

Model Curriculum

Submerged Arc Welder (SAW)

SECTOR: CAPITAL GOODS
SUB-SECTOR: 1. Machine Tools
2. Textile Manufacturing Machinery
3. Process Plant Machinery
4. Electrical and Power Machinery
5. Light Engineering Goods
OCCUPATION: Welding and Cutting
REF ID: CSC/Q0211, V1.0
NSQF LEVEL: 4



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

CAPITAL GOODS SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of

Job Role/ Qualification Pack: 'Submerged Arc Welder (SAW)' OP No. 'CSC/Q 0211, NSQF Level 4'

Date of Issuance: April 30th, 2014

Valid up to : August 30th, 2016

Head up to check the version code of the Qualification Pack in the
NSQF pack (http://www.nsqf.gov.in/qualification-pack.html)



Authorised Signatory
Tourism & Hospitality Skill Council

TABLE OF CONTENTS

1. Curriculum	01
2. Trainer Prerequisites	09
3. Annexure: Assessment Criteria	10

Submerged Arc Welder (SAW)

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Submerged Arc Welder (SAW)”, in the “Capital Goods” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Submerged Arc Welder		
Qualification Pack Name & Reference ID. ID	CSC/Q0211, v1.0		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	8 th Standard Pass		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Weld joints of fabricated metal products using the submerged arc welding (SAW) machine: welding of joints of fabricated metal products using the submerged arc welding (SAW) machine. It includes setting up and operating SAW machine as per welding procedure specification (WPS). • Manually weld carbon steel/low alloy steel and austenitic stainless steel using Metal Arc Welding / Shielded Metal Arc Welding : perform manual metal arc welding (MMAW) welding also known as Shielded Metal Arc Welding (SMAW) for a range of standard welding job requirements. • Basic health and safety practices at the workplace: identify risks and hazards at workplace, use of PPE, and apply good housekeeping practices, etc., • Work effectively with others: effectively communicate with others and demonstrate good ethical practices and discipline. 		

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Submerged Arc Welder (SAW)” Qualification Pack issued by “Capital Goods Skill Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Welding joints using the mechanized Submerged Arc Welding process</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 100:00</p> <p>Corresponding NOS Code CSC/N0211</p>	<ul style="list-style-type: none"> • Identify and explain characteristics of ferrous material – carbon steel, stainless steel • Explain various systems of measurements • Explain basic principle of a mechanized and automated welding equipment • Identify key components and explain features of the equipment used in SAW <ul style="list-style-type: none"> ○ Power source ○ Parameter setting ○ Wire feed mechanism ○ Flux dispensing unit • Describe various welding processes including Submerged Arc Welding process • State characteristics of an electric arc used for welding purposes <ul style="list-style-type: none"> ○ Voltage distribution across the arc ○ Alternating current (AC) ○ Direct Current (DC) ○ Effects and influence of magnetic fields • Describe various weld features and related terminology <ul style="list-style-type: none"> ○ Face ○ Root ○ Heat affected zone ○ Convex fillet profile ○ Concave fillet profile ○ Mitred fillet profile ○ Root face ○ Root gap ○ Root radius ○ Land ○ Bevel angle ○ Included angle ○ Weld width ○ Leg length ○ Fusion zone ○ Excess weld metal ○ Penetration ○ Throat thickness • Explain the effect of various parameters on the weld quality – speed, voltage and current • Describe the necessity of flux and identify various types of fluxes • Explain various flux penetration methods and its importance 	<p>Training kit (Trainer guide, PowerPoint), Submerged Arc welding equipment with all accessories, wire straightner, wire feed rolls, hopper, fillet gauge, measuring tape, squares, straight edges, temperature sticks, pyrometer, thermometer, pre-heat monitoring equipment, wire brush, portable grinder, hand scraper, test weld specimens, bolt cutters, overhead cranes, tracks, vessel rolls, ground clamps, Personal Protective Equipment (PPE)</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • Interpret WPS (Welding Procedure Specification) • Explain various welding symbols and abbreviations • Compare various distortion control methods • Describe the purpose and importance of pre-heating • List various Destructive and Non Destructive Tests to test the weld quality • State safety precautions to be followed while carrying out Submerged Arc Welding (SAW) • Identify Personal Protective Equipment (PPE) required for SAW • Check the readiness of the welding equipment • Select wire/flux combination based on manufacturer's guidelines • Set parameters based on type and thickness of the base metal to be welded • Prepare joints as per standard guidelines • Gather required tools and equipment for SAW • Layout, fit and tack the work piece using manual welding equipment • Carryout SAW in various positions by following standard procedures • Inspect welds visually for any defects and re-weld defective joints using manual equipment • Clean the weld joint using suitable tools <ul style="list-style-type: none"> ○ Remove surplus slag, flux, spatter • Operate mechanised submerged arc welding processes as per WPS • Monitor the process operation and machine functions and make adjustments as required • Test the weldment for specified quality parameters • Report any equipment malfunction to the concerned authority and take corrective action • Carryout required documentation as per the company policy • Communicate with colleagues and superiors politely • Perform numerical calculations • Seek assistance from the concerned authority in case of unresolved 	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>problems</p> <ul style="list-style-type: none"> • Demonstrate problem solving abilities • Plan, prioritize and sequence operations as per the job requirement • Manage own time for achieving better results • Work in a team to achieve better results 	
2	<p>Manually weld metal or metal alloys using Metal Arc Welding/Shielded Metal Arc Welding</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 100:00</p> <p>Corresponding NOS Code CSC/N0208</p>	<ul style="list-style-type: none"> • List applications of manual metal arc welding • Identify various types of base metals <ul style="list-style-type: none"> ○ Mild or low carbon steel ○ Austenitic stainless steel • Interpret various systems of measurement and convert units from one system of measurement to another • Perform numerical calculations • Identify and state features of MMAW equipment <ul style="list-style-type: none"> ○ Transformer ○ Rectifier ○ Generator ○ Invertors ○ Electrodes ○ Electrode holder ○ Cable • Name ancillary equipment required for MMAW equipment and state the purpose • Explain the importance of type of current on the MMAW/SMAW welding process • List consumables required for MMAW/SMAW welding • Classify electrodes based on the covering <ul style="list-style-type: none"> ○ Rutile ○ Basic ○ Cellulosic ○ Acidic • Classify electrodes based on the tensile strength, position and composition • Explain various types joint configurations <ul style="list-style-type: none"> ○ Lap joint ○ Tee fillet joint ○ Corner joints ○ Butt joints – square, single vee and double vee • Interpret ISO 6947 welding positions <ul style="list-style-type: none"> ○ PA ○ PB ○ PC ○ PD 	<p>Training kit (Trainer guide, PowerPoint), MMAW/ SMAW Welding equipment with all accessories, aprons, welding gloves, respirators, safety shoes, overalls, eye shields/goggles, hard hat/helmet, safety harness, power saw, pedestal grinder, tong tester, drying oven, electrodes, wire brush, chipping hammer, Fillet weld gauge, DPT instrument, FPT instrument, MPT instrument, RT instrument, UT instrument</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> ○ PE ○ PF ○ PG • List the factors that determine weld bead shape <ul style="list-style-type: none"> ○ Electrode angle ○ Welding technique ○ Arc length ○ Thickness of base metal ○ Travel speed • Identify various types of beads <ul style="list-style-type: none"> ○ Stringer ○ Weave ○ Weave pattern • Describe bead characteristics <ul style="list-style-type: none"> ○ Spatter deposits ○ Roughness ○ Evenness ○ Fill ○ Crater ○ Overlap • State the factors that affect weld quality • Explain the impact of polarity on MMAW/SMAW welding process • State the effect and distortion and explain various methods of distortion control • Describe various NDT and DT for weld joint testing • Interpret common weld testing codes and their purpose • Adhere to safety standards while performing MMAW/SMAW welding • Select right kind of welding machine based on the task to be performed • Choose right type of electrode based on the metal composition and thickness • Prepare the work area for welding activities • Prepare the material and joint for the welding operation • Tack weld the joint at appropriate intervals • Ready the MMAW equipment for the welding operation • Weld the joint to the specified quality, dimensions and profile applicable to the range of material from 1.5 mm to 24 mm <ul style="list-style-type: none"> ○ Material ○ Mild or low carbon steel ○ Low alloy steel ○ Austenitic steel 	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> ○ Forms ○ Plate, sheet (1.5 mm) ○ Structural section ○ Hollow tubes, sections and shapes ○ Position ○ Flat (PA) 1G/1F ○ Horizontal Vertical (PB) 2F ○ Horizontal (PC) 2G ○ Vertical upwards (PF) 3F/3G ○ Vertical downwards (PG) 4F/4G ○ Plate to pipe (Fixed) 5F ○ Pipe welding 5G/5F and 6G ● Produce weld joints equivalent to Level C of ISO 5817 ● Inspect visually welded area for any defects <ul style="list-style-type: none"> ○ Lack of continuity ○ Uneven or irregular ripple formation ○ Excessive spatter ○ Incorrect weld size or profile ○ Burn through ○ Undercut ○ Overlap ○ Inclusions ○ Distortion ○ Porosity ○ Surface cracks ○ Lack of fusion or incomplete fusion ○ Lack of penetration ○ Excessive penetration ○ Arc strikes ○ Sharp edges ○ Excessive convexity ● Check dimensional accuracy of the joint using weld gauges ● Perform DPT tests to assess fine defects open to the surface not detected by visual inspection ● Prepare for Destructive Test (DT) on weld specimens for fillet, corner and butt joint ● Carryout required documentation as per the company policy ● Communicate with colleagues and supervisors politely ● Respect colleagues and superiors ● Demonstrate problem solving abilities ● Plan, prioritize and sequence work operations as per job requirements ● Work in a team in order to achieve better results 	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
3	<p>Health and safety</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 08:00</p> <p>Corresponding NOS Code CSC/N1335</p>	<ul style="list-style-type: none"> Explain the importance of personal protective equipment (PPE) required for gas cutting operation State the causes for accidents Identify job site hazardous work and state possible causes of risk or accident at the workplace Explain the importance of '5S' at the workplace 	<p>Training kit (Trainer guide, PowerPoint)</p> <p>Personal Protective Equipment (PPE)</p>
4	<p>Fire Safety</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code CSC/N1335</p>	<ul style="list-style-type: none"> Explain types of fires - Class A, B, C and D Select appropriate fire extinguisher to control fire Use PASS method to operate a fire extinguisher Follow fire safety signs and safe evacuation method in case of a fire Identify the location of assembly point, fire exit, fire alarm Follow reporting procedure in case of a fire 	<p>Training kit (Trainer guide, PowerPoint)</p> <p>Class A, B, C, D and K fire extinguishers</p>
5	<p>Emergencies, rescue and first aid procedure</p> <p>Theory Duration (hh:mm) 09:00</p> <p>Practical Duration (hh:mm) 18:00</p> <p>Corresponding NOS Code CSC/N1335</p>	<ul style="list-style-type: none"> Follow electrical safety procedures Use approved method to rescue a person from electrocution State the importance of first aid Identify the contents of a first aid kit and their application Administer first aid in case of bleeding, burns, choking, electrical shock, poisoning, etc. Use of CPR process Bandage wounds Explain stages of crisis and crisis management Prepare an incident report 	<p>Training kit (Trainer guide, PowerPoint)</p> <p>First aid kit with all contents</p>
6	<p>Work effectively with others</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 60:00</p>	<ul style="list-style-type: none"> Explain the importance of team work and team dynamics State 4Cs of working in a team Explain types of communication Apply effective communication technique Overcome barriers to effective communication Demonstrate active listening skills Demonstrate good customer service skills 	<p>Training kit (Trainer guide, PowerPoint)</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code CSC/N1336	<ul style="list-style-type: none"> Explain the importance of ethical behaviour in your day-to-day work State the importance of discipline in life and apply the same at the workplace 	
	Total Duration Theory Duration 84:00 Practical Duration 316:00	Unique Equipment Required: Submerged Arc welding equipment with all accessories, wire straightner, wire feed rolls, hopper, fillet gauge, measuring tape, squares, straight edges, temperature sticks, pyrometer, thermometer, pre-heat monitoring equipment, wire brush, portable grinder, hand scraper, test weld specimens, bolt cutters, overhead cranes, tracks, vessel rolls, ground clamps, Personal Protective Equipment (PPE) , MMAW/ SMAW Welding equipment with all accessories, power saw, pedestal grinder, tong tester, drying oven, electrodes, wire brush, chipping hammer, fillet weld gauge, DPT instrument, FPT instrument, MPT instrument, RT instrument, UT instrument, Class A, B, C, D and K fire extinguishers, First aid kit with all contents	

Grand Total Course Duration: **400 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Capital Goods Skill Council](#))

Trainer Prerequisites for Job role: “Submerged Arc Welder (SAW)” mapped to Qualification Pack: “CSC/Q0211 v1.0”

Sr. No.	Area	Details
1	Description	Perform operations for mechanized submerged arc welding (SAW) and independently carry out SAW weld operations for welding joints as per welding procedure specification (WPS).
2	Personal Attributes	Basic communication, numerical and computational abilities. Openness to learning, ability to plan and organize own work and identify and solve problems in the course of working. Understanding the need to take initiative and manage self and work to improve efficiency and effectiveness
3	Minimum Educational Qualifications	Diploma /Degree in Mechanical Engineering
4a	Domain Certification	Certified for Job Role: “Submerged Arc Welder (SAW)” mapped to QP: “CSC/Q0211, v1.0”. Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted as per respective SSC guidelines is 80%.
5	Experience	<ul style="list-style-type: none"> • 3-4 years of industry experience in the relevant field • 3-4 years of teaching experience

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Submerged Arc Welder (SAW)
Qualification Pack	CSC/Q0211, v1.0
Sector Skill Council	Capital Goods Skill Council

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
5	To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS.
6	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
1.CSC/N0211 Weld joints of fabricated metal products using the submerged arc welding (SAW) machine	PC1.work safely at all times, complying with health and safety and other relevant regulations and guidelines	100	2	1	1
	PC2.stop machine in case of emergencies and start when safe using correct procedure		1	0	1
	PC3.operate machine safety devices in line with set procedures		2	1	1
	PC4.stop the machine in a timely and safe manner during an emergency		1	0	1
	PC5.interpret weld procedure data sheets specifications		2	1	1
	PC6.confirm that the machine is set up and operating correctly, ready for the joining operations to be carried out		2	1	1
	PC7.check the installation has been approved for production		1	0	1
	PC8.check supplies of components and consumables are adequate and correctly prepared		2	1	1
	PC9.ensure all materials are clean, free from contaminants and ready for use		1	0	1
	PC10.select suitable wire/flux combination as per manufacturer's guidelines		2	1	1
	PC11.re-dry flux at the suitable temperature as per manufacturer's guidelines		2	1	1
	PC12.select and use tools and equipment such as fillet gauges, calculators, measuring tapes, squares and straight edges		3	1	2
	PC13.ensure machine settings comply with instructions and the welding procedure specification		2	1	1
	PC14.check all machine functions operate correctly		2	1	1
	PC15.ensure all safety equipment is in place and functioning correctly		2	0	2
	PC16.check that the parent material, components, consumables and joint preparation comply with specifications		3	1	2
	PC17.select and use tools and equipment such as temperature sticks, pyrometer, thermometers and pre-heat monitoring equipment		2	1	1
	PC18.identify material required according to drawings and specifications		1	0	1
	PC19.select required amount of materials		1	0	1
	PC20.verify that appropriate heat treatments have been applied as per requirement		1	0	1
	PC21.layout, fit, and tack the workpieces together using manual welding equipment		3	1	2

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC22.position weld line parallel to carriage		1	0	1
	PC23.turn the control levers or pushes buttons to align the electrode and the welding head over the weld joint for linear joints		2	1	1
	PC24.adjust length of radial arm to position electrode over weld joint for radial joints		2	1	1
	PC25.clamp cylindrical workpieces onto turning rolls under stationary head for circular joints		2	1	1
	PC26.put specified electrode wire from reel through feed rolls and welding head		2	1	1
	PC27.adjust welding head to set specified angle of electrode		1	0	1
	PC28.fill specified flux		2	1	1
	PC29.direct nozzle or gravity feed over weld line		1	0	1
	PC30.adjust shielding gas or gas mixture flow rate		2	1	1
	PC31.turns knobs to set current, voltage, and slope, and synchronize feed of wire and flux with speed of welding action		3	1	2
	PC32.set travel speed as per requirement		2	1	1
	PC33.adjust wire stick-out		1	0	1
	PC34.adjust machine setup to vary size, location, and penetration of bead		3	1	2
	PC35.monitor meters, gauges and welding action for correct functioning as per procedure		3	1	2
	PC36.inspect welds visually for adherence to specifications		3	1	2
	PC37.re-weld defective joints, using manual welding equipment		1	0	1
	PC38.remove surplus slag, flux, and spatter, using brush, portable grinder, and hand scraper		1	0	1
	PC39.operate mechanised submerged arc welding processes in the specified materials, forms and positions		2	0	2
	PC40.verify set up by running test welds specimen		2	1	1
	PC41.produce welded components covering different joint configurations		3	1	2
	PC42.carry out and monitor the machine operations in accordance with specifications and job instructions		2	1	1
	PC43.use tools and equipment such as bolt cutters, overhead cranes, tracks and vessel rolls		2	1	1
	PC44.monitor the process operation and machine functions, and make adjustments as required to welding parameters and mechanisms within their permitted authority and tolerance		4	2	2
	PC45.place and secure weldments as per requirement		1	0	1
	PC46.connect cables and ground clamps to power source correctly and safely		1	0	1
	PC47.change components according to task		1	0	1

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC48.transfer information from parent piece to off-cuts and crop pieces accurately		2	1	1
	PC49.achieve joints of the required quality and specified		3	1	2
	PC50.meet the required dimensional accuracy within specified tolerances		2	1	1
	PC51.achieve the rate of output as specified		2	1	1
	PC52.detect equipment malfunctions and deal with them appropriately		2	1	1
	PC53.deal promptly and effectively with problems within own control and seek appropriate and timely help from relevant personnel where required		2	0	2
	PC54.shut down the equipment to a safe condition on conclusion of the joining activities		1	0	1
	PC55.interpret weld procedure data sheets specification		2	1	1
	Total			100	34
2.CSC/N0208 Manually weld carbon steel /low alloy steel and austenitic stainless steel using Metal Arc Welding/ Shielded Arc Metal Arc Welding	PC1.work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines	100	3	1	2
	PC2.adhere to procedures or systems in place for health and safety, personal		4	1	3
	PC3.check the condition of, and correctly connect, welding leads, earthing arrangements and electrode holder		2	0	2
	PC4.deal with any faults or differential as per laid procedures		2	0	2
	PC5.follow fume extraction safety procedures		3	1	2
	PC6.read and interpret routine information on written job instructions, welding procedure specifications (WPS) and standard operating procedures		3	1	2
	PC7.select welding machines (e.g. transformers, rectifiers, inverters and generators, etc.) according to the task		2	0	2
	PC8.select type and size of electrodes according to classification and specifications		3	1	2
	PC9.re-dry electrodes as per electrode classification requirement		3	1	2
	PC10.prepare the work area for the welding activities		2	0	2
	PC11.perform measurements for joint preparation and routine MMAW		3	0	3
	PC12.prepare the materials and joint in readiness for welding		2	0	2
	PC13.tack weld the joint at appropriate intervals, and check the joint for accuracy before final welding		3	0	3
	PC14.use manual metal-arc welding and related		3	0	3

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	equipment to include a. alternating current (AC) equipment b. direct current (DC) equipment				
	PC15.connect equipment to power source		2	0	2
	PC16.connect cables, electrode holders, return leads and ground clamps to appropriate terminal		2	0	2
	PC17.set, read and adjust amperage controls		3	1	2
	PC18.verify set up by running test and appropriately handle weld specimen (scrap plate)		3	0	3
	PC19.strike and maintain a stable arc		2	0	2
	PC20.stop and properly re-start arc to avoid welding defects (scratch start, tapping techniques)		2	0	2
	PC21.manipulate electrode angle using various methods as per WPS		3	1	2
	PC22.maintain constant puddle by using appropriate travel speed		2	0	2
	PC23.remove slag in an appropriate manner (eg. wire brush, hammer, etc.)		2	0	2
	PC24.weld the joint to the specified quality, dimensions and profile applicable to range of material from 1.5 mm – 24 mm		5	1	4
	PC25.produce range of welded joints to within the mentioned standard using single or multi-run welds (as appropriate)		4	1	3
	PC26.produce joints of the required quality and of specified dimensional accuracy which achieve a weld quality equivalent to Level C of ISO 5817		5	1	4
	PC27.produce range of welded joints in various positions as per the WPS specified		4	1	3
	PC28. produce joints using a range of materials		3	0	3
	PC29.shut down and make safe the welding equipment on completion of the welding activities		2	0	2
	PC30.identify various weld defects, use appropriate methods and equipment to check the quality, and that all dimensional and geometrical aspects of the weld are to the specification		3	0	3
	PC31. check that the welded joint conforms to the specification, by checking various quality parameters by visual inspection		4	1	3
	PC32.detect surface imperfections and deal with them appropriately		2	0	2
	PC33.carry out DPT tests to assess fine defect open to the surface not detected by visual inspection (VT)		2	0	2
	PC34.assist in preparation for non-destructive testing of the welds, for a range of tests		2	0	2
	PC35.prepare for destructive tests on weld specimens for fillet, butt and corner		2	0	2
	PC36. deal promptly and effectively with problems within their control, and seek help and guidance		3	0	3

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	from the relevant people if they have problems that they cannot resolve				
	Total		100	13	87
3.CSC/N1335 Use basic health and safety practices at the workplace	PC1.use protective clothing/equipment for specific tasks and work conditions	100	5	2	3
	PC2.state the name and location of people responsible for health and safety in the workplace		3	1	2
	PC3.state the names and location of documents that refer to health and safety in the workplace		3	1	2
	PC4.identify job-site hazardous work and state possible causes of risk or accident in the workplace		5	2	3
	PC5.carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role		4	2	2
	PC6.state location of general health and safety equipment in the workplace		3	2	1
	PC7.inspect for faults, set up and safely use steps and ladders in general use		5	2	3
	PC8.work safely in and around trenches, elevated places and confined areas		5	2	3
	PC9.lift heavy objects safely using correct procedures		5	2	3
	PC10.apply good housekeeping practices at all times		4	2	2
	PC11.identify common hazard signs displayed in various areas		5	2	3
	PC12.retrieve and/or point out documents that refer to health and safety in the workplace		3	1	2
	PC13.use the various appropriate fire extinguishers on different types of fires correctly		4	1	3
	PC14.demonstrate rescue techniques applied during fire hazard		4	1	3
	PC15.demonstrate good housekeeping in order to prevent fire hazards		3	1	2
	PC16.demonstrate the correct use of a fire extinguisher		4	1	3
	PC17.demonstrate how to free a person from electrocution		4	1	3
	PC18.administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock,		4	1	3

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	poisoning etc.				
	PC19.demonstrate basic techniques of bandaging		3	1	2
	PC20.respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		4	1	3
	PC21.perform and organize loss minimization or rescue activity during an accident in real or simulated environments		3	1	2
	PC22.administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		3	1	2
	PC23.demonstrate the artificial respiration and the CPR Process		3	1	2
	PC24.participate in emergency procedures		3	2	1
	PC25.complete a written accident/incident report or dictate a report to another person, and send report to person responsible		4	1	3
	PC26.demonstrate correct method to move injured people and others during an emergency		4	1	3
	Total		100	36	64
4.CSC/N1336 Work effectively with others	PC1.accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	3	7
	PC2.accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	PC3.give information to others clearly, at a pace and in a manner that helps them to understand		10	3	7
	PC4.display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	3	7
	PC5.consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	3	7
	PC6.display appropriate communication etiquette while working		10	3	7
	PC7.display active listening skills while interacting with others at work		10	3	7
	PC8.use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	PC9.demonstrate responsible and disciplined behaviors at the workplace		10	3	7

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC10.escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		10	3	7
	Total		100	30	70
	Grand Total		400	113	287
	Percentage Weightage:			28	72
	Minimum Pass% to qualify (aggregate):			70	