

Model Curriculum

CNC Setter cum Operator- Vertical Machining Centre

SECTOR:	CAPITAL GOODS
SUB-SECTOR:	1.Machine Tools 2.Dies, Moulds And Press Tools 3.Plastics Manufacturing Machinery 4.Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering
OCCUPATION:	Machining
REF ID:	CSC/Q0123, V1.0
NSQF LEVEL:	5



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: **'CNC Setter cum Operator - Vertical Machining Centre'** OP No. **'CSC/Q 0123, NSQF Level 5'**

Date of Issuance: April 14th, 2014

Valid up to : August 30th, 2016

*Valid up to the next review date of the Qualification Pack or the
"Valid up to" date mentioned above (whichever is earlier)



Authorised Signatory
Tourism & Hospitality Skill Council

TABLE OF CONTENTS

1. Curriculum	01
2. Trainer Prerequisites	08
3. Annexure: Assessment Criteria	09

CNC Setter cum Operator- Vertical Machining Centre

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “CNC Setter cum Operator- Vertical Machining Centre”, in the “Capital Goods” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	CNC Setter cum Operator-Vertical Machining Centre		
Qualification Pack Name & Reference ID. ID	CSC/Q0123, v1.0		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	10th Standard passed, preferably Minimum 1 year as Vertical Machine Operator		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Set computer numerically controlled vertical machining center to perform range of operations on metal components: Setting of Computer Numerically Controlled (CNC) vertical machining center (VMC), in order to perform multiple machining operations on metal components, as per specifications provided. It involves setting the machine for producing components that combine a number of different features, such as flat faces, parallel faces, faces square to each other, faces at an angle, steps/shoulders, open and enclosed slots, drilled, bored and reamed holes, internal and external threads, and special forms/profiles. • Perform range of operations on metal components using computer numerical control Vertical Machining centre: Operation of Computer Numerically Controlled (CNC) vertical machining center (VMC) with 3-axis, in order to perform multiple machining operations on metal and plastic components, as per specifications. • 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 “CNC Setter cum Operator- Vertical Machining Center” Qualification Pack issued by “Capital Goods Skill Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Set Computer Numerically Controlled Vertical Machining Centre to perform a Range of Operations on Metal Components</p> <p>Theory Duration (hh:mm) 80:00</p> <p>Practical Duration (hh:mm) 160:00</p> <p>Corresponding NOS Code CSC/N0123</p>	<ul style="list-style-type: none"> • Explain various systems of measurement • Read First Angle and Third Angle component drawing correctly • State safety practices to be followed while operating CNC Vertical Machining Centre • Explain various CNC machining operations, methods and equipment required • Describe CNC machining procedure • Identify hazards associated while setting CNC Vertical Machining Centre and take remedial measures to avoid such hazards • Wear Personal Protective Equipment correctly while setting CNC Vertical Machining Centre • Explain various terms used in VMC • Interpret job specifications correctly • State the importance of following correct machining sequence • Describe the procedure to set work holding devices correctly • State the properties of cutting tool material – High Carbon Steel (HCS), High Speed Steel (HSS), tungsten carbide, carbide • List and identify various cutting tools used in the operation • Describe factors that determine selection and use of indexable tips like hardness of the material, cutting characteristics, tolerances, surface finish etc. • Interpret reference charts, graphs and tables – tapping sizes and threads, feeds and speeds, machining symbols and tolerances • Identify various forms of raw material – square/rectangular, circular/cylindrical, irregular shapes/profiles • Define ‘feed’ and ‘speed’ • Explain the factors affecting feed and speed based on the material type • List various types of cutting fluids and describe their characteristics • Interpret various error messages and evaluate actions to be taken • Explain quality and accuracy standards • Prepare the work area for the VMC 	<p>Training Kit (PowerPoint, Trainer Guide)</p> <p>Personal Protective Equipment, drawings.</p> <p>CNC Controlled Vertical Machining Center – 3 axis, Machine vice, angle plate, vee-block, clamps, fixtures, indexing head/device, rotary table, magnetic chucks, mills, drills, boring tools, reamers, taps, special profile cutters, allen keys, spanners, wrenches, mallet, mills, drills, boring tool, reamer, taps, special profile cutters, steel rule, micrometer (external/internal), depth gauge, vernier calliper, protractor, slip gauge, hole/bore gauge, thread gauge, radius/profile gauge, Dial test indicator, surface finish equipment, template</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>setting operations</p> <ul style="list-style-type: none"> Carryout preliminary checks on the machine before the operation-cleanliness of the machine, referencing zero return, lubrication and coolant level, working of sub-systems Gather required tools and equipment Verify that all the measuring tools are calibrated and approved for use Upload latest part program onto the CNC machine Setup the machine as per the component to be produced – Alignment of work holding device Verify specific tool number as per the part program Enter all tool data to the operating program Mount work holding devices correctly and check for any backlash Set the machine operating parameters Put the machine into correct operating mode Conduct trial run and perform the following checks <ul style="list-style-type: none"> Measure dimensions of the first component Record finding in the required format Measure tool wear offset and correct if need be Handover the machine to the operator with all necessary documentation 	
2	<p>Perform a Range of Operations on Metal Components Using Computer Numerical Controlled Vertical Machining Center</p> <p>Theory Duration (hh:mm) 60:00</p> <p>Practical Duration (hh:mm) 140:00</p> <p>Corresponding NOS Code CSC/N0116</p>	<ul style="list-style-type: none"> Explain safety practices to be followed while operating Vertical Machining Center Identify required Personal Protective Equipment required for machining operation Wear Personal Protective Equipment correctly Locate safety mechanisms on the machine (Emergency stop button and emergency brakes) Identify hazards associated with VMC and take preventive actions to avoid such hazards Identify various types of materials like carbon steel, stainless steel, cast iron, tool steel, bronze, aluminium, copper and copper alloys etc. Identify different form of materials like bar, stock ,sheet materials and machined components 	<p>Training Kit (PowerPoint, Trainer Guide)</p> <p>CNC Controlled Vertical Machining Center – 3 axis, allen keys, spanner, wrenches, mallet, pneumatic gun, cutting tools, scales, external micrometer, internal micrometer, depth micrometer, digital vernier, dial vernier, protractor, slip gauge, bore/hole gauge, thread gauge, plug</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • Identify casted, forged and machined components • Explain mechanical properties of ferrous and non ferrous materials • Interpret First angle and third angle engineering drawing • Read and interpret work instructions • Explain common terms used in VMC machining • Explain units and systems of measurements (British and Metric units) • Convert units from one system of measurement to another • Identify measuring equipments required for machining like scales, micrometer, vernier, slip gauge, bore/hole gauge, thread gauge, plug gauge, radius /profile gauge, Dial test indicator and surface finish equipment • List main features and working parts of the VMC • Identify tools and accessories used in VMC machining • Identify right kind of tool for a specific operation – mills, drills, boring tool, reamers, taps, special profile cutters • List work holding devices required machining operation • Explain important characteristics of tungsten carbide, ceramic and diamond indexable tips • Explain effects of critical factors on the machining like feed and speed • Explain absolute and incremental systems of tool positioning and off setting • Explain various CNC machining operations that can be performed • Identify cutting tool based on the application • Interpret error messages displayed on the control panel • Identify commonly used hand tools like allen keys, spanner, wrenches, mallet, pneumatic gun etc. • Conduct preliminary check on the machine to check for readiness – referencing zero return, lubrication level, coolant level etc. • Perform simple troubleshooting activities during the machining • Perform basic maintenance activities like coolant and lubrication oil 	<p>gauge, radius/profile gauge, DTI, surface finish equipment, templates</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>replenishment, greasing etc.</p> <ul style="list-style-type: none"> • Set work piece as per the instruction • Load and unload components using pre determined fixtures or work holding devices • Carryout trial run by taking back the tool offsets by a minimum amount keeping margin error rectification • Measure the critical parameters of the machined component on the machine after the trial run • Perform offsets compensation and radius compensation • Produce machined components that combine different operations and have a range of applicable features - flat, square, parallel, angular, steps/shoulder, slots, holes, profiles, special forms, grooves, undercuts, threads and radius • Produce components as per standards applicable to the process components to be free from false tool cuts, burrs and sharp edges; general dimensional tolerance +/- 0.02mm; surface finish within 1.6µm; reamed holes within H7; screw threads 6G/6H; angles/tapers within +/- 15 sec; flatness and squareness 0.025mm per 25mm • Interpret in-built alarms and error codes of equipment and respond to the same as per operating manual/organizational guidelines • Inspect tool for wear and change tool as and when necessary • Fill up appropriate technical forms ,activity logs as per the requirement • Follow proper communication protocol • Communicate with people in respectful manner in line with organizational policy • Perform numerical operations, geometry and calculations • Maintain current knowledge of application standards, legislation etc. • Demonstrate problem solving abilities • Plan, organize and sequence work operations as per the job requirement • Work in a team to achieve better results 	
3	<p>Health and safety</p> <p>Theory Duration (hh:mm) 10:00</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 	<p>Training kit (Trainer guide, PowerPoint)</p> <p>Leather gloves,</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Practical Duration (hh:mm) 08:00</p> <p>Corresponding NOS Code CSC/N1335</p>	<p>state possible causes of risk or accident at the workplace</p> <ul style="list-style-type: none"> Explain the importance of '5S' at the workplace 	<p>leather apron, welding screen – helmet types, hand screen welding and safety shoes</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> <p>Corresponding NOS Code CSC/N1336</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 Explain the importance of ethical behaviour in your day-to-day work State the importance of discipline in life and apply the same at workplace 	<p>Training kit (Trainer guide, PowerPoint)</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Total Duration Theory Duration 184:00 Practical Duration 416:00	Unique Equipment Required: CNC Controlled Vertical Machining Center – 3 axis, allen keys, spanner, wrenches, mallet, pneumatic gun, cutting tools, scales, external micrometer, internal micrometer, depth micrometer, digital vernier, dial vernier, protractor, slip gauge, bore/hole gauge, thread gauge, plug gauge, radius/profile gauge, DTI, surface finish equipment, templates, Class A, B, C, D and K fire extinguishers, PPE, First aid kit with all contents	

Grand Total Course Duration: **600 Hours, 0 Minutes**

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

Trainer Prerequisites for Job role: “CNC Setter cum Operator- Vertical Machining Centre” mapped to Qualification Pack: “CSC/Q0123 v1.0”

Sr. No.	Area	Details
1	Description	Setting of computer numerically controlled (CNC) vertical machining machines (VMC) in order to perform machining operations on metal components, as per specifications provided.
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: “CNC Setter cum Operator- Vertical Machining Center” mapped to QP: “CSC/Q0123, 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	CNC Setter cum Operator- Vertical Machining Center
Qualification Pack	CSC/Q00123, 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 centre(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/N0123 Set computer numerically controlled vertical machining centre perform range operations metal components to a of on	PC1.comply with health and safety, environmental and other relevant regulations and guidelines at work	100	2	1	1
	PC2.adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing VMC setting operations		3	1	2
	PC3.work following laid down procedures and instructions		2	1	1
	PC4.ensure work area is clean and safe from hazards		1	0	1
	PC5.ensure that all tools and equipment are in a safe and usable condition		1	0	1
	PC6.ensure that the components used are free from foreign objects, dirt or other contamination		1	0	1
	PC7.obtain job specification from a valid and approved source		1	0	1
	PC8.read and establish job requirements from the job specification document accurately		4	2	2
	PC9.report and rectify incorrect and inconsistent information in job specification documents as per organization procedures		1	0	1
	PC10.prepare the work area for the VMC setting operations as per procedure or specification received		2	0	2
	PC11.conduct a preliminary check of the readiness of the VMC machine		3	1	2
	PC12.conduct a preliminary check of the readiness of the components and cutters		2	0	2
	PC13.obtain appropriate cutting tools and hand tools and measuring tools as per job requirements		3	1	2
	PC14.ensure that all measuring equipment is calibrated and approved for usage		2	0	2
	PC15.extract and use information from engineering drawings and relate specifications in relation to work Undertaken		3	1	2
	PC16.use and extract information from reference charts, tables, graphs and standards		2	1	1
	PC17.identify tool requirements from tooling layout and assess their suitability		3	1	2
	PC18.identify suitable work-holding or fixturing device as per the job Requirement		3	1	2
	PC19.ensure that the tools and fixtures are in usable condition(free from breakage, damage, calibration, etc)		1	0	1
	PC20.ensure the correct and latest part program is uploaded onto the CNC system		2	0	2
	PC21.pre-set the tooling using setting jigs/fixtures		3	1	2

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC22.where appropriate, seek any necessary instruction/training on the operation of the machine		1	0	1
	PC23.mount and set the required work holding devices, work-piece and cutting tools		3	1	2
	PC24.check that the tools have a specific tool number in relation to the operating program		1	0	1
	PC25.enter all relevant tool data to the operating program on the CNC		3	1	2
	PC26.set tool datums, positions, lengths, offsets and radius Compensation		4	1	3
	PC27.mount the work-holding device/fixture onto the machine		4	1	3
	PC28.set the work-holding device/fixture in relationship to the machine datum's and reference points		4	1	3
	PC29.set the machine tool operating parameters(eg hydraulic pressure,clamping) as per the component Requirements		5	2	3
	PC30.place the machine into the correct operating mode, and access the program edit facility in order to enter tooling data		4	1	3
	PC31.conduct trial runs using single block run, dry run and feed and speed override controls		5	2	3
	PC32.prove the program tool by tool in single block mode		4	2	2
	PC33.perform the necessary checks before allowing the machine to operate in full program run mode		2	1	1
	PC34.check and hand-over the machine after set-up to the machine operator along with relevant instructions and Documentation		4	2	2
	PC35.complete relevant documentation as per organizational procedure		1	0	1
	PC36.handle the typical problems that can occur with the setting up of the tooling, work-holding devices and proving the program		2	1	1
	PC37.switch the VMC machine on and off in normal and emergency situations		1	0	1
	PC38.after use, return the old cutting tools, work-holding device, fixtures, instruments, drawings and verified tapes and programs back to store, safely and correctly		1	0	1
	PC39.ensure that there is no damage to the tool/fixture while doing the prove-out		1	0	1
	PC40.complete documentation during and post operations and submit as per organizational procedures		2	1	1
	PC41.deal promptly and effectively with problems		1	0	1

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	within the setter's control, and seek help and guidance from the relevant people, in case of problems that cannot be resolved				
	PC42.shut down the equipment to a safe condition on conclusion of the activities		1	0	1
	PC43.leave the work area in a safe and tidy condition on completion of the setting activities		1	0	1
	Total		100	30	70
2.CSC/N0116 Perform a range of operations on metal components using computer numerical controlled vertical machining center	PC1.comply with health and safety, environmental and other relevant regulations and guidelines at work	100	2	1	1
	PC2.adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing machining operations		3	1	2
	PC3.work following laid down procedures and instructions		1	0	1
	PC4.ensure work area is clean and safe from hazards		1	0	1
	PC5.ensure that all tools and equipment are in a safe and usable condition		1	0	1
	PC6.obtain job specification from a valid and approved source		1	0	1
	PC7.read and establish job requirements from the job specification document accurately		3	1	2
	PC8.report and rectify incorrect and inconsistent information in job specification documents as per organization procedures		2	0	2
	PC9.use and extract information from reference charts, tables, graphs and standards		3	1	2
	PC10.prepare the work area for the machining operations as per procedure or operational specification		3	1	2
	PC11.ensure that the components used are free from foreign objects, dirt or other contamination		1	0	1
	PC12.conduct a preliminary check of the readiness of the vertical machining center		1	0	1
	PC13.obtain correct work pieces/raw materials and consumables as per job requirements		2	1	1
	PC14.obtain appropriate cutting tools, hand tools and measuring tools as per job requirements		3	1	2
	PC15.ensure that all measuring equipment is calibrated and approved for usage		2	0	2
	PC16.set work pieces as per job requirements using appropriate positioning and/or holding devices and support mechanisms		3	1	2
	PC17.where appropriate, seek any necessary instruction/training on the operation		2	0	2

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	of the machine				
	PC18.check that the operating program is at the correct start point and the work piece is clear of the machine spindle		2	0	2
	PC19.switch the vertical machining center on and off in normal and emergency situations		1	0	1
	PC20.load and unload component(s) using pre-determined fixtures or work holding devices as per work instructions		3	1	2
	PC21. do trial run by taking back the tool offsets by a minimum amount keeping margin error rectification		2	0	2
	PC22.measure the critical parameters of the machined component on the machine (without removing from the machine), after the trial run		3	1	2
	PC23.correct the offsets based on the measurements by accessing program edit facility in order to enter tooling data		3	1	2
	PC24.ensure accuracy in the critical parameters of the machined components by performing multiple trial runs and subsequent adjustment of offsets		3	1	2
	PC25.measure the component after unloading to check for accuracy in the critical parameters as per job specifications		4	1	3
	PC26.produce machined components that combine different operations and have a range of applicable features		4	2	2
	PC27.follow the specified machining sequence and procedure as per job specifications		3	1	2
	PC28.interpret in-built alarms and error codes of equipment and respond to the same as per operating manual/organizational guidelines		3	1	2
	PC29.inspect as per frequency of inspection mentioned in the inspection plan (part of the job specifications)		3	1	2
	PC30.record the measured values as per organizational procedure		2	1	1
	PC31.observe for inconsistency in dimensions due to tool wear and correct the offsets accordingly		2	1	1
	PC32.ensure that machine settings are adjusted as and when required, either by self or the setter, to maintain the required accuracy		4	2	2
	PC33.identify when tools need re sharpening/replacing		3	1	2
	PC34.remove worn out tool and replace with a		2	0	2

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	suitable tool				
	PC35.perform basic maintenance checks on the machine after operations		4	1	3
	PC36.keep finished components as well as raw material as per organizational procedure established		1	0	1
	PC37.produce components as per standards applicable to the process		4	1	3
	PC38. work to achieve production targets		2	0	2
	PC39.report conditions and seek appropriate assistance in a timely manner to address risk of failure to comply with necessary targets and specifications		2	0	2
	PC40.deal with finished components as per organizational guidelines		2	0	2
	PC41.return all tools and equipment to the correct location on completion of the machining activities		1	0	1
	PC42.update log book and complete necessary documentation during and post operations as per organizational procedures		1	0	1
	PC43.leave the work area in a safe and tidy condition on completion of job activities		2	0	2
	Total		100	25	75
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

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
	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, poisoning etc.		4	1	3
	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
	PC1.accurately receive information and	100	10	3	7

Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
4.CSC/N1336 Work effectively with others	instructions from the supervisor and fellow workers, getting clarification where required				
	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
	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	121	279
Percentage Weightage:				30	70
Minimum Pass% to qualify (aggregate):				70	