



**EXAM COUNSELING SHEETS**  
*for*  
**PROVINCIAL AND LEVEL EXAMS**

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## EXAM COUNSELLING SHEETS FOR PROVINCIAL & LEVEL EXAMS

Each counselling sheet contains a column entitled “Percentage of Questions on Exam”, which lists the average percentage of multiple-choice items found in each section. Provincial and Level exams typically contain 100 to 150 items. **NOTE:** For *Red Seal* exam counselling sheets, please see the Red Seal website: [www.red-seal.ca](http://www.red-seal.ca)

**Please note:** For the trade-levels in **RED** below, apprentices must pass the Level Exam at the end of their level of training in order to progress.

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# ALARM AND SECURITY TECHNICIAN

## Provincial

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Basic Work Practices and Procedures                 | 25%                                    |
| 2              | Installation of Security Systems                    | 38%                                    |
| 3              | Service, Maintenance and Repair of Security Systems | 17%                                    |
| 4              | Canadian Electrical Code (CEC)                      | 20%                                    |
|                | <b>TOTAL:</b>                                       | <b>100%</b>                            |

**Date:** 2015

# AUTOGLASS TECHNICIAN

## Provincial

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Occupational Skills                            | 16%                                    |
| 2              | Structural and Non-structural Stationary Glass | 37%                                    |
| 3              | Laminated Glass                                | 15%                                    |
| 4              | Moveable Glass                                 | 24%                                    |
| 5              | Glass Fabrication and Specialty Glass          | 8%                                     |
|                | <b>TOTAL:</b>                                  | <b>100%</b>                            |

**Date:** Jan 1, 2011

# AUTOMOTIVE SERVICE TECHNICIAN (AST)

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Fundamental Skills                          | 20%                                    |
| 2              | Chassis Systems 1                           | 16%                                    |
| 3              | Basic Welding                               | 13%                                    |
| 4              | Electrical and Electronics Systems 1        | 19%                                    |
| 5              | Non-ABS Brake Systems                       | 18%                                    |
| 6              | Maintenance, Inspection and Body Adjustment | 14%                                    |
|                | <b>TOTAL:</b>                               | <b>100%</b>                            |

**Revised:** March 14, 2012

# AUTOMOTIVE SERVICE TECHNICIAN (AST)

## Level 2

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Engine Principles and Fuel Delivery Systems | 17%                                    |
| 2              | Engine Cooling and Lubrication              | 17%                                    |
| 3              | Starting and Charging Systems               | 17%                                    |
| 4              | Lighting and Wiper Systems                  | 14%                                    |
| 5              | Ignition Systems                            | 16%                                    |
| 6              | Chassis Systems 2                           | 19%                                    |
|                | <b>TOTAL:</b>                               | <b>100%</b>                            |

**Date:** April 24, 2012

# AUTOMOTIVE SERVICE TECHNICIAN (AST)

## Level 3

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Final Drive Systems                            | 16%                                    |
| 2              | Vehicle Alignment                              | 12%                                    |
| 3              | Gasoline Fuel Systems                          | 17%                                    |
| 4              | Vehicle Management Systems                     | 16%                                    |
| 5              | Intake and Emission Systems/Vehicle Inspection | 15%                                    |
| 6              | Alternate Fuels and Energy Sources             | 12%                                    |
| 7              | ABS Brake and Restraint Systems                | 12%                                    |
|                | <b>TOTAL:</b>                                  | <b>100%</b>                            |

**Date:** April 24, 2012



# AST- SERVICE CENTRE TECHNICIAN

## Provincial Certification

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|-------------------------------|--|
| 1              | Occupational Skills           | 12%                                    |
| 2              | Suspension and Tires          | 11%                                    |
| 3              | Batteries and Circuits        | 7%                                     |
| 4              | Ignition Systems              | 7%                                     |
| 5              | Starting and Charging Systems | 8%                                     |
| 6              | Brakes                        | 16%                                    |
| 7              | Steering and Alignment        | 12%                                    |
| 8              | Cooling Systems               | 10%                                    |
| 9              | Fuel and Exhaust Systems      | 10%                                    |
| 10             | Drivelines                    | 7%                                     |
|                | <b>TOTAL:</b>                 | <b>100%</b>                            |

**Revised:** October 15, 2015

**BLASTER**  
**Blasting Safety**

**SECTIONS AND EXAM WEIGHTING**

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Blasting Safety Regulations, Definitions and Properties of Explosives | 46%                                    |
| 2              | Handling, Storage and Transportation of Explosives                    | 27%                                    |
| 3              | Blast Site Security and Practices                                     | 27%                                    |
|                | <b>TOTAL:</b>   | <b>100%</b>                            |

**Revised:** July 9, 2010

# BLASTER

## Blaster – First Class

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TITLE</b>                             | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1.             | Uses and maintains tools and equipment   | 2                                      |
| 2.             | Organizes work                           | 4                                      |
| 3.             | Performs routine trade activities        | 2                                      |
| 4.             | Stores explosives                        | 4                                      |
| 5.             | Disposes of explosives                   | 6                                      |
| 6.             | Transports explosives                    | 5                                      |
| 7.             | Prepares blast area                      | 5                                      |
| 8.             | Controls blast area                      | 5                                      |
| 9.             | Develops and implements blast design     | 16                                     |
| 10.            | Loads blast holes                        | 6                                      |
| 11.            | Controls flyrock                         | 7                                      |
| 12.            | Monitors and controls vibration          | 9                                      |
| 13.            | Performs basic blasting operations       | 20                                     |
| 14.            | Performs advanced blasting operations    | 3                                      |
| 15.            | Performs secondary blasting operations   | 3                                      |
| 16.            | Performs specialized blasting techniques | 3                                      |
| <b>TOTAL</b>   |  | <b>100%</b>                            |

**Date:** August 24, 2012

# BLASTER

## Blaster – Second Class

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TITLE</b>                             | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1.             | Uses and maintains tools and equipment   | 2                                      |
| 2.             | Organizes work                           | 5                                      |
| 3.             | Performs routine trade activities        | 3                                      |
| 4.             | Stores explosives                        | 4                                      |
| 5.             | Disposes of explosives                   | 6                                      |
| 6.             | Transports explosives                    | 6                                      |
| 7.             | Prepares blast area                      | 5                                      |
| 8.             | Controls blast area                      | 5                                      |
| 9.             | Develops and implements blast design     | 16                                     |
| 10.            | Loads blast holes                        | 7                                      |
| 11.            | Controls flyrock                         | 8                                      |
| 12.            | Monitors and controls vibration          | 6                                      |
| 13.            | Performs basic blasting operations       | 21                                     |
| 14.            | Performs advanced blasting operations    | 2                                      |
| 15.            | Performs secondary blasting operations   | 2                                      |
| 16.            | Performs specialized blasting techniques | 2                                      |
| <b>TOTAL</b>   |  | <b>100%</b>                            |

Revised: August 24, 2012

# BLASTER

## Blaster – Third Class

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TITLE</b>                             | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1.             | Uses and maintains tools and equipment   | 6                                      |
| 2.             | Organizes work                           | 4                                      |
| 3.             | Performs routine trade activities        | 6                                      |
| 4.             | Stores explosives                        | 8                                      |
| 5.             | Disposes of explosives                   | 4                                      |
| 6.             | Transports explosives                    | 8                                      |
| 7.             | Prepares blast area                      | 5                                      |
| 8.             | Controls blast area                      | 5                                      |
| 9.             | Develops and implements blast design     | 11                                     |
| 10.            | Loads blast holes                        | 9                                      |
| 11.            | Controls flyrock                         | 9                                      |
| 12.            | Monitors and controls vibration          | 3                                      |
| 13.            | Performs basic blasting operations       | 20                                     |
| 14.            | Performs secondary blasting operations   | 1                                      |
| 15.            | Performs specialized blasting techniques | 1                                      |
| <b>TOTAL</b>   |  | <b>100</b>                             |

**Revised:** August 24, 2012

# BOILERMAKER

## Entry Level

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>               | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|----------------------------|--|
| 1              | General Safety             | 20%                                    |
| 2              | Basic Rigging              | 20%                                    |
| 3              | Tools, Cutting and Welding | 34%                                    |
| 4              | Material Knowledge         | 26%                                    |
|                | <b>TOTAL:</b>              | <b>100%</b>                            |

**Revised:** Nov 2012

# BOILERMAKER

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>             | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--------------------------|--|
| 1              | Tools, Cutting & Welding | 36%                                    |
| 2              | Blueprint Reading        | 47%                                    |
| 3              | General Rigging          | 17%                                    |
|                | <b>TOTAL:</b>            | <b>100%</b>                            |

**Revised:** March 23, 2001

# BOILERMAKER

## Level 2

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

| <b>SECTION</b> | <b>TOPIC</b>                         | <b>PERCENTAGE<br/>OF QUESTIONS<br/>ON EXAM</b> |
|----------------|--------------------------------------|--|
| 1              | Heat Treatment                       | 9%   |
| 2              | Communications and Related Knowledge | 4%   |
| 3              | Wire Rope Drums                      | 3%   |
| 4              | Advanced Block and Tackle            | 7%   |
| 5              | Cranes                               | 8%   |
| 6              | Hoisting and Jacking Equipment       | 8%   |
| 7              | Scaffold                             | 7%   |
| 8              | Mathematics                          | 11%  |
| 9              | Drawing Interpretation               | 12%  |
| 10             | Layout and Fabricating               | 17%  |
| 11             | Fibreglass Fitting                   | 14%  |
|                | <b>TOTAL:</b>                        | <b>100%</b>                                    |

**Revised:** Feb 11, 2009



# BOILERMAKER

## Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|-------------------------------|--|
| 1              | Materials & Related Knowledge | 15%                                    |
| 2              | Layout & Fitting              | 28%                                    |
| 3              | Trade Related Components      | 57%                                    |
|                | <b>TOTAL:</b>                 | <b>100%</b>                            |

**Revised:** March 23, 2001

# BRICKLAYER

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                          | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------------|--|
| 1              | Safety                                | 5%                                     |
| 2              | Rigging and Hoisting Awareness        | 4%                                     |
| 3              | Access Equipment Awareness            | 5%                                     |
| 4              | Tools and Equipment                   | 5%                                     |
| 5              | Mortars, Grouts and Adhesives         | 10%                                    |
| 6              | Clay Masonry Units                    | 4%                                     |
| 7              | Concrete Masonry Units                | 4%                                     |
| 8              | Leads                                 | 7%                                     |
| 9              | Laying Brick to Line                  | 10%                                    |
| 10             | Laying Block to Line                  | 8%                                     |
| 11             | Anchors, Ties and Joint Reinforcement | 6%                                     |
| 12             | Trade Documentation and Communication | 3%                                     |
| 13             | Drawings                              | 6%                                     |
| 14             | Building Envelope                     | 7%                                     |
| 15             | Non-load Bearing Walls                | 16%                                    |
|                | <b>TOTAL:</b>                         | <b>100%</b>                            |

**Revised:** June 6, 2016

# BRICKLAYER

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>       | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--------------------|--|
| 1              | Load Bearing Walls | 29%                                    |
| 2              | Renovation         | 10%                                    |
| 3              | Stone Masonry      | 28%                                    |
| 4              | Restoration        | 25%                                    |
| 5              | Glass Block        | 8%                                     |
|                | <b>TOTAL:</b>      | <b>100%</b>                            |

**Revised:** February 7, 2017

# BRICKLAYER

## Harmonized Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                 | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Arches                                       | 24                                     |
| 2              | Chimneys                                     | 20                                     |
| 3              | Fireplaces                                   | 28                                     |
| 4              | Steps and Patios                             | 6                                      |
| 5              | Refractory and Corrosion Resistant Materials | 12                                     |
| 6              | Ornamental and Sculpted Masonry              | 5                                      |
| 7              | Job Planning                                 | 5                                      |
|                | <b>TOTAL:</b>                                | <b>100%</b>                            |

**Revised:** April 24, 2017

# CARPENTER

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

## Harmonized Level 1

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Safety Awareness                                    | 8                                      |
| 2              | Tools and Equipment                                 | 7                                      |
| 3              | Introduction to Lifting, Rigging and Hoisting       | 4                                      |
| 4              | Fasteners, Connectors and Adhesives                 | 5                                      |
| 5              | Communication and Trade Documentation               | 3                                      |
| 6              | Introduction to Project Drawings and Specifications | 5                                      |
| 7              | Temporary Access Equipment and Structures           | 4                                      |
| 8              | Hoarding  | 3                                      |
| 9              | Basic Site Layout                                   | 5                                      |
| 10             | Wood and Wood Products                              | 4                                      |
| 11             | Non-Wood Products                                   | 4                                      |
| 12             | Concrete  | 9                                      |
| 13             | Beams and Supports                                  | 7                                      |
| 14             | Floor Layout and Framing                            | 8                                      |
| 15             | Introduction to Framing Systems                     | 6                                      |
| 16             | Footings and Slab-On-Grade Forms                    | 7                                      |
| 17             | Deck Layout and Framing                             | 4                                      |
| 18             | Wall Forms  | 7                                      |
| <b>TOTAL:</b>  |   | <b>100%</b>                            |

**Date:** October 24, 2016

# CARPENTER

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Exterior Wall and Partition Layout and Framing      | 11                                     |
| 2              | Building Science Principles                         | 8                                      |
| 3              | Building Envelope                                   | 9                                      |
| 4              | Advanced Site Layout                                | 8                                      |
| 5              | Introduction to Roof and Ceiling Layout and Framing | 10                                     |
| 6              | Gable Roof Layout and Framing                       | 10                                     |
| 7              | Roof Coverings                                      | 7                                      |
| 8              | Straight Stairs                                     | 10                                     |
| 9              | Preserved Wood Foundations                          | 3                                      |
| 10             | Exterior Doors                                      | 7                                      |
| 11             | Exterior Wall Covering Systems                      | 10                                     |
| 12             | Exterior Windows                                    | 7                                      |
|                |   | 100                                    |

**Revised:** April 24, 2017

# CARPENTER

## Harmonized Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                     | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Hip Roof Layout and Framing                      | 11                                     |
| 2              | Equal Slope Intersecting Roof Layout and Framing | 10                                     |
| 3              | Fixtures and Hardware                            | 5                                      |
| 4              | Interior Trim                                    | 8                                      |
| 5              | Cabinets, Countertops and Built-in Units         | 7                                      |
| 6              | Stair Forms                                      | 7                                      |
| 7              | Interior Wall Systems                            | 8                                      |
| 8              | Ceilings   | 6                                      |
| 9              | Pre-Cast Concrete                                | 7                                      |
| 10             | Suspended Slab and Beam Forms                    | 9                                      |
| 11             | Excavation, Shoring and Underpinning             | 6                                      |
| 12             | Column and Vertical Forms                        | 9                                      |
| 13             | Interior Doors and Windows                       | 7                                      |
|                | <b>TOTAL:</b>                                    | <b>100%</b>                            |

**Date:** 2018





# COMMUNICATIONS TECHNICIAN

## Provincial

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Coaxial Cable - Transmission                           | 4%                                     |
| 2              | Shielded Twisted-Pair (STP) Cabling – Noise Mitigation | 6%                                     |
| 3              | Optical Fiber Cable                                    | 8%                                     |
| 4              | Unshielded Twisted-Pair (UTP) – General Cabling        | 42%                                    |
| 5              | Cabling Installation Code / Permits                    | 40%                                    |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Revised: 2015**

# COOK

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC                                   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1       | Introduction to the Cooking Industry    | 4%                              |
| 2       | Personal Hygiene and Kitchen Sanitation | 6%                              |
| 3       | Health and Safety                       | 5%                              |
| 4       | Tools and Equipment                     | 4%                              |
| 5       | Weights and Measures                    | 4%                              |
| 6       | Cooking Principles                      | 6%                              |
| 7       | Receiving and Storage                   | 4%                              |
| 8       | Vegetables and Fungi                    | 7%                              |
| 9       | Potatoes                                | 8%                              |
| 10      | Pulses, Grains and Nuts                 | 7%                              |
| 11      | Pastas and Dumplings                    | 7%                              |
| 12      | Fruits                                  | 5%                              |
| 13      | Salads                                  | 6%                              |
| 14      | Sandwiches                              | 5%                              |
| 15      | Eggs and Dairy Products                 | 6%                              |
| 16      | Introduction to Baking                  | 4%                              |
| 17      | Bread Products                          | 6%                              |
| 18      | Eggs and Breakfast Cookery              | 6%                              |
|         | <b>TOTAL:</b>                           | <b>100%</b>                     |

**Revised:** Dec 7, 2015

# COOK

## Harmonized Level 2

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

| <b>SECTION</b> | <b>TOPIC</b>                    | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------|--|
| 1              | Stocks and Soups                | 13%                                    |
| 2              | Thickening and Binding Agents   | 6%                                     |
| 3              | Sauces                          | 13%                                    |
| 4              | Meat Cutting and Processing     | 9%                                     |
| 5              | Meat Cookery                    | 8%                                     |
| 6              | Poultry Cutting and Processing  | 8%                                     |
| 7              | Poultry Cookery                 | 7%                                     |
| 8              | Fish                            | 9%                                     |
| 9              | Seafood                         | 9%                                     |
| 10             | Condiments and Accompaniments   | 4%                                     |
| 11             | Pastries                        | 5%                                     |
| 12             | Cookies                         | 4%                                     |
| 13             | Pies, Tarts, Flans and Fillings | 5%                                     |
|                | <b>TOTAL:</b>                   | <b>100%</b>                            |

**Date:** Dec. 2016

# COOK

## Harmonized Level 3

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | Charcuterie                                  | 12                              |
| 2       | Aspics, Jellies and Glazes                   | 5                               |
| 3       | Marinades, Rubs and Brines                   | 5                               |
| 4       | Game Cutting and Processing                  | 8                               |
| 5       | Game Cookery                                 | 4                               |
| 6       | Hors D'oeuvres                               | 6                               |
| 7       | Cakes and Tortes                             | 5                               |
| 8       | Icings, Glazes, Meringues and Dessert Sauces | 6                               |
| 9       | Creams and Custards                          | 6                               |
| 10      | Frozen Desserts                              | 5                               |
| 11      | Chocolate                                    | 6                               |
| 12      | Nutrition                                    | 8                               |
| 13      | Cost Controls                                | 12                              |
| 14      | Menu Planning                                | 12                              |
|         | Total  | 100                             |

**Revised:** April 24, 2017

# ELECTRICIAN: CONSTRUCTION/INDUSTRIAL

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | Safety                                       | 2                               |
| 2       | Tools and Equipment                          | 2                               |
| 3       | Access Equipment                             | 2                               |
| 4       | Hoisting, Lifting and Rigging                | 2                               |
| 5       | Support Components                           | 2                               |
| 6       | Communication and Trade Documentation        | 2                               |
| 7       | Mentoring I                                  | 1                               |
| 8       | Drawings, Schematics and Specifications I    | 4                               |
| 9       | Worksite Preparation and Organization        | 2                               |
| 10      | DC Theory                                    | 10                              |
| 11      | DC Circuits                                  | 10                              |
| 12      | Single-Phase AC Theory                       | 6                               |
| 13      | Single-Phase AC Circuits I                   | 10                              |
| 14      | Introduction to the Canadian Electrical Code | 2                               |
| 15      | Grounding and Bonding I                      | 2                               |
| 16      | Single Phase Services                        | 6                               |
| 17      | Single Phase Power Distribution Equipment    | 6                               |
| 18      | Conductors and Cables                        | 6                               |
| 19      | Conduit, Tubing and Fittings                 | 5                               |
| 20      | Raceways                                     | 2                               |
| 21      | Boxes and Enclosures                         | 4                               |
| 22      | Wiring Devices                               | 2                               |
| 23      | Luminaires and Lighting Controls             | 8                               |
| 24      | Introduction to Communication Systems        | 2                               |
|         | <b>TOTAL:</b>                                | <b>100%</b>                     |

Date: September 2017

# ELECTRICIAN: CONSTRUCTION/INDUSTRIAL

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Job Planning  | 2                                      |
| 2              | Voltage Drop and Power Loss                               | 6                                      |
| 3              | Environmental and Hazardous Installations                 | 9                                      |
| 4              | DC Generating Systems                                     | 4                                      |
| 5              | Single-Phase AC Circuits II                               | 13                                     |
| 6              | Protective Devices  | 9                                      |
| 7              | Extra-Low Voltage Transformers                            | 3                                      |
| 8              | Low-Voltage Single-Phase Transformers                     | 5                                      |
| 9              | Renewable Energy and Storage Systems I                    | 3                                      |
| 10             | Exit and Emergency Lighting Systems                       | 4                                      |
| 11             | Heating, Ventilation and Air-Conditioning Systems         | 6                                      |
| 12             | Heating, Ventilation and Air-Conditioning System Controls | 4                                      |
| 13             | Electric Heating Systems                                  | 5                                      |
| 14             | Electric Heating System Controls                          | 6                                      |
| 15             | Cathodic Protection Systems                               | 2                                      |
| 16             | DC Motors I   | 5                                      |
| 17             | Motor Starters I  | 3                                      |
| 18             | Motor Control Devices I                                   | 5                                      |
| 19             | Drawings, Schematics and Specifications II                | 4                                      |
| 20             | Lightning Protection Systems                              | 2                                      |
|                |   | 100                                    |

**Revised:** August 2018



# GASFITTER

## G4: Industrial Maintenance Technician

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Protect Self and Others, Fasteners, Tools and Test Equipment   | 3%                                     |
| 2              | Properties, Characteristics and Safe Handling of Fuel Gases, Utilization of Codes, Acts and Regulations  | 8%                                     |
| 3              | Basic Electricity  | 10%                                    |
| 4              | Advanced Electricity (Gas Fitter 1)  | 8%                                     |
| 5              | Basic Piping and Tubing Systems and Piping and Tubing Systems for Industrial and Commercial Applications | 13%                                    |
| 6              | Technical Manuals, Specifications, Schematics, Drawings and Graphs and Introduction to Gas Appliances    | 3%                                     |
| 7              | Controls   | 13%                                    |
| 8              | The Building as a System   | 8%                                     |
| 9              | Pressure Regulators, Meters and Fuel Containers  | 6%                                     |
| 10             | Venting Practices  | 6%                                     |
| 11             | Flame Safeguard  | 14%                                    |
| 12             | Valve Trains and Burners   | 8%                                     |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

December 2018



# GASFITTER

## G7: Gas Pipefitter

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Properties, Characteristics and Safe Handling of Propane and Natural Gas | 24%                                    |
| 2              | Basic Piping and Tubing Systems  | 23%                                    |
| 3              | Piping and Tubing Systems for Industrial and Commercial Applications     | 17%                                    |
| 4              | Pressure Regulators, Meters and Fuel Containers                          | 36%                                    |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Revised:** Mar 11, 2011

# HEAVY DUTY EQUIPMENT TECHNICIAN

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                           | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Fundamental Shop Skills                | 10%                                    |
| 2              | Basic Electrical/Electronic Principles | 14%                                    |
| 3              | Hydraulics 1                           | 15%                                    |
| 4              | Lubricants, Lubrication and Cooling    | 14%                                    |
| 5              | Braking Systems                        | 17%                                    |
| 6              | Engine Principles                      | 16%                                    |
| 7              | Basic Welding                          | 14%                                    |
|                | <b>TOTAL:</b>                          | <b>100%</b>                            |

**Date:** Nov 29, 2011

# HEAVY DUTY EQUIPMENT TECHNICIAN

## Level 2

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                      | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|-----------------------------------|--|
| 1              | Drive Lines                       | 16%                                    |
| 2              | Ignition Systems                  | 12%                                    |
| 3              | Fuel Systems 1                    | 15%                                    |
| 4              | Clutches and Manual Transmissions | 14%                                    |
| 5              | Intake and Exhaust Systems        | 15%                                    |
| 6              | Starting and Charging Systems     | 14%                                    |
| 7              | HVAC Systems                      | 14%                                    |
|                | <b>TOTAL:</b>                     | <b>100%</b>                            |

Revised: March 14, 2012

# INDUSTRIAL MECHANIC (MILLWRIGHT)

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                    | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------|--|
| 1              | Shop Tools                      | 17%                                    |
| 2              | Power Tools                     | 16%                                    |
| 3              | Blueprint Reading and Sketching | 17%                                    |
| 4              | Rigging                         | 15%                                    |
| 5              | Metallurgy                      | 9%                                     |
| 6              | Machine Shop Fundamentals       | 12%                                    |
| 7              | Oxy-Fuel / Electric Arc Welding | 14%                                    |
|                | <b>TOTAL:</b>                   | <b>100%</b>                            |

Revised: Nov 12, 2009

# INDUSTRIAL MECHANIC (MILLWRIGHT)

## Level 2

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                    | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Static and Dynamic Seals                        | 16%                                    |
| 2              | Bearings and Lubrication                        | 13%                                    |
| 3              | Couplings and Clutches                          | 14%                                    |
| 4              | Gear Drive Units                                | 15%                                    |
| 5              | Conveyors (Material Handling Systems)           | 14%                                    |
| 6              | Sheaves and Sprockets                           | 18%                                    |
| 7              | Equipment and Mechanical Installation Blueprint | 10%                                    |
|                | <b>TOTAL:</b>                                   | <b>100%</b>                            |

**Revised:** Aug 31, 2011

# INDUSTRIAL MECHANIC (MILLWRIGHT)

## Level 3

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Pumps (Positive and Non-positive)                           | 20%                                    |
| 2              | Fluid Power 1 (Basic Hydraulics, Schematics and Components) | 15%                                    |
| 3              | Fluid Power 2 (Controls, Circuits and Testing)              | 14%                                    |
| 4              | Pneumatics  | 15%                                    |
| 5              | Compressors   | 19%                                    |
| 6              | Internal Combustion Engines / Basic Electricity             | 17%                                    |
|                | <b>TOTAL:</b>   | <b>100%</b>                            |

Revised: Aug 31, 2011

# INDUSTRIAL MECHANIC (MILLWRIGHT)

## Level 4

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Fans and Boilers  | 20%                                    |
| 2              | Steam and Gas Turbines  | 21%                                    |
| 3              | Alignment 1 (Basic) / Alignment 2 (Reverse and Cross Dial, and Laser) | 18%                                    |
| 4              | Dynamic Balancing / Vibration Analysis / Maintenance                  | 19%                                    |
| 5              | Machinery Installation and Optical Alignment                          | 22%                                    |
|                | <b>TOTAL:</b>   | <b>100%</b>                            |

Revised: Aug 31, 2011

# INSTRUMENTATION & CONTROL TECHNICIAN

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Safety  | 5                                      |
| 2              | Tools and Equipment                                     | 5                                      |
| 3              | Material Handling Equipment                             | 4                                      |
| 4              | Communication and Trade Documentation                   | 5                                      |
| 5              | Introduction to Drawings, Schematics and Specifications | 6                                      |
| 6              | Direct Current (DC) Theory                              | 14                                     |
| 7              | Series and Parallel Circuits                            | 14                                     |
| 8              | Voltage Drop and Power Loss                             | 5                                      |
| 9              | Conductors and Cables                                   | 8                                      |
| 10             | On-off Control Devices                                  | 13                                     |
| 11             | Wireways, Raceways and Fittings                         | 5                                      |
| 12             | Introduction to Pressure Measurement and Calibration    | 11                                     |
| 13             | Tubing and Piping Systems                               | 5                                      |
|                | <b>TOTAL:</b>   | <b>100%</b>                            |

**Date:** September 2017



# INSTRUMENTATION AND CONTROL TECHNICIAN

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Introduction to Fluids                               | 8                                      |
| 2              | Final Control Elements                               | 18                                     |
| 3              | Alternating Current (AC) Theory                      | 13                                     |
| 4              | Process Measurement                                  | 28                                     |
| 5              | Hydraulic Supply Systems and Control Devices         | 9                                      |
| 6              | Pneumatic Supply Systems                             | 11                                     |
| 7              | Electronics Components (Circuits and Power Supplies) | 13                                     |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Revised:** September 2018



# INSTRUMENTATION AND CONTROL TECHNICIAN

## Level 4

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

| <b>SECTION</b> | <b>TOPIC</b>                                     | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Equipment Monitoring Devices                     | 10%                                    |
| 2              | Signal Transmission Systems                      | 10%                                    |
| 3              | Advanced Process Control                         | 33%                                    |
| 4              | Supervisory Control and Data Acquisition Systems | 13%                                    |
| 5              | Human Machine Interface Systems                  | 9%                                     |
| 6              | Safety and Security Systems                      | 10%                                    |
| 7              | Process Analyzers II (Gases)                     | 15%                                    |
|                | <b>TOTAL:</b>                                    | <b>100%</b>                            |

**Revised:** Sept 10, 2014

# INSULATOR (HEAT AND FROST)

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC                                   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1       | Safety Measures in Construction         | 12%                             |
| 2       | Hand and Power Tools                    | 2%                              |
| 3       | Shop Tools and Equipment                | 2%                              |
| 4       | Math for Insulators                     | 16%                             |
| 5       | Insulation Principles                   | 7%                              |
| 6       | Insulation Materials                    | 5%                              |
| 7       | Insulation Practices                    | 4%                              |
| 8       | Introduction to Pipe and Piping Systems | 5%                              |
| 9       | Installing Pipe Insulation              | 19%                             |
| 10      | Hot Work Practices                      | 10%                             |
| 11      | Introduction to Asbestos                | 10%                             |
| 12      | Asbestos Removal Procedures – Part 1    | 8%                              |
|         | <b>TOTAL:</b>                           | <b>100%</b>                     |

Revised: Sept 27, 2012

# INSULATOR (HEAT AND FROST)

## Level 2

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

| SECTION | TOPIC   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1       | Trade Math                                    | 17%                             |
| 2       | Introduction to Foam Insulation               | 8%                              |
| 3       | Installation of Flexible Foam Insulation      | 8%                              |
| 4       | Air Handling System Components                | 5%                              |
| 5       | Blanket Insulation                            | 5%                              |
| 6       | Fibrous Board Insulation                      | 5%                              |
| 7       | Insulating Breeching, Flues and Precipitators | 5%                              |
| 8       | Insulating Methods (Cylinders and Heads)      | 14%                             |
| 9       | Finishing Methods                             | 7%                              |
| 10      | Introduction to Cryogenic Work                | 6%                              |
| 11      | Insulating Cryogenic Systems                  | 11%                             |
| 12      | Insulate Underground Piping                   | 9%                              |
|         | <b>TOTAL:</b>                                 | <b>100%</b>                     |

Revised: Apr 4, 2012

# INSULATOR (HEAT AND FROST)

## Level 3

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

| <b>SECTION</b> | <b>TOPIC</b>                              | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Blueprint Reading 1                       | 8%                                     |
| 2              | Blueprint Reading 2                       | 7%                                     |
| 3              | Introduction to Parallel Line Development | 7%                                     |
| 4              | Introduction to Radial Line Development   | 4%                                     |
| 5              | Introduction to Triangulation             | 5%                                     |
| 6              | Tees, Valves, and Elbows                  | 18%                                    |
| 7              | Flanges and End-caps                      | 11%                                    |
| 8              | Cones, Bevels and Transitions             | 13%                                    |
| 9              | Tank Heads                                | 6%                                     |
| 10             | Firestopping                              | 21%                                    |
|                | <b>TOTAL:</b>                             | <b>100%</b>                            |

**Date:** June 17, 2013

# MACHINIST

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Safety, Tools and Equipment                                  | 10%                                    |
| 2              | Hand and Power Tools / Drilling                              | 18%                                    |
| 3              | Basic Layout / Drawings                                      | 13%                                    |
| 4              | Basic Measurement  | 9%                                     |
| 5              | Power Saws and Grinders                                      | 9%                                     |
| 6              | Lathes and Lathe Operation                                   | 9%                                     |
| 7              | Lathe Drilling, Boring, Reaming and Tapping / Hand Threading | 18%                                    |
| 8              | Taper Turning  | 5%                                     |
| 9              | Milling Machines and Operation                               | 9%                                     |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

Revised: July 9, 2010

# MACHINIST

## Level 2

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                      | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Advanced Lathe Operations                         |  |
|                | Advanced Conventional Lathe Operation             | 34%                                    |
| 2              | Vertical Milling Machine Operations               |  |
|                | Vertical Milling Machine Operation                | 30%                                    |
| 3              | Specialty Machinable Materials                    |  |
|                | Machinable Materials (non-metallic and specialty) | 35%                                    |
|                | Power Transmission and Lubrication                | 1%                                     |
| <b>TOTAL:</b>  |   | <b>100%</b>                            |

**Date:** August 12, 2015



# MARINE SERVICE TECHNICIAN

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|-----------------------------|--|
| 1              | Safety                      | 17                                     |
| 2              | Business and Yard Practices | 5                                      |
| 3              | Technology and Design       | 8                                      |
| 4              | Trade Mathematics           | 14                                     |
| 5              | Tools and Equipment         | 10                                     |
| 6              | Wood                        | 4                                      |
| 7              | Resins and Other Materials  | 10                                     |
| 8              | Gel Coats                   | 3                                      |
| 9              | Mechanical Systems          | 9                                      |
| 10             | Finishing and Painting      | 11                                     |
| 11             | Electrical Systems          | 9                                      |
|                | <b>TOTAL:</b>               | <b>100%</b>                            |

**Date:** 2018

# MARINE SERVICE TECHNICIAN

## Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Design Basics  | 7                                      |
| 2              | Principles of Powering and Drive Shaft Assembly                                      | 8                                      |
| 3              | Compressed Air   | 5                                      |
| 4              | Fasteners, Adhesives and Bedding, and Abrasive Materials                             | 15                                     |
| 5              | Properties and Compatibility of Metals and Drilling and Cutting Operations in Metals | 13                                     |
| 6              | Coatings and Preservatives   | 11                                     |
| 7              | Engine Room Layout and Ventilation   | 6                                      |
| 8              | Composites   | 7                                      |
| 9              | Wiring and Testing   | 13                                     |
| 10             | Plumbing   | 15                                     |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Date:** 2018

# MARINE SERVICE TECHNICIAN

## Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                    | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------|--|
| 1              | FRP Vessel Construction         | 9                                      |
| 2              | Metal Vessel Construction       | 7                                      |
| 3              | Stationary Power Tools          | 10                                     |
| 4              | Prevent Corrosion in Metals     | 10                                     |
| 5              | Service Inboard Engines         | 10                                     |
| 6              | Engine Lubrication              | 10                                     |
| 7              | Install Hardware and Thru-Hulls | 14                                     |
| 8              | Steering Systems and Controls   | 18                                     |
| 9              | Battery Installations           | 6                                      |
| 10             | Properties of Propane           | 6                                      |
|                | <b>TOTAL:</b>                   | <b>100%</b>                            |

**Date:** 2018

# MARINE SERVICE TECHNICIAN

## Provincial

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                    | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------|--|
| 1              | Safety                          | 5                                      |
| 2              | Business Practices              | 4                                      |
| 3              | Yard Practices                  | 5                                      |
| 4              | Technology & Design             | 9                                      |
| 5              | Trade Mathematics               | 6                                      |
| 6              | Tools & Equipment               | 5                                      |
| 7              | Materials                       | 14                                     |
| 8              | Marine Metalworking             | 4                                      |
| 9              | Composite Fabrication & Repairs | 6                                      |
| 10             | Mechanical Systems              | 16                                     |
| 11             | Finishing & Painting            | 4                                      |
| 12             | Fastenings & Installations      | 6                                      |
| 13             | Electrical Systems              | 8                                      |
| 14             | Plumbing Systems                | 8                                      |
|                | <b>TOTAL:</b>                   | <b>100%</b>                            |

**Date:** October 2018

# Metal Fabricator (Fitter)

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | Safety   | 4                               |
| 2       | Tools and Equipment  | 3                               |
| 3       | Stationary Machinery   | 3                               |
| 4       | Hoisting, Lifting and Rigging                                      | 5                               |
| 5       | Access Equipment   | 2                               |
| 6       | Communication and Trade Documentation                              | 2                               |
| 7       | Introduction to Welding Processes                                  | 7                               |
| 8       | Shielded Metal Arc Welding I - Set up, Strike and Maintain an Arc  | 4                               |
| 9       | Shielded Metal Arc Welding II - Fillet Weld, All Positions         | 6                               |
| 10      | Gas Metal Arc Welding I - Set up and Maintain an Arc               | 6                               |
| 11      | Flux Core Arc Welding I - Set up and Deposit a Weld                | 3                               |
| 12      | Metal Core Arc Welding I - Set up and Deposit a Weld               | 2                               |
| 13      | Weld Faults  | 4                               |
| 14      | Fabrication Fundamentals   | 6                               |
| 15      | Drawings   | 9                               |
| 16      | Introduction to Layout and Pattern Development                     | 4                               |
| 17      | Gas Metal Arc Welding II - Fillet Weld, All Positions              | 5                               |
| 18      | Oxy-fuel   | 7                               |
| 19      | Electric Arc Cutting and Gouging                                   | 3                               |
| 20      | Plasma Arc Cutting and Gouging                                     | 3                               |
| 21      | Metallurgy I   | 3                               |
| 22      | Groove Welding I - Shielded Metal Arc Welding, Flat and Horizontal | 5                               |
| 23      | Groove Welding II - Gas Metal Arc Welding, Flat and Horizontal     | 4                               |
|         | <b>TOTAL:</b>  | <b>100%</b>                     |

Date: Aug 8, 2016

# METAL FABRICATOR (FITTER)

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Drawings II  | 23                                     |
| 2              | Layout - Simple Components and Templates                             | 22                                     |
| 3              | Fabrication - Simple Components                                      | 10                                     |
| 4              | Fit and Assemble - Simple Components                                 | 6                                      |
| 5              | Bending Equipment  | 4                                      |
| 6              | Plate Rolling Equipment  | 3                                      |
| 7              | Shape Rolling Equipment  | 2                                      |
| 8              | Press Brake Equipment  | 3                                      |
| 9              | Plasma Arc Cutting II (Review)                                       | 2                                      |
| 10             | Shielded Metal Arc Welding III - Tack Weld, All Positions            | 2                                      |
| 11             | Gas Metal Arc Welding III - Tack Weld, All Positions                 | 2                                      |
| 12             | Flux Core Arc Welding II - Tack Weld, All Positions                  | 2                                      |
| 13             | Metal Core Arc Welding II - Tack Weld, Flat and Horizontal Positions | 4                                      |
| 14             | Gas Tungsten Arc Welding I - Set up and Maintain an Arc              | 3                                      |
| 15             | Gas Tungsten Arc Welding II - Tack Weld, All Positions               | 3                                      |
| 16             | Quality Assurance/Control I  | 4                                      |
| 17             | Metallurgy II  | 5                                      |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Date:** November 2017

# METAL FABRICATOR (FITTER)

## Harmonized Level 3

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

| <b>SECTION</b> | <b>TOPIC</b>                              | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Drawings III                              | 19                                     |
| 2              | Automated Shape Cutting Machines          | 3                                      |
| 3              | Layout - Complex Components and Templates | 20                                     |
| 4              | Fabrication - Complex Components          | 16                                     |
| 5              | Fit and Assemble - Complex Assemblies     | 16                                     |
| 6              | Finish Preparation                        | 5                                      |
| 7              | Communication and Work Planning           | 5                                      |
| 8              | Quality Assurance/Control II              | 7                                      |
| 9              | Metallurgy III                            | 9                                      |
|                | <b>TOTAL:</b>                             | <b>100</b>                             |

**Date:** August 2018

# Motor Vehicle Body Repairer (Metal and Paint)

## Level 1

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | <b>Shop and Safety</b>                                       | <b>32%</b>                      |
|         | <i>Topics:</i>   |                                 |
|         | <i>Safety</i>  | 8%                              |
|         | <i>Trade Related Documents</i>                               | 4%                              |
|         | <i>Tools and Equipment</i>                                   | 9%                              |
|         | <i>Fasteners and Adhesives</i>                               | 6%                              |
|         | <i>Batteries</i>   | 5%                              |
| 2       | <b>Auto Body Welding</b>                                     | <b>14%</b>                      |
|         | <i>Topics:</i>   |                                 |
|         | <i>Cutting and Heating</i>                                   | 4%                              |
| 3       | <b>Vehicle Construction</b>                                  | <b>13%</b>                      |
|         | <i>Topics:</i>   |                                 |
|         | <i>Vehicle Construction</i>                                  | 11%                             |
| 4       | <b>Metal Working</b>   | <b>17%</b>                      |
|         | <i>Topics:</i>   |                                 |
|         | <i>Metallurgy</i>  | 14%                             |
| 5       | <b>Auto Body Preparation</b>                                 | <b>24%</b>                      |
|         | <i>Topics:</i>   |                                 |
|         | <i>Body Filler and Abrasives</i>                             | 5%                              |
|         | <i>Surface Preparation (Cleaning, Stripping and Masking)</i> | 16%                             |
|         | <i>Cleaning and Detailing</i>                                | 3%                              |
|         | <b>TOTAL:</b>  | <b>100%</b>                     |

Date: January 9, 2014



# OIL HEAT SYSTEM TECHNICIAN

LEVEL 1

**Under Review**

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# OIL HEAT SYSTEM TECHNICIAN

LEVEL 2

**Under Review**

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# OIL HEAT SYSTEM TECHNICIAN

LEVEL 3

**Under Review**

# PLUMBER

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| UNIT CODE    | UNIT TITLE                            | % OF QUESTIONS |
|--------------|---------------------------------------|----------------|
| PLB-100      | Safety                                | 7              |
| PLB-105      | Tools and Equipment                   | 6              |
| PLB-110      | Access Equipment                      | 4              |
| PLB-115      | Hoisting, Lifting and Rigging         | 4              |
| PLB-120      | Welding, Fuel Brazing and Cutting     | 5              |
| PLB-125      | Plastic Piping                        | 9              |
| PLB-130      | Copper Pipe Tube and Tubing           | 10             |
| PLB-135      | Steel Piping                          | 10             |
| PLB-140      | Cast Iron Piping                      | 7              |
| PLB-145      | Drainage, Waste and Venting Systems I | 17             |
| PLB-150      | Drawings I                            | 8              |
| PLB-155      | Communication Techniques              | 2              |
| PLB-160      | Potable Water Distribution I          | 11             |
| <b>TOTAL</b> |                                       | <b>100%</b>    |

Date: September 2017

# PLUMBER

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Piping Valves                                 | 10                                     |
| 2              | Specialized Piping                            | 3                                      |
| 3              | Plumbing Fixtures, Appliances and Accessories | 10                                     |
| 4              | Hot Water Storage Tanks and Heaters           | 10                                     |
| 5              | Drawings II                                   | 15                                     |
| 6              | Drainage, Waste and Venting Systems II        | 21                                     |
| 7              | Hydronic Systems I                            | 31                                     |
|                | <b>TOTAL:</b>                                 | <b>100%</b>                            |

**Revised:** Sept. 2018



# POWERLINE TECHNICIAN

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                                | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Safety and Trade Practice                   | 18%                                    |
| 2              | Tools and Equipment                         | 18%                                    |
| 3              | Basic DC/AC Theory                          | 26%                                    |
| 4              | Electrical Unit Measurement / 3-Wire System | 20%                                    |
| 5              | Overhead Conductors                         | 18%                                    |
|                | <b>TOTAL:</b>                               | <b>100%</b>                            |

**Revised:** Nov 30, 2010

# REFRIGERATION & A/C MECHANIC

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                               | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Occupational Skills                        | 20%                                    |
| 2              | Safety / Tools and Equipment               | 20%                                    |
| 3              | Air Conditioners, Refrigeration and Piping | 19%                                    |
| 4              | Compressors / Ancillary Device             | 19%                                    |
| 5              | Electrical Fundamentals / Motors 1         | 22%                                    |
|                | <b>TOTAL:</b>                              | <b>100%</b>                            |

Revised: March 05, 2009



# RESTORATION STONE MASON

## Provincial

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>             | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--------------------------|--|
| 1              | Occupational Skills      | 30%                                    |
| 2              | Masonry Systems          | 10%                                    |
| 3              | Stone Systems            | 22%                                    |
| 4              | Restoration              | 20%                                    |
| 5              | Specialized Masonry Work | 18%                                    |
|                | <b>TOTAL:</b>            | <b>100%</b>                            |

**Revised:** November 2017

# ROOFER

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC                                 | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---------------------------------------|---------------------------------|
| 1       | Safety                                | 14%                             |
| 2       | Tools and Equipment                   | 14%                             |
| 3       | Kettles and Burners                   | 9%                              |
| 4       | Drawings                              | 11%                             |
| 5       | Communication and Trade Documentation | 4%                              |
| 6       | Hoisting, Lifting and Rigging         | 9%                              |
| 7       | Access Equipment                      | 4%                              |
| 8       | Roofing Materials                     | 14%                             |
| 9       | Introduction to Roof Structures       | 7%                              |
| 10      | Planning and Estimating               | 14%                             |
|         | <b>TOTAL:</b>                         | <b>100%</b>                     |

**Revised:** Feb 10, 2015

# ROOFER

## Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                       | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|------------------------------------|--|
| 1              | Fasteners, Adhesives, and Sealants | 16%                                    |
| 2              | Mechanical Roofing Equipment       | 11%                                    |
| 3              | Roof Deck Preparation              | 31%                                    |
| 4              | Roof Membranes                     | 16%                                    |
| 5              | Low Slope and Flat Roofs           | 26%                                    |
|                | <b>TOTAL:</b>                      | <b>100%</b>                            |

**Date:** May 29, 2014

# ROOFER

## Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC                           | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---------------------------------|---------------------------------|
| 1       | Roof Membrane Systems 2         | 30%                             |
| 2       | Steep Roofs                     | 20%                             |
| 3       | Waterproofing and Damp-proofing | 10%                             |
| 4       | Metal Flashings                 | 10%                             |
| 5       | Roof Maintenance and Repair     | 20%                             |
| 6       | Job Planning                    | 10%                             |
|         | <b>TOTAL:</b>                   | <b>100%</b>                     |

**Date:** January 13, 2014

# SHEET METAL WORKER

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TITLE   | TOTAL      |
|---------|---|------------|
| 1.      | <b>Safety and Elevating Devices</b>                     |            |
|         | <i>Safety</i>   | 5          |
|         | <i>Stationary and Mobile Work Platforms</i>             | 4          |
|         | <i>Hoisting, Lifting and Positioning Equipment</i>      | 2          |
| 2.      | <b>Tools and Equipment</b>                              |            |
|         | <i>Tools and Equipment</i>                              | 8          |
| 3.      | <b>Trade Practice</b>                                   |            |
|         | <i>Communication and Trade Documents</i>                | 3          |
|         | <i>Sheet Metal Math Fundamentals</i>                    | 9          |
| 4.      | <b>Welding 1</b>  |            |
|         | <i>Introduction to Welding</i>                          | 5          |
|         | <i>Resistance Spot Welding</i>                          | 1          |
|         | <i>Plasma Arc Cutting</i>                               | 1          |
|         | <i>Metallurgy</i>                                       | 8          |
|         | <i>Soft Soldering</i>                                   | 4          |
| 5.      | <b>Pattern Development 1 (Simple and Straight Line)</b> |            |
|         | <i>Drafting</i>   | 4          |
|         | <i>Pattern Development 1 (Simple and Straight Line)</i> | 36         |
| 6.      | <b>Fabrication and Installation Fundamentals</b>        |            |
|         | <i>Fabrication and Installation Fundamentals</i>        | 10         |
|         |   | <b>100</b> |

Revised: September 2018

# SHEET METAL WORKER

## Level 2

### SECTIONS AND EXAM WEIGHTING

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

| SECTION | TITLE  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1.      | <b>Blueprint I</b>   |                                 |
|         | <i>Drawings and Specifications</i>                         | 17%                             |
| 2.      | <b>Pattern Development II</b>                              |                                 |
|         | <i>Parallel Line</i>                                       | 15%                             |
| 3.      | <b>Pattern Development II</b>                              |                                 |
|         | <i>Radial Line</i>   | 15%                             |
| 4.      | <b>Pattern Development II</b>                              |                                 |
|         | <i>Triangulation</i>                                       | 14%                             |
| 5.      | <b>Welding II</b>  |                                 |
|         | <i>Introduction to Gas Tungsten Arc Welding (GTAW)</i>     | 6%                              |
|         | <i>Advanced Gas Tungsten Arc Welding (GTAW)</i>            | 3%                              |
| 6.      | <b>Air Handling Systems</b>                                |                                 |
|         | <i>Fabrication (Air Handling Systems &amp; Components)</i> | 13%                             |
|         | <i>Installation (Air Handling Systems)</i>                 | 15%                             |
|         | <i>Hoisting, Lifting, and Rigging</i>                      | 2%                              |
|         |  | <b>100%</b>                     |

Revised: Feb 1, 2015

# SHEET METAL WORKER

## Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1.      | <b>Blueprint II</b>   |                                 |
|         | <i>Job Planning (Advanced Blueprint Reading)</i>              | 12%                             |
| 2.      | <b>Pattern Development III (Parallel Line)</b>                |                                 |
|         | <i>Parallel Line Development (Architectural Applications)</i> | 10%                             |
| 3.      | <b>Pattern Development III (Radial Line)</b>                  |                                 |
|         | <i>Radial Line Development (Oblique Fittings)</i>             | 5%                              |
| 4.      | <b>Pattern Development III (Triangulation)</b>                |                                 |
|         | <i>Triangulation (From Elevation)</i>                         | 10%                             |
| 5.      | <b>Duct System Design</b>                                     |                                 |
|         | <i>Duct System Design</i>                                     | 22%                             |
| 6.      | <b>Breeching and Venting / Welding 3</b>                      |                                 |
|         | <i>Shield Metal Arc Welding (SMAW)</i>                        | 13%                             |
|         | <i>Air Quality Management</i>                                 | 18%                             |
|         | <i>Chimneys, Breeching and Venting</i>                        | 10%                             |
|         |   | <b>100%</b>                     |

Revised: December 2014

# SHEET METAL WORKER

## Level 4

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TITLE   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1.      | <b>Material Handling Systems</b>  |                                 |
|         | <i>Fabrication (Material Handling Systems and Components)</i>               | 9%                              |
|         | <i>Installation (Material Handling Systems)</i>                             | 14%                             |
| 2.      | <b>System Maintenance</b>   |                                 |
|         | <i>Maintenance and Repair (Air and Material Handling Systems)</i>           | 10%                             |
|         | <i>Testing, Adjusting and Balancing (Air and Material Handling Systems)</i> | 21%                             |
|         | <i>Electrical Principles</i>  | 6%                              |
| 3.      | <b>Metal Roofing and Architectural Metal</b>                                |                                 |
|         | <i>Metal Roofing and Architectural Metal</i>                                | 17%                             |
| 4.      | <b>Welding 4</b>  |                                 |
|         | <i>Oxy-fuel Cutting, Heating and Brazing/Hard Soldering</i>                 | 7%                              |
| 5.      | <b>Specialty Products / Job Planning and Documentation</b>                  |                                 |
|         | <i>Specialty Products</i>   | 16%                             |
|         |   | <b>100%</b>                     |

Revised: March 16, 2016



# SPRINKLER FITTER

## Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                          | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---------------------------------------|--|
| 1              | Hand and Power Tools                  | 6%                                     |
| 2              | Mathematics 1                         | 9%                                     |
| 3              | Science 1                             | 5%                                     |
| 4              | Blueprint Reading and Sketching 1     | 6%                                     |
| 5              | Steel Pipe and Joining Techniques     | 10%                                    |
| 6              | Plastic Pipe and Fittings             | 5%                                     |
| 7              | Rigid Copper Pipe and Flexible Tubing | 3%                                     |
| 8              | Control Valves                        | 5%                                     |
| 9              | Hangers, Supports and Bracing         | 9%                                     |
| 10             | Rigging and Hoisting                  | 4%                                     |
| 11             | Access Equipment                      | 5%                                     |
| 12             | Sprinkler Heads 1                     | 11%                                    |
| 13             | Wet Pipe Sprinkler Systems            | 8%                                     |
| 14             | Dry Pipe Sprinkler Systems            | 8%                                     |
| 15             | Anti-freeze Sprinkler Systems         | 6%                                     |
|                | <b>TOTAL:</b>                         | <b>100%</b>                            |

**Revised:** January 31, 2013

# SPRINKLER FITTER

## Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | Blueprint Reading & Sketching II                       | 9%                              |
| 2       | Mathematics II   | 12%                             |
| 3       | Science II   | 6%                              |
| 4       | Piping Practices                                       | 14%                             |
| 5       | Sprinkler Heads II                                     | 12%                             |
| 6       | Water Supply, Hydrants and Fire Department Connections | 10%                             |
| 7       | Stand Pipe, Hose & Portable Extinguisher Systems       | 9%                              |
| 8       | Copper Brazing, Soldering and Oxy-acetylene Cutting    | 3%                              |
| 9       | Trim I (Alarm & Dry Pipe Valves)                       | 9%                              |
| 10      | Inspection, Testing and Maintenance I                  | 9%                              |
| 11      | Report Writing and Communications                      | 7%                              |
|         | <b>TOTAL:</b>  | <b>100%</b>                     |

**Revised:** January 31, 2013

# STEAMFITTER/PIPEFITTER

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| UNIT CODE    | UNIT TITLE  | % OF QUESTIONS |
|--------------|---|----------------|
| STM-100      | Safety  | 6              |
| STM-105      | Communication and Trade Documentation                   | 4              |
| STM-110      | Tools and Equipment                                     | 9              |
| STM-115      | Access Equipment  | 3              |
| STM-120      | Introduction to Welding                                 | 5              |
| STM-125      | Fuel Brazing and Soldering                              | 6              |
| STM-130      | Rigging, Hoisting and Lifting                           | 8              |
| STM-135      | Bracket, Support, Hanger, Guides and Anchor Fabrication | 6              |
| STM-140      | Drawings and Specifications I                           | 10             |
| STM-145      | Copper Tube and Tubing                                  | 7              |
| STM-150      | Pipe and Tube Bending                                   | 6              |
| STM-155      | Plastic Piping  | 5              |
| STM-160      | Carbon Steel Piping                                     | 11             |
| STM-165      | Stainless Steel Piping                                  | 6              |
| STM-170      | Piping Valves   | 8              |
| <b>TOTAL</b> |   | <b>100%</b>    |

**Date: September 2017**

# STEAMFITTER/PIPEFITTER

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>UNIT CODE</b> | <b>UNIT TITLE</b>                           | <b>% OF QUESTIONS</b> |
|------------------|---|-----------------------|
| STM-200          | Drawings and Specifications II              | 17                    |
| STM-205          | Template Development                        | 16                    |
| STM-210          | Piping System Component Fabrication (Spool) | 14                    |
| STM-215          | Fiberglass Piping                           | 5                     |
| STM-220          | Specialty Piping                            | 12                    |
| STM-225          | Hydronic Systems                            | 25                    |
| STM-230          | Heat Tracing Systems (Liquid)               | 5                     |
| STM-235          | Electrical Principles                       | 6                     |
| <b>TOTAL</b>     |   | <b>100%</b>           |

**Revised:** September 2018

# STEAMFITTER/PIPEFITTER

## Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1.      | <b>Hydronic Heating 2 (Commercial)</b>           |                                 |
|         | <i>Hydronic Systems (Commercial)</i>             | 11%                             |
|         | <i>Hydronic System Controls (Commercial)</i>     | 3%                              |
| 2.      | <b>Low Pressure Steam</b>                        |                                 |
|         | <i>Low Pressure Steam Systems</i>                | 19%                             |
|         | <i>Condensate Return Systems</i>                 | 7%                              |
| 3.      | <b>Pipe Template Development</b>                 |                                 |
|         | <i>Template Development</i>                      | 18%                             |
| 4.      | <b>Pipe Layout &amp; Fabrication</b>             |                                 |
|         | <i>Fitting Fabrication</i>                       | 11%                             |
| 5.      | <b>Gas Piping 1</b>                              |                                 |
|         | <i>Gas Piping Systems (Low Pressure)</i>         | 21%                             |
| 6.      | <b>Specialty Piping Applications and Systems</b> |                                 |
|         | <i>Specialty Piping</i>                          | 3%                              |
|         | <i>Medical Gas Systems</i>                       | 3%                              |
|         | <i>Stainless Steel Piping</i>                    | 2%                              |
|         | <i>Fiberglass Piping</i>                         | 2%                              |
|         |  | <b>100%</b>                     |

Revised: October 15, 2015

# STEAMFITTER/PIPEFITTER

## Level 4

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC   | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|---|---------------------------------|
| 1.      | <b>Gas Piping 2</b>   |                                 |
|         | <i>Gas Piping Systems (High Pressure)</i>                     | 20%                             |
| 2.      | <b>Refrigeration / Instrumentation</b>                        |                                 |
|         | <i>Refrigeration Systems</i>                                  | 8%                              |
|         | <i>Process Piping Systems</i>                                 | 5%                              |
|         | <i>Instrumentation</i>  | 10%                             |
| 3.      | <b>Pumps / Compressors &amp; Hydraulic Systems</b>            |                                 |
|         | <i>Pumps, Hydraulic Systems, and Compressed Air</i>           | 17%                             |
| 4.      | <b>High Pressure Steam</b>                                    |                                 |
|         | <i>High Pressure Steam Systems</i>                            | 25%                             |
| 5.      | <b>Job Planning, Commissioning and Quality Control</b>        |                                 |
|         | <i>Job Planning</i>   | 5%                              |
|         | <i>Commissioning, Controlled Bolting, and Quality Control</i> | 10%                             |
|         |   | <b>100%</b>                     |

Date: 2016

# TRUCK AND TRANSPORT MECHANIC

## Level 1

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                           | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Fundamental Shop Skills                | 10%                                    |
| 2              | Basic Electrical/Electronic Principles | 14%                                    |
| 3              | Hydraulics 1                           | 15%                                    |
| 4              | Lubricants, Lubrication and Cooling    | 14%                                    |
| 5              | Braking Systems                        | 17%                                    |
| 6              | Engine Principles                      | 16%                                    |
| 7              | Basic Welding                          | 14%                                    |
|                | <b>TOTAL:</b>                          | <b>100%</b>                            |

**Date:** Nov 29, 2011

# TRUCK AND TRANSPORT MECHANIC

## Level 2

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>                      | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|-----------------------------------|--|
| 1              | Drive Lines                       | 16%                                    |
| 2              | Ignition Systems                  | 12%                                    |
| 3              | Fuel Systems 1                    | 15%                                    |
| 4              | Clutches and Manual Transmissions | 14%                                    |
| 5              | Intake and Exhaust Systems        | 15%                                    |
| 6              | Starting and Charging Systems     | 14%                                    |
| 7              | HVAC Systems                      | 14%                                    |
|                | <b>TOTAL:</b>                     | <b>100%</b>                            |

**Revised:** March 14, 2012



# WELDER

## Harmonized Level 1

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| SECTION | TOPIC  | PERCENTAGE OF QUESTIONS ON EXAM |
|---------|--|---------------------------------|
| 1       | Safety   | 4                               |
| 2       | Tools and Equipment  | 3                               |
| 3       | Stationary Machinery   | 3                               |
| 4       | Hoisting, Lifting and Rigging                                      | 5                               |
| 5       | Access Equipment   | 2                               |
| 6       | Communication and Trade Documentation                              | 2                               |
| 7       | Introduction to Welding Processes                                  | 7                               |
| 8       | Shielded Metal Arc Welding I - Set up, Strike and Maintain an Arc  | 4                               |
| 9       | Shielded Metal Arc Welding II - Fillet Weld, All Positions         | 6                               |
| 10      | Gas Metal Arc Welding I - Set up and Maintain an Arc               | 6                               |
| 11      | Flux Core Arc Welding I - Set up and Deposit a Weld                | 3                               |
| 12      | Metal Core Arc Welding I - Set up and Deposit a Weld               | 2                               |
| 13      | Weld Faults  | 4                               |
| 14      | Fabrication Fundamentals   | 6                               |
| 15      | Drawings   | 9                               |
| 16      | Introduction to Layout and Pattern Development                     | 4                               |
| 17      | Gas Metal Arc Welding II - Fillet Weld, All Positions              | 5                               |
| 18      | Oxy-fuel   | 7                               |
| 19      | Electric Arc Cutting and Gouging                                   | 3                               |
| 20      | Plasma Arc Cutting and Gouging                                     | 3                               |
| 21      | Metallurgy I   | 3                               |
| 22      | Groove Welding I - Shielded Metal Arc Welding, Flat and Horizontal | 5                               |
| 23      | Groove Welding II - Gas Metal Arc Welding, Flat and Horizontal     | 4                               |
|         | <b>TOTAL:</b>  | <b>100%</b>                     |

**Date:** Aug 8, 2016

# WELDER

## Harmonized Level 2

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress to the next level of training.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>   | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|--|--|
| 1              | Quality Assurance/Control I  | 5                                      |
| 2              | Metallurgy II  | 6                                      |
| 3              | Flux Core Arc Welding II - Fillet and Groove Weld Plate, All Positions       | 12                                     |
| 4              | Metal Core Arc Welding II - Fillet and Groove Weld, All Positions            | 4                                      |
| 5              | Shielded Metal Arc Welding III - Groove Weld Plate, All Positions            | 15                                     |
| 6              | Shielded Metal Arc Welding IV - Fillet and Groove Weld, Medium Carbon Steel. | 5                                      |
| 7              | Gas Metal Arc Welding III - Groove Weld, All Positions                       | 10                                     |
| 8              | Gas Metal Arc Welding IV - Fillet and Groove Weld, Medium Carbon Steel       | 4                                      |
| 9              | Gas Tungsten Arc Welding I - Set up and Maintain an Arc                      | 10                                     |
| 10             | Gas Tungsten Arc Welding II - Fillet Weld, All Positions                     | 10                                     |
| 11             | Gas Tungsten Arc Welding III - Groove Weld, All Positions                    | 10                                     |
| 12             | Jigs and Fixtures  | 3                                      |
| 13             | Submerged Arc Welding I  | 3                                      |
| 14             | Work Planning  | 3                                      |
|                | <b>TOTAL:</b>  | <b>100%</b>                            |

**Date:** June 2017

# WELDER

## Harmonized Level 3

**Please note:** Apprentices must pass the Level Exam at the end of their level of training in order to progress.

### SECTIONS AND EXAM WEIGHTING

| <b>SECTION</b> | <b>TOPIC</b>  | <b>PERCENTAGE OF QUESTIONS ON EXAM</b> |
|----------------|---|--|
| 1              | Quality Assurance/Control II  | 4                                      |
| 2              | Metallurgy III  | 6                                      |
| 3              | Shielded Metal Arc Welding V - Pipe and Tubing, All Positions             | 13                                     |
| 4              | Gas Metal Arc Welding V - Pipe and Tubing, All Positions                  | 9                                      |
| 5              | Flux Core Arc Welding III - Pipe and Tubing, All Positions                | 7                                      |
| 6              | Gas Tungsten Arc Welding V - Pipe and Tubing, All Positions               | 14                                     |
| 7              | Shielded Metal Arc Welding VI - Alloy Steels                              | 5                                      |
| 8              | Gas Metal Arc Welding VI - Aluminum Alloy                                 | 8                                      |
| 9              | Gas Metal Arc Welding VII - Stainless Steel Alloys                        | 6                                      |
| 10             | Gas Tungsten Arc Welding IV - Fillet and Groove Weld, Medium Carbon Steel | 7                                      |
| 11             | Gas Tungsten Arc Welding VI - Ferrous and Non-Ferrous Alloys              | 14                                     |
| 12             | Build-up of Metal Parts   | 4                                      |
| 13             | Submerged Arc Welding II  | 3                                      |
|                | <b>TOTAL:</b>   | <b>100%</b>                            |

**Date:** August 2018