</p> <p>The apprentice receives 70% or greater for the in-school training and less than 70% on the level exam resulting in a final score of less than 70%.</p>	<p>The apprentice will:</p> <ul style="list-style-type: none"> • Receive credit for the in-school technical training. • Re-write the level exam per ITA exam re-write policy.
<p>Scenario 3</p> <p>The apprentice receives less than 70% for the in-school training and less than 70% on the level exam resulting in a final score of less than 70%.</p>	<p>The apprentice will:</p> <ul style="list-style-type: none"> • Re-take the level in-school technical training. • Re-write the level exam per ITA exam re-write policy.

In cases where the apprentice receives a percentage score that is less than 70% for the in-school technical training and still achieves a final blended percentage score of 70% or greater, credit for the technical training will be granted.

Calculating Final Percentage Scores

Level 4

Refrigeration Mechanic Level 4 Examination

Until further notice, apprentices taking Refrigeration Mechanic Level 4 will write the Refrigeration & Air Conditioning Mechanic Interprovincial Red Seal examination as the final examination for the Refrigeration Mechanic program.

The instructor is responsible for calculating and reporting the final in-school percentage score for Level 4 to ITA Direct Access.

Refer to the *Grading Sheet Subject Competencies and Weightings* Level 4 table at the end of this document to determine the calculation process for completing the Level 4 in-school final percentage score.

In order to be eligible to write the Refrigeration & Air Conditioning Mechanic Interprovincial Red Seal examination, apprentices must have achieved a final percentage score of 70% or better for Level 1, 2 & 3 and have received a Level 4 in-school technical training final percentage score of 70% or greater.

The ITA will administer and invigilate the Refrigeration & Air Conditioning Mechanic Interprovincial Red Seal examination and score and record the final percentage score in ITA Direct Access.

For more information contact:

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Grading Sheet: Subject Competency and Weightings

PROGRAM: IN-SCHOOL TRAINING: ITA DIRECT ACCESS CODE:		REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) LEVEL 1 00103RESE01	
LINE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
A	Use of Safe Work Practices	5%	10%
B	Use of Tools and Equipment	10%	20%
C	Organize Work	25%	10%
D	Apply Fundamentals of Refrigeration	25%	25%
E	Apply Electrical Concepts	25%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	10%	10%
	Total	100%	100%
Calculated by the Training Provider REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) in-school theory & practical subject competency weighting		70%	30%
Training Provider enters final in-school percentage score into ITA Direct Access		IN-SCHOOL %	

Calculated by ITA: In-school Percentage Score ITA Direct Access calculates the percentage weighting once the in-school percentage score is entered. Combined theory and practical subject competency multiplied by	80%
Calculated by ITA: Standard Level Exam Percentage Score ITA Direct Access will calculate the percentage weighting once the standard level exam percentage scores have been entered. The exam score is multiplied by	20%
Calculated by ITA: Final Percentage Score The final percentage score for determining credit is calculated by ITA Direct Access.	FINAL%



PROGRAM: IN-SCHOOL TRAINING: ITA DIRECT ACCESS CODE:		REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) LEVEL 2 00103RESE02	
LINE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
B	Use Tools and Equipment	5%	0%
C	Organize Work	10%	0%
D	Apply Fundamentals of Refrigeration	15%	25%
E	Apply Electrical Concepts	30%	25%
F	Plan & Install refrigeration & Air Conditioning Systems	30%	25%
H	Maintain & Service Refrigeration & Air Conditioning Systems	10%	25%
	Total	100%	100%
Calculated by the Training Provider REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) in-school theory & practical subject competency weighting		70%	30%
Training Provider enters final in-school percentage score into ITA Direct Access		IN-SCHOOL %	

Calculated by ITA: In-school Percentage Score ITA Direct Access calculates the percentage weighting once the in-school percentage score is entered. Combined theory and practical subject competency multiplied by	80%
Calculated by ITA: Standard Level Exam Percentage Score ITA Direct Access will calculate the percentage weighting once the standard level exam percentage scores have been entered. The exam score is multiplied by	20%
Calculated by ITA: Final Percentage Score The final percentage score for determining credit is calculated by ITA Direct Access.	FINAL%



PROGRAM: IN-SCHOOL TRAINING: ITA DIRECT ACCESS CODE:		REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) LEVEL 3 00103RESE03	
LINE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
B	Use Tools & Equipment	5%	0%
D	Apply Fundamentals of Refrigeration	15%	25%
E	Apply Electrical Concepts	30%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	35%	25%
G	Commission Refrigeration & Air Conditioning Systems	10%	0%
H	Maintain & Service Refrigeration & Air Conditioning Systems	5%	25%
	Total	100%	100%
Calculated by the Training Provider REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) in-school theory & practical subject competency weighting		70%	30%
Training Provider enters final in-school percentage score into ITA Direct Access		IN-SCHOOL %	

Calculated by ITA: In-school Percentage Score ITA Direct Access calculates the percentage weighting once the in-school percentage score is entered. Combined theory and practical subject competency multiplied by	80%
Calculated by ITA: Standard Level Exam Percentage Score ITA Direct Access will calculate the percentage weighting once the standard level exam percentage scores have been entered. The exam score is multiplied by	20%
Calculated by ITA: Final Percentage Score The final percentage score for determining credit is calculated by ITA Direct Access.	FINAL%



PROGRAM: IN-SCHOOL TRAINING: ITA DIRECT ACCESS CODE:		REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC) LEVEL 4 00103RE04	
LINE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
C	Organize Work	5%	0%
E	Apply Electrical Concepts	20%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	65%	75%
H	Maintain & Service Refrigeration & Air Conditioning Systems	10%	0%
	Total	100%	100%

Calculated by the Training Provider:		
Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) in-school theory & practical subject competency weighting	90%	10%
Training Provider enters final in-school percentage score into ITA Direct Access Apprentices must achieve a minimum 70% for the Level 4 final in-school percentage score to be eligible to write the Interprovincial Red Seal exam.	IN-SCHOOL FINAL %	

All apprentices who complete Level 4 of the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) program with a FINAL level percentage score of 70% or greater will write the Interprovincial Red Seal examination as their final assessment.

ITA will enter the apprentices' Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) Interprovincial; Red Seal examination percentage score in ITA Direct Access. A minimum percentage score of 70% on the examination is required for a pass.