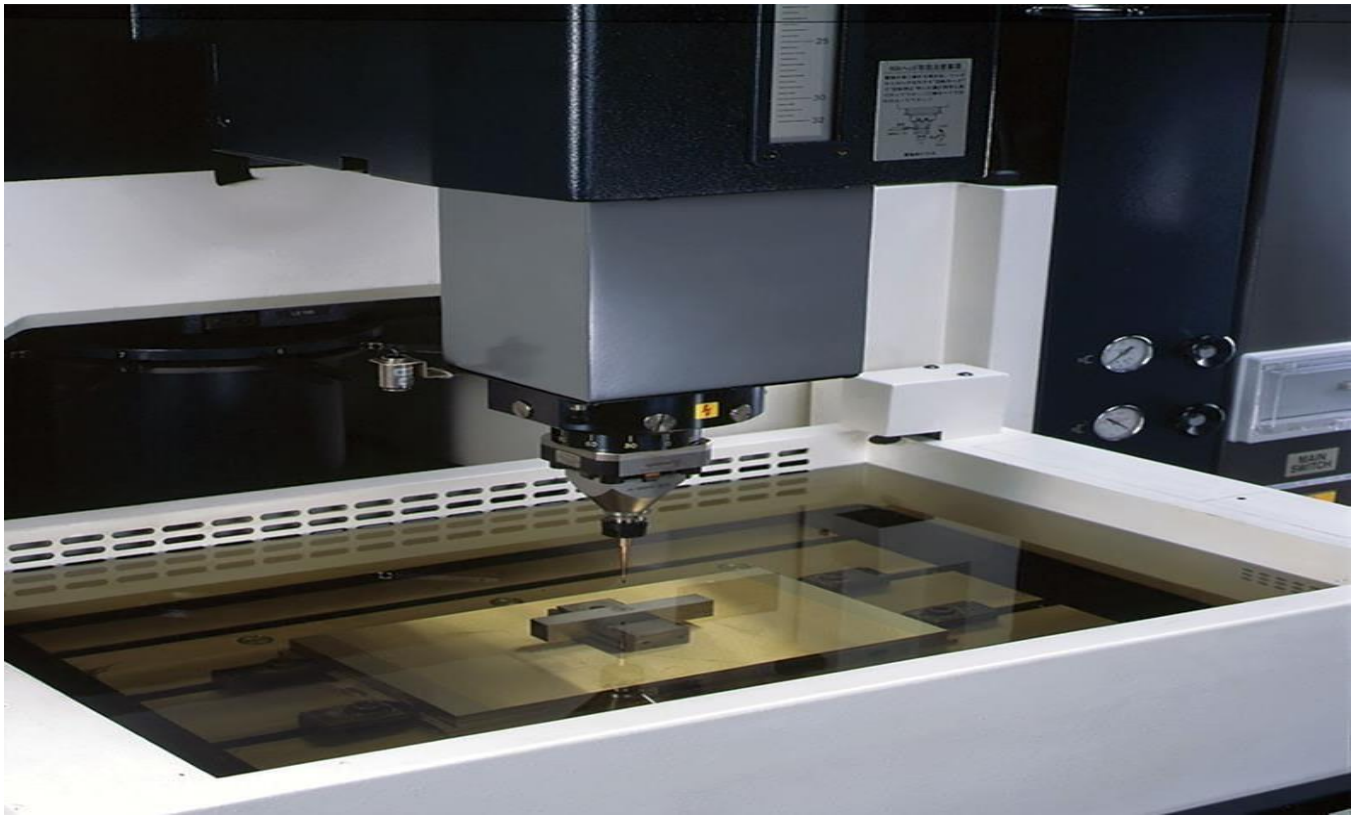

Model Curriculum

QP Name: CNC Setter and Operator – Electro Discharge Machine (Spark Erosion)

QP Code: CSC/Q0121

Version: 3.0

NSQF Level: 4

Model Curriculum Version: 3.0

Capital Goods Skill Council || Awfice Space Solutions Pvt. Ltd, 1st Floor, L-29, Outer Circle, Connaught Place, New Delhi – 110001

Table of Contents

Training Parameters

Sector	Capital Goods
Sub-Sector	Machine Tools, Dies, Moulds and Press Tools, Plastics Manufacturing Machinery, Textile Manufacturing Machinery, Process Plant Machinery, Electrical and Power Machinery, LightEngineering Goods
Occupation	Machining
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7223.2800
Minimum Educational Qualification and Experience	10th Grade Pass with 2 years of relevant experience OR 11th Grade Pass with 1 year of relevant experience OR 10th grade pass and pursuing continuous schooling OR 8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS OR 10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent OR Pursuing 2nd year of 3-year regular Diploma (after 10th) OR Completed 2nd year of 3-year diploma (after 10th) OR 12th grade pass OR Operator - Non-Conventional Electro Discharge Machine (Spark Erosion) NSQF Level 3.0 certificate with 3 years relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	NA
QP Version	3.0
Model Curriculum Creation Date	NA
Model Curriculum Valid Up to Date	NA

Model Curriculum Version	3.0
Minimum Duration of the Course	480 Hours
Maximum Duration of the Course	480 Hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Demonstrate the process of setting up the CNC EDM for machining components.
- Demonstrate the process of operating the CNC EDM to machine components.
- Explain the importance of following the health and safety practices at work.
- Demonstrate ways to coordinate with co-workers to achieve work efficiency.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
CSC/N1335 Follow the health and safety practicesat work **NSQF Level- 3**	**25:00**	**35:00**	**0:00**	**00:00**	**60:00**
Module 1: Introduction to the role of a CNC Setter and Operator - Electro Discharge Machine	05:00	0:00	0:00	00:00	05:00
Module 2: Health and safety practices	20:00	35:00	0:00	00:00	55:00
CSC/N1336 Coordinate withco-workers to achieve work efficiency **NSQF Level- 3**	**10:00**	**20:00**	**0:00**	**00:00**	**30:00**
Module 3: Process of coordinating with co-workers to achieve work efficiency	10:00	20:00	0:00	00:00	30:00
CSC/N0121 Set up the CNC EDM for machining components **NSQF Level- 4**	**45:00**	**105:00**	**0:00**	**00:00**	**150:00**
Module 4: Process of settingup the CNC EDM for machining components	45:00	105:00	0:00	00:00	150:00

CSC/N0118 Operate the CNC EDM to machine components **NSQF Level- 4**	**40:00**	**80:00**	**0:00**	**00:00**	**120:00**
Module 5: Process of operating the CNC EDM to machine components	40:00	80:00	0:00	00:00	120:00
DGT/VSQ/N0102 - Employability Skills (60 hours) **NSQF Level – 5**	**24:00**	**36:00**	**00:00**	**00:00**	**60:00**
Module 6: Introduction to Employability Skills	0.5:00	1:00	00:00	00:00	1.5:00
Module 7: Constitutional values - Citizenship	0.5:00	1:00	00:00	00:00	1.5:00
Module 8: Becoming a Professional in the 21st Century	1:00	1.5:00	00:00	00:00	2.5:00
Module 9: Basic English Skills	4:00	6:00	00:00	00:00	10:00
Module 10: Career Development & Goal Setting	1:00	1:00	00:00	00:00	2:00
Module 11: Communication Skills	2:00	3:00	00:00	00:00	5:00
Module 12: Diversity & Inclusion	1:00	1.5:00	00:00	00:00	2.5:00
Module 13: Financial and Legal Literacy	2:00	3:00	00:00	00:00	5:00
Module 14: Essential Digital Skills	4:00	6:00	00:00	00:00	10:00
Module 15: Entrepreneurship	3:00	4:00	00:00	00:00	7:00
Module 16: Customer Service	2:00	3:00	00:00	00:00	5:00
Module 17: Getting ready for apprenticeship & Jobs	3:00	5:00	00:00	00:00	8:00
Total Duration	**144:00**	**276:00**	**60:00**	**00:00**	**480:00**

Module Details

Module 1: Introduction to the role of a CNC Setter and Operator – Electro Discharge Machine (Spark Erosion)

Bridge Module

Terminal Outcomes:

- Discuss the job role of a CNC Setter and Operator - Electro Discharge Machine (Spark Erosion).

Duration: 05:00	**Duration: 0:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the capital good industry and its sub-sectors. • Discuss the role and responsibilities of a CNC Setter and Operator - Electro Discharge Machine. • Identify various employment opportunities for a CNC Setter and Operator - Electro Discharge Machine.	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Health and safety Practices

Mapped to CSC/N1335 v2.0

Terminal Outcomes:

- Demonstrate ways to maintain personal health and safety.
- Describe the process of assisting in hazard management.
- Explain how to check the first aid box, firefighting and safety equipment.
- Describe the process of assisting in waste management.
- Explain the importance of following the fire safety guidelines.
- Explain the importance of following the emergency and first-aid procedures.
- Demonstrate the process of carrying out relevant documentation and review.

Duration: 20:00	**Duration: 35:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the recommended practices to be followed to ensure protection from infections and transmission to others, such as the use of hand sanitiser and face mask. • Explain the importance and process of checking the work conditions, assessing the potential health and safety risks, and take appropriate measures to mitigate them. • Explain the importance and process of selecting and using the appropriate PPE relevant to the task and work conditions. • Explain the recommended techniques to be followed while lifting and moving heavy objects to avoid injury. • Explain the importance of following the manufacturer's instructions and workplace safety guidelines while working on heavy machinery, tools and equipment. • Explain the importance and process of identifying existing and potential hazards at work. • Describe the process of assessing the potential risks and injuries associated with the various hazards. • Explain how to prevent or minimise different types of hazards.	• Demonstrate the use of appropriate Personal Protective Equipment (PPE) relevant to the task and work conditions. • Demonstrate how to handle hazardous materials safely. • Demonstrate the process of testing the firefighting and various safety equipment to ensure they are in usable condition. • Demonstrate the process of recycling and disposing different types of waste appropriately. • Demonstrate how to use the appropriate type of fire extinguisher to extinguish different types of fires safely. • Demonstrate how to administer appropriate first aid to the injured personnel. • Demonstrate the process of performing Cardiopulmonary Resuscitation (CPR) on a potential victim of cardiac arrest. • Demonstrate the process of carrying out appropriate documentation following a health and safety incident at work, including all the required information.

• Explain how to handle and store hazardous materials safely. • Explain the importance of ensuring the first aid box is updated with the relevant first aid supplies. • Describe the process of checking and testing the firefighting and various safety equipment to ensure they are in a usable condition. • Explain the criteria for segregating waste into appropriate categories. • Describe the appropriate methods for recycling recyclable waste. • Describe the process of disposing of the non-recyclable waste safely and the applicable regulations. • Explain the use of different types of fire extinguishers to extinguish different types of fires. • State the recommended practices to be followed for a safe rescue during a fire emergency. • Explain how to request assistance from the fire department to extinguish a serious fire. • Explain the appropriate practices to be followed during workplace emergencies to ensure safety and minimise loss to organisational property. • State the common health and safety hazards present in a work environment, associated risks, and how to mitigate them. • State the safe working practices to be followed while working at various hazardous sites and using electrical equipment. • Explain the importance of ensuring easy access to firefighting and safety equipment. • Explain the appropriate preventative and remedial actions to be taken in the case of exposure to toxic materials, such as poisonous	

chemicals and gases. • Explain various causes of fire in different work environments and the recommended precautions to be taken to prevent fire accidents. • Describe different methods of extinguishing fire. • List different materials used for extinguishing fire. • Explain the applicable rescue techniques to be followed during a fire emergency. • Explain the importance of placing safety signs and instructions at strategic locations in a workplace and following them. • Explain different types of first aid treatment to be provided for different types of injuries. • State the potential injuries associated with incorrect manual handling. • Explain how to move an injured person safely. • State various hazards associated with the use of various machinery, tools, implements, equipment and materials. • Explain the importance of ensuring no obstruction and free access to fire exits. • Explain how to free a person from electrocution safely. • Explain how to administer appropriate first aid to an injured person. • Explain how to perform Cardiopulmonary Resuscitation (CPR). • Explain the importance of coordinating with the emergency services to request urgent medical assistance for persons requiring professional medical attention or hospitalisation. • State the appropriate documentation	

to be carried out following a health and safety incident at work, and the relevant information to be included. • Explain the importance and process of reviewing the health and safety conditions at work regularly or following an incident. • Explain the importance and process of implementing appropriate changes to improve the health and safety conditions at work.	
Classroom Aids	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

Module 3: Process of coordinating with co-workers to achieve work efficiency

Mapped to NOS CSC/N1336 v2.0

Terminal Outcomes:

- Demonstrate ways to Work and communicate effectively with co-workers.
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance and process of effective communication in the workplace. • Explain the barriers to effective communication and how to overcome them. • Explain the importance of teamwork in an organisation's and individual's success. • Explain the importance of active listening in the work environment. • State the appropriate techniques to be followed for active listening. • Explain the importance of tone and pitch ineffective communication. • Explain the importance of avoiding casual expletives and unpleasant terms while communicating professional circles. • Explain the importance of maintaining discipline and ethical behaviour at work. • State the common reasons for interpersonal conflict and how to resolve them. • Explain the importance of developing effective working relationships for professional success. • Describe the process of expressing and addressing grievances appropriately and effectively. • Explain the importance and process of planning daily tasks to ensure their timely completion and efficient use of	• Demonstrate the process of preparing the relevant documents and reports as per the supervisor's instructions, providing appropriate information clearly and systematically. • Demonstrate how to mentor and assist subordinates in the execution of their work responsibilities. • Demonstrate the process of using various resources efficiently toensure maximum utilisation and minimum wastage. • Demonstrate how to communicate clearly and politely to ensure effective communication with co-workers. • Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.

time. • Explain the importance of adheringto the limits of authority at work. • Explain the importance of following the applicable quality standards and timescales at work. • Explain the importance of coordinating with co-workers to achieve the work objectives efficiently. • Explain the relevant documentation requirements. • Explain the importance of providing appropriate information clearly and systematically in work documents. • State the escalation matrix to be followed to deal with out of authority tasks and concerns. • Explain the importance and process of mentoring and assisting subordinates in the execution of their work responsibilities. • Explain how to identify possible disruptions to work prevent them. • Explain how to use various resources efficiently to ensure maximum utilisation and minimum wastage. • Explain the recommended practices to be followed at work to avoid and resolve conflicts at work. • Explain the importance and process of efficient and timely dissemination of information to the authorised personnel. • Explain the procedure to report inappropriate behaviour e.g., harassment.	
Classroom Aids:	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 4: Process of setting up the CNC EDM for machining components

Mapped to CSC/N0121 v2.0

Terminal Outcomes:

- Describe the process of preparing for setting up the CNC EDM.
- Demonstrate the process of setting up the CNC EDM for use.

Duration: 45:00	Duration: 105:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the applicable environmental regulations to be observed. • Explain the terminology associated with CNC machining. • Explain the importance of adhering to the applicable health and safety guidelines. • Explain the importance of checking the machine guards are in place before operating the CNC EDM. • Describe the process of checking the cutting tools and securing components on the CNC EDM without distortion. • Explain the importance of leaving the work area and machine in a safe and appropriate condition on completion of the activities • Explain the imperial and metric systems of measurement. • Explain the use of the relevant measuring equipment such as micrometre, Vernier scale; slip, bore/hole, thread, plug, radius/profile gauges; Dial Test Indicator (DTI). • Explain how to read and interpret first and third angle component drawings. • Explain how to extract information from engineering drawings or data and related specifications. • Explain the features and various parts of a CNC EDM machine, and the relevant accessories. • Explain the importance of following	• Show how to check the process sheet and match it with the received drawings and other specifications. • Demonstrate the use of the relevant Personal Protective Equipment while setting up the CNC EDM, as required. • Demonstrate the process of carrying out routine cleaning of the CNC EDM. • Demonstrate how to check the position and alignment of vice, and make appropriate adjustments as per the requirement. • Demonstrate the use of the appropriate measuring tools as per the job requirement. • Demonstrate the process of applying the recommended grade of grease on the relevant machine parts. • Show how to pre-set electrodes in tooling holders manually or by using setting jigs/fixtures. • Demonstrate how to program the relevant tooling data such as holder position and offsets in the operating program. • Demonstrate how to set theelectrode datum point and save changes to the program. • Show how to select, load and set the appropriate tool holding device appropriate to different types of electrodes, such as plain, profile, and hollow electrodes. • Demonstrate the process of setting up the machine with the appropriate specifications such as current density,

the recommended machining sequences and procedures. • Explain the importance of ensuring the suitability of workpieces/materials and consumables for the specified job and related procedures. • Explain the importance and process of checking the tools and equipment to ensure they are in a safe and usable condition. • Describe various work holding methods and devices used with a CNC EDM. • Explain how to set up work holding devices and electrodes on CNC EDM. • Explain the importance of ensuring the machine is isolated from the power supply before mounting electrodes and work holding devices. • State the basic principles of operation of the various CNC EDM, and various operations that they can perform. • Explain how to handle and store electrodes, electrode holders, verified tapes and programs safely. • Explain the importance of setting the work holding device in relation to the machine datum and reference points. • Explain various eroded features produced on a CNC EDM. • Explain different types of electrodes such as plain, profile, and hollow electrodes. • State the conditions determining the use of electrodes. • Describe the process of selecting the correct grade and type of electrode for the materials and profiles being machined. • Explain the importance of checking the electrodes are in a good and serviceable condition. • Explain the use of various electrode tool holding devices.	spark frequency, linear feeds and speeds, dielectric flow rates, etc. • Show how to conduct trial runs and adjust machine parameters and positioning until the required accuracy parameters are achieved. • Demonstrate the process of carrying out appropriate documentation with respect to the setting up of CNC EDM, recording various machine parameters along with any issues encountered and steps taken to resolve them.

• Describe the process of loading, securing and setting the electrodes appropriately in the electrode holder or feed mechanism. • Explain the use of tooling magazines or technology settings. • Explain how to position and identify the tools in relation to the operating program. • Explain how to place CNC EDM in the correct operating mode. • Explain how to access the program edit facility to enter the tooling data. • Explain how to conduct trial runs using single block run, dry run and feed/speed override controls. • List appropriate checks to be conducted before operating the machine in full program run mode. • Explain how various types of materials affect the feeds and voltage to be used. • Explain different types and applications of dielectric fluids concerning a range of different materials. • Explain how to carry out regular repair and maintenance of a CNC EDM and rectify faults encountered during machining. • Explain how to resolve the common problems encountered while setting up electrodes in cartridges/holders/feed mechanisms and with using work holding devices.	

Classroom Aids
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop
Tools, Equipment and Other Requirements
CNC EDM Machine with All Accessories, Personal Protective Equipment (PPE) Steel Rules, Micrometers (External, Internal, Depth), Vernier Callipers, Slip Gauge, Bore/ Hole Gauge, Thread Gauge, Plug Gauge, Radius/Profile Gauge, Dial Test Indicator, Electrodes (Plain/Profile/Hollo W), Jigs/Fixtures, Work Holding Devices, Pneumatic or Magnetic Table, Machine Vice, Angle Plate, Vee Block, Clamps, Chucks (3 Jaw Or 4 Jaw), Sample Instruction Sheets.

Module 5: Process of operating the CNC EDM to machine components

Mapped to CSC/N0118 v2.0

Terminal Outcomes:

- Demonstrate the process of carrying out machining using CNC EDM.
- Explain the importance of using resources optimally.

Duration: 40:00	Duration: 80:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the concepts and benefits of Industry 4.0 and Industrial Internet of Things (IIoT). • Explain the importance of identifying relevant risks in the work area and dealing with them before operating the CNC EDM. • List the hazards associated with the use of a CNC EDM and how to minimise them, such as revolving/moving parts of machinery; electrical components; airborne hot metal particles; sharp cutting tools; burrs and sharp edges on the components; use of power-operated chucks; handling dielectrics; fumes, etc. • List the relevant safety precautions to be taken while operating a CNC EDM, such as the use of relevant PPE and ensuring the safety of co-workers. • Explain how to use the various safety mechanisms available on CNC EDM, such as the emergency stop button/ brake. • Explain how to interpret component drawings, eroding data, and component machining specifications. • Explain how to extract and use information from engineering drawings and related specifications. • List the symbols and conventions appropriate to BS, ISO or BSEN, DIN standards. • State various types of information found in component drawing, such as dimensioning and labelling	• Demonstrate the process of carrying out machining on the component as per the applicable organisational procedures to achieve the required specifications. • Demonstrate the process of checking the condition of the tools being used and repair. • Demonstrate the use of the appropriate gauges and instruments for carrying out the necessary quality and accuracy checks during and after the machining process. • Show how to adjust the feed and Revolutions Per Minute (RPM). • Demonstrate how to record the measured values as per the organisational standards and complete the post-machining inspection sheet. • Demonstrate the use of various industry 4.0 manufacturing technologies. • Demonstrate the process of carrying out regular maintenance of the CNC EDM as per the manufacturer's instructions. • Demonstrate the process of disposing the industrial waste appropriately in compliance with the applicable regulations and organisational procedures. • Show how to optimise the usage of electricity and other resources in various tasks and processes.

information; first and third angle orthographic projections; isometric view; reference points, etc. • Explain various errors and faults experienced with a CNC EDM and how to deal with them. • Explain the importance of operating a CNC EDM according to the manufacturer's instructions. • Explain how to find the correct restart point in the program when the machine has been stopped before completion of the program. • Explain the manual and automatic modes of machine control such as control buttons; keyboard and touchpad. • Explain how to operate the CNC EDM using single block run, full program run and feed/speed overridecontrols. • Explain the importance of accounting for electrode wear and how to make adjustments to the program operating parameters to take account of it. • Explain the importance of maintaining spark gaps during the EDM machining process to prevent voltage surges from damaging equipment. • Explain how to deal with sparking and arcing during EDM machining. • Explain the importance of flushing during EDM machining. • Explain the benefit of using dielectric fluid or EDM oil. • Explain the importance of using the recommended polarity. • Explain how to set and secure the workpiece to the machine table/work holding device correctly. • Explain the effects of clamping the workpiece and how material removal can cause warping/distortion of the	

finished workpiece. • List various types of materials usedfor electrodes, such as copper,tungsten copper, graphite, etc. • Explain the use of various types of electrodes. • Explain how electrodes are located and secured to the machine head, tool cartridge and tool magazine. • Explain the safe handling and storage of tooling, and dielectric and ionized fluids. • Explain the importance of checking the condition of the electrode before using it. • Explain the effects worn tooling has on the workpiece surface finish and tolerances. • Explain the importance and process of dressing and reshaping electrodes, and the use of relevant equipment. • State various problems encountered with electrical discharge activitiesand to overcome them. • Explain the use of dielectric and ionized fluids with respect to the machining of various materials. • List the relevant quality checks to be carried out after machining of components.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
CNC EDM Machine with All Accessories, Personal Protective Equipment (PPE) Steel Rules, Micrometers (External, Internal, Depth), Vernier Callipers, Slip Gauge, Bore/ Hole Gauge, Thread Gauge, Plug Gauge, Radius/Profile Gauge, Dial Test Indicator, Electrodes (Plain/Profile/Hollo W), Jigs/Fixtures, Work Holding Devices, Pneumatic or Magnetic Table, Machine Vice, Angle Plate, Vee Block, Clamps, Chucks (3 Jaw Or 4 Jaw)	

Module 6: Introduction to Employability Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements

Duration: *<0.5:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of Employability Skills in meeting the job requirements	• List different learning and employability related GOI and private portals and their usage
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 7: Constitutional values - Citizenship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about constitutional values to be followed to become a responsible citizen

Duration: *<0.5:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.	• Show how to practice different environmentally sustainable practices
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 8: Becoming a Professional in the 21st Century

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate professional skills required in 21st century

Duration: *<1:00>*	**Duration**: *<1.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss 21st century skills. • Describe the benefits of continuous learning	• Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 9: Basic English Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic English speaking.

Duration: *<4:00>*	**Duration**: *<6:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe basic communication skills • Discuss ways to read and interpret text written in basic English	• Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone • Read and interpret text written in basic English • Write a short note/paragraph / letter/e - mail using basic English
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 10: Career Development & Goal Setting

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate Career Development & Goal Setting skills.

Duration: *<1:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of career development plan	• Demonstrate how to communicate in a well -mannered way with others. • Create a career development plan with well-defined short- and long-term goals
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 11: Communication Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic communication skills.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of active listening for effective communication • Discuss the significance of working collaboratively with others in a team	• Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 12: Diversity & Inclusion

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe PwD and gender sensitisation.

Duration: *<1:00>*	**Duration**: *<1.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of reporting sexual harassment issues in time	• Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 13: Financial and Legal Literacy

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of managing expenses, income, and savings.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the common components of salary and compute income, expenditure, taxes, investments etc. • Discuss the legal rights, laws, and aids	• Outline the importance of selecting the right financial institution, product, and service • Demonstrate how to carry out offline and online financial transactions, safely and securely
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 14: Essential Digital Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate procedure of operating digital devices and associated applications safely.

Duration: *<4:00>*	**Duration**: *<6:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the role of digital technology in today's life • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely	• Show how to operate digital devices and use the associated applications and features, safely and securely • Create sample word documents, excel sheets and presentations using basic features • Utilize virtual collaboration tools to work effectively
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 15: Entrepreneurship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe opportunities as an entrepreneur.

Duration: *<3:00>*	**Duration**: *<4:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the types of entrepreneurship and enterprises • Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan • Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement	• Create a sample business plan, for the selected business opportunity
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 16: Customer Service

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of maintaining customer.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of identifying customer needs and addressing them. • Explain the significance of identifying customer needs and responding to them in a professional manner. • Discuss the significance of maintaining hygiene and dressing appropriately.	• Demonstrate how to maintain hygiene and dressing appropriately.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 17: Getting ready for apprenticeship & Jobs

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: *<3:00>*	**Duration**: *<5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of maintaining hygiene and confidence during an interview • List the steps for searching and registering for apprenticeship opportunities	• Create a professional Curriculum Vitae (CV) • Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively • Perform a mock interview
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Diploma /Degree	Diploma /Degree in Mechanical Engineering	4	CNC Setter and Operator - Electro Discharge Machine	0		Practical skills and knowledge required in the relevant field

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "**CNC Setter and Operator - Electro Discharge Machine**" mapped to QP: "CSC/Q0121, v1.0". The minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601". The Minimum accepted as per respective SSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Diploma /Degree	Diploma /Degree in Mechanical Engineering	4	CNC Setter and Operator - Electro Discharge Machine	0		Practical skills and knowledge required in the relevant field

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "**CNC Setter and Operator - Electro Discharge Machine**" mapped to QP: "CSC/Q0121, v1.0". The minimum accepted score is 80%	Certified for the Job Role: "Assessor" (VET and skills, mapped to the Qualification Pack: "MEP/Q2701, v2.0", with a minimum score of 80%.

Assessment Strategy

1. Assessment System Overview:
    - Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
    - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
    - The assessment agency deploys the ToA certified Assessor for executing the assessment
    - SSC monitors the assessment process & records
2. Testing Environment

    To ensure a conducive environment for conducting a test, the trainer will:
    - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
    - Check the duration of the training.
    - Check the Assessment Start and End time to be 10 a.m. and 5 p.m. respectively
    - Ensure there are 2 Assessors if the batch size is more than 30.
    - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
    - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
    - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
    - Check the availability of the Lab Equipment for the particular Job Role.
3. Assessment Quality Assurance levels / Framework:
    - Question papers created by the Subject Matter Experts (SME)
    - Question papers created by the SME verified by the other subject Matter Experts
    - Questions are mapped with NOS and PC
    - Question papers are prepared considering that levels 1 to 3 are for the unskilled & semi-skilled individuals, and levels 4 and above are for the skilled, supervisor & higher management
    - The assessor must be ToA certified and the trainer must be ToT Certified
    - The assessment agency must follow the assessment guidelines to conduct the assessment
4. Types of evidence or evidence-gathering protocol:
    - Time-stamped & geotagged reporting of the assessor from assessment location
    - Centre photographs with signboards and scheme-specific branding
    - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
    - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
5. Method of verification or validation:

    To verify the details submitted by the training centre, the assessor will undertake:
    - A surprise visit to the assessment location
    - A random audit of the batch
    - A random audit of any candidate
6. Method for assessment documentation, archiving, and access

    To protect the assessment papers and information, the assessor will ensure:
    - Hard copies of the documents are stored

- Soft copies of the documents & photographs of the assessment are uploaded/accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored on the Hard drive

References

Glossary

Term	Description
Declarative knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning	The key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on-site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on-site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do **upon the completion of the training**.
Terminal Outcome	The terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
NOS	National Skills Qualification Committee
NSQF	National Skills Qualification Framework
OJT	On-the-Job Training
OMR	Optical Mark Recognition
PC	Performance Criteria
PwD	Persons with Disabilities
QP	Qualification Pack
SDMS	Skill Development & Management System
SIP	Skill India Portal
SSC	Sector Skill Council
TC	Trainer Certificate
ToA	Training of Assessors
ToT	Training of Trainers
TP	Training Provider