

EXAM COUNSELING SHEETS
for
PROVINCIAL AND LEVEL EXAMS

Nova Scotia Apprenticeship Agency
Thompson Building, 3rd Floor
1256 Barrington Street, Halifax, NS B3J 2P8
Phone: 424-5651, Toll Free: 1-800-494-5651
nsapprenticeship.ca

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**

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: 2015

AUTOGLASS TECHNICIAN

Provincial

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: Jan 1, 2011

AUTOMOTIVE SERVICE TECHNICIAN (AST)
Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: March 14, 2012

AUTOMOTIVE SERVICE TECHNICIAN (AST)

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: April 24, 2012

AUTOMOTIVE SERVICE TECHNICIAN (AST)

Level 3

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: April 24, 2012

AUTOMOTIVE SERVICE TECHNICIAN - SSM

Provincial Certification

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: October 15, 2015

AUTOMOTIVE SERVICE TECHNICIAN - TRANSMISSION

Provincial Certification

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Safety and General Trade Knowledge	17%
2	Steering and Suspension	6%
3	Differentials, Drive Shafts & Drive Axles	7%
4	Manual Transmissions/Transaxles & Transfer Cases	25%
5	Torque Converters	8%
6	Automatic Transmissions/Transaxles	21%
7	Clutches	6%
8	Electrical	10%
	TOTAL:	100%

Revised: Dec 18, 2002

BLASTER
Blasting Safety

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: July 9, 2010

BLASTER

Blaster – First Class

SECTIONS AND EXAM WEIGHTING

SECTION	TITLE	PERCENTAGE OF QUESTIONS ON EXAM
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
TOTAL		100%

Date: August 24, 2012

BLASTER

Blaster – Second Class

SECTIONS AND EXAM WEIGHTING

SECTION	TITLE	PERCENTAGE OF QUESTIONS ON EXAM
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
TOTAL		100%

Revised: August 24, 2012

BLASTER

Blaster – Third Class

SECTIONS AND EXAM WEIGHTING

SECTION	TITLE	PERCENTAGE OF QUESTIONS ON EXAM
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
TOTAL		100

Revised: August 24, 2012

BOILERMAKER

Entry Level

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	General Safety	20%
2	Basic Rigging	20%
3	Tools, Cutting and Welding	34%
4	Material Knowledge	26%
	TOTAL:	100%

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

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

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.

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

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

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

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: June 6, 2016

BRICKLAYER

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.

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

Revised: February 7, 2017

BRICKLAYER

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	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
	TOTAL:	100%

Revised: April 24, 2017

CARPENTER

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.

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
TOTAL:		100%

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.

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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.

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Date: 2018

COMMUNICATIONS TECHNICIAN
Provincial

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

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%
	TOTAL:	100%

Revised: Dec 7, 2015

COOK

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: Dec. 2016

COOK

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

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
	TOTAL:	100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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

ELECTRICIAN: CONSTRUCTION/INDUSTRIAL
Level 3

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Transformers	15%
2	DC Machines & Controls	14%
3	AC Generators / Three-Phase Motors	11%
4	Single-Phase Motors	31%
5	Motor Starters / Control Devices	14%
6	Three-Phase Service Entrance	15%
	TOTAL:	100%

Revised: May 24, 2016

GASFITTER
G4: Industrial Maintenance Technician

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

December 2018

GASFITTER
G7: Gas Pipefitter

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Mar 11, 2011

HEAVY DUTY EQUIPMENT TECHNICIAN

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: Nov 29, 2011

HEAVY DUTY EQUIPMENT TECHNICIAN

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: March 14, 2012

INDUSTRIAL MECHANIC (MILLWRIGHT)

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Nov 12, 2009

INDUSTRIAL MECHANIC (MILLWRIGHT)

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Aug 31, 2011

INDUSTRIAL MECHANIC (MILLWRIGHT)

Level 3

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Aug 31, 2011

INDUSTRIAL MECHANIC (MILLWRIGHT)

Level 4

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Aug 31, 2011

INSTRUMENTATION AND 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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Revised: September 2018

INSTRUMENTATION AND CONTROL TECHNICIAN

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	Basic Process Control	30%
2	Trade-related Computer Use	4%
3	Programmable Logic Controller Systems	21%
4	Distributed Control Systems	13%
5	Drives and Motors	13%
6	Process Analyzers I (Solids and Liquids)	19%
	TOTAL:	100%

Revised: Sept 4, 2014

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.

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Sept 10, 2014

INSULATOR (HEAT AND FROST)

Level 1

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	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%
	TOTAL:	100%

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%
	TOTAL:	100%

Revised: Apr 4, 2012

INSULATOR (HEAT AND FROST)

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	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%
	TOTAL:	100%

Date: June 17, 2013

MACHINIST

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: July 9, 2010

MACHINIST

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
TOTAL:		100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

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 to the next level of training.

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Date: 2018

MARINE SERVICE TECHNICIAN

Provincial

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

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
TOTAL:		100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Date: November 2017

METAL FABRICATOR (FITTER)

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100

Date: August 2018

Motor Vehicle Body Repairer (Metal and Paint)

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Shop and Safety	32%
	<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	Auto Body Welding	14%
	<i>Topics:</i>	
	<i>Cutting and Heating</i>	4%
	<i>Gas Metal Arc Welding (GMAW)</i>	10%
3	Vehicle Construction	13%
	<i>Topics:</i>	
	<i>Vehicle Construction</i>	11%
	<i>Upholstery, Trim and Hardware</i>	2%
4	Metal Working	17%
	<i>Topics:</i>	
	<i>Metallurgy</i>	14%
	<i>Metal Working I (Mild Steel)</i>	3%
5	Auto Body Preparation	24%
	<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%
	TOTAL:	100%

Date: January 9, 2014

Oil Heat System Technician

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Fundamental Skills	24%
2	Tools and Equipment / Soldering, Flaring and Threading	11%
3	Fuel Storage	11%
4	Fuel Delivery Systems	22%
5	Planned Maintenance / Trade Practice	16%
6	Combustion and Air Handling	16%
	TOTAL:	100%

Revised: May 04, 2009

OIL HEAT SYSTEM TECHNICIAN

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Electricity 1 (Principles of Electricity)	17%
2	Electricity 2 (Ignition Systems, Electrical Devices and Switches)	22%
3	Electricity 3 (Electronics and Solid State) / Motors	19%
4	Controls and Wiring	25%
5	Combustion Chambers / Chimneys, Venting and Draft Control	17%
	TOTAL:	100%

Revised: May 04, 2009

OIL HEAT SYSTEM TECHNICIAN

Level 3

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Hydronic Heating Systems	23%
2	Warm Air Furnaces / Steam Systems	25%
3	Domestic Hot Water Heaters / Zoning	24%
4	House as a System / Retrofit	22%
5	Specialized Systems / Service & Troubleshooting	6%
	TOTAL:	100%

Revised: May 04, 2009

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
TOTAL		100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Revised: Sept. 2018

PLUMBER

Level 3

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
1	Water Supply 2 (Hot Water Storage Tanks & Heaters)	21%
2	Drainage & Venting Systems 2C (Commercial Venting)	20%
3	Blueprint Reading & Interpretation 3 (Commercial / Industrial)	20%
4	Hydronic Heating 2 (Advanced)	19%
5	Gas Piping 1 (Low Pressure)	20%
	TOTAL:	100%

Date: Mar. 25, 2013

POWERLINE TECHNICIAN

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: Nov 30, 2010

Refrigeration & A/C Mechanic

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Revised: March 05, 2009

Restoration Stone Mason

Provincial

SECTIONS AND EXAM WEIGHTING

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

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%
	TOTAL:	100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

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 to the next level of training.

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%
	TOTAL:	100%

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.	Safety and Elevating Devices	
	<i>Safety</i>	5
	<i>Stationary and Mobile Work Platforms</i>	4
	<i>Hoisting, Lifting and Positioning Equipment</i>	2
2.	Tools and Equipment	
	<i>Tools and Equipment</i>	8
3.	Trade Practice	
	<i>Communication and Trade Documents</i>	3
	<i>Sheet Metal Math Fundamentals</i>	9
4.	Welding 1	
	<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.	Pattern Development 1 (Simple and Straight Line)	
	<i>Drafting</i>	4
	<i>Pattern Development 1 (Simple and Straight Line)</i>	36
6.	Fabrication and Installation Fundamentals	
	<i>Fabrication and Installation Fundamentals</i>	10
		100

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.	Blueprint I	
	<i>Drawings and Specifications</i>	17%
2.	Pattern Development II	
	<i>Parallel Line</i>	15%
3.	Pattern Development II	
	<i>Radial Line</i>	15%
4.	Pattern Development II	
	<i>Triangulation</i>	14%
5.	Welding II	
	<i>Introduction to Gas Tungsten Arc Welding (GTAW)</i>	6%
	<i>Advanced Gas Tungsten Arc Welding (GTAW)</i>	3%
6.	Air Handling Systems	
	<i>Fabrication (Air Handling Systems & Components)</i>	13%
	<i>Installation (Air Handling Systems)</i>	15%
	<i>Hoisting, Lifting, and Rigging</i>	2%
		100%

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

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 to the next level of training.

SECTIONS AND EXAM WEIGHTING

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

Revised: March 16, 2016

SPRINKLER FITTER

Level 1

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	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%
	TOTAL:	100%

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%
	TOTAL:	100%

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
TOTAL		100%

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

UNIT CODE	UNIT TITLE	% OF QUESTIONS
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
TOTAL		100%

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.	Hydronic Heating 2 (Commercial)	
	<i>Hydronic Systems (Commercial)</i>	11%
	<i>Hydronic System Controls (Commercial)</i>	3%
2.	Low Pressure Steam	
	<i>Low Pressure Steam Systems</i>	19%
	<i>Condensate Return Systems</i>	7%
3.	Pipe Template Development	
	<i>Template Development</i>	18%
4.	Pipe Layout & Fabrication	
	<i>Fitting Fabrication</i>	11%
5.	Gas Piping 1	
	<i>Gas Piping Systems (Low Pressure)</i>	21%
6.	Specialty Piping Applications and Systems	
	<i>Specialty Piping</i>	3%
	<i>Medical Gas Systems</i>	3%
	<i>Stainless Steel Piping</i>	2%
	<i>Fiberglass Piping</i>	2%
		100%

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 to the next level of training.

SECTIONS AND EXAM WEIGHTING

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

Date: 2016

TRUCK AND TRANSPORT MECHANIC

Level 1

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

Date: Nov 29, 2011

TRUCK AND TRANSPORT MECHANIC

Level 2

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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%
	TOTAL:	100%

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
	TOTAL:	100%

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

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

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 to the next level of training.

SECTIONS AND EXAM WEIGHTING

SECTION	TOPIC	PERCENTAGE OF QUESTIONS ON EXAM
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
	TOTAL:	100%

Date: August 2018