QUALIFICATION FILE

Electro Discharge Machine (EDM) Operator

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☐ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☐General ☒ Multi-skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level: 4

Submitted By:

Capital Goods and Strategic Skill Council
39, 1st Floor, Samyak Tower, Pusa Road, New Delhi-110005

Table of Contents

Section 1: Basic Details

1.	**Qualification Name**	**Electro Discharge Machine (EDM) Operator**	
2.	**Sector/s**	**Capital Goods and Manufacturing**	
3.	**Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐OEM**	**NQR Code & version of existing/previous qualification:** *(change to previous, once approved) QG-04-CG-00178-2023-V1.1-CGSC , V3.0*	**Qualification Name of existing/previous version:** CNC Setter and Operator - Electro Discharge Machine (Spark Erosion)
4.	**a. OEM Name** **b. Qualification Name** (*Wherever applicable*)		
5.	**National Qualification Register (NQR) Code &Version** (*Will be issued after NSQC approval)*	QG-04-CG-03941-2025-V2-CGSSC V4.0	**6. NCrF/NSQF Level: 4**
7.	**Award (Certificate/Diploma/Advance Diploma/ Any Other** *(Wherever applicable specify multiple entry/exits also & provide details in annexure)*	**Certificate**	
8.	**Brief Description of the Qualification**	The job holder is responsible for setting up the Computer Numerically Controlled (CNC) Electro Discharge Machine (EDM) for use and operating it as per the standard procedure to machine a variety of ferrous and non-ferrous metal components.	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	**a. Entry Qualification & Relevant Experience:**	

S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	12th grade pass	No Experience required.
2	Completed 2nd year of 3-year diploma (after 10th) or equivalent	No Experience required.

3	10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent.	No Experience required.
4	10th Grade Pass	3 year relevant experience
5	Previous relevant Qualification of NSQF Level 3.5	1.5 year relevant experience
6	Previous relevant Qualification of NSQF Level 3	3 year relevant experience

b. Age: <18 Years>

10.	**Credits Assigned to this Qualification, Subject to Assessment** *(as per National Credit Framework (NCrF))*	15	**11. Common Cost Norm Category (I/II/III)** *(wherever applicable)*: **I**
12.	**Any Licensing requirements for Undertaking Training on This Qualification** *(wherever applicable)*		
13.	**Training Duration by Modes of Training Delivery** *(Specify **Total Duration** as per selected training delivery modes and as per requirement of the qualification)*	**☒Offline ☐Online ☐Blended**	

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Viva (Hours)	Total (Hours)
Classroom (offline)	132	258	60	-	450
Online					

(Refer Blended Learning Annexure for details)

14.	**Aligned to NCO/ISCO Code/s** *(if no code is available mention the same)*	NCO-2015/NIL
15.	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	Tool and Die Maker -L5 Metal Fabrication engineer L6
16.	**Other Indian languages in which the Qualification & Model Curriculum are being submitted**	
17.	**Is similar Qualification(s) available on NQR-if yes,**	☐ **Yes** ☒ **No URLs of similar Qualifications:**

	justification for this qualification		
18.	**Is the Job Role Amenable to Persons with Disability**	☐ **Yes** ☒ **No** **If "Yes", specify applicable type of Disability:**	
19.	**How Participation of Women will be Encouraged**	**Yes via Industry or College Engagement**	
20.	**Are Greening/ Environment Sustainability Aspects Covered** *(Specify the NOS/Module which covers it)*	☐ **Yes** ☒ **No**	
21.	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools** ☐ **Yes** ☐ **No** **Colleges** ☒ **Yes** ☐ **No**	
22.	**Name and Contact Details of Submitting / Awarding Body SPOC** *(In case of CS or MS, provide details of both Lead AB & Supporting ABs)*	**Name: Ridhima** **Email : technicaladvisors@cgssc.org** **Contact No.: +91-8882907092** **Website: www.cgssc.org**	
23.	**Final Approval Date by NSQC: 30th April 2025**	**24. Validity Duration: 3 Years**	**25. Next Review Date: 30th April 2028**

Section 2: Module Summary

NOS/s of Qualifications
(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

***Th.**-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended **Proj.**-Project **Vi-**Viva*

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.	Bridge Module & Follow the health and safety practices at work	CSC/N1335 NOS Version-2.0	Non-Core	3	2	25	35	-	-	60	30	70	-	-	100	15

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
2.	Coordinate with co-workers to achieve work efficiency.	CSC/N1336 : Version No. – 2.0	Non-Core	3	1	10	20	-	-	30	30	70	-	-	100	15
3.	Set up the CNC EDM for machining components	CSC/N0121: Version No. – 2.0	Core	4	6	45	105	30		180	30	70	-	-	100	25
4.	Operate the Digitally Enhanced CNC EDM to machine	CSC/N0118: Version No. – 3.0	Core	4	5	40	80	30		150	30	70	-	-	100	25
5.	Employability Skills (30 hours)	DGT/VSQ/N0101 - Version No. – 1.0	Non-Core	2	1	12	18	-	-	30	20	30	0	0	50	20
Duration (in Hours) / Total Marks					**15**	**132**	**258**	**60**		**450**	**140**	**310**	**-**	**-**	**450**	**100**

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.																
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.																
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying Percentage

*Please specify **any one** of the following:*

Minimum Pass Percentage – Aggregate at qualification level: 70 % *(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Minimum Pass Percentage – NOS/Module-wise: 70 % *(Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Diploma in Mechanical with 2 years of relevant industry experience specialization in Electro Discharge Machine (EDM) Operator (Practical skills and knowledge required in the relevant field). B. Tech in Mechanical with 1 year of relevant industry experience Electro Discharge Machine (EDM) Operator (Practical Skills and knowledge required in the relevant field).
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Mechanical/ Electronics/ Mechatronics with 6 years of relevant experience. M. Tech in Mechanical/ Electronics/ Mechatronics with 4 years of relevant experience.

3.	**Tools and Equipment Required for Training**	☒Yes ☐No *(If "Yes", details to be provided in Annexure)*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	NA

Section 4: Assessment Related

	Assessor's Qualification and experience in relevant sector (in years) *(as per NCVET guidelines)*	Diploma in Mechanical with 3 years of relevant industry experience specialization in Electro Discharge Machine (EDM)-Operator (Practical Skills and knowledge required in the relevant field). B. Tech in Mechanical with 2 years of relevant industry experience specialization in Electro Discharge Machine (EDM)-Operator (Practical Skills and knowledge required in the relevant field).
	Proctor's Qualification and experience in relevant sector (in years) *(as per NCVET guidelines)*	B. Tech in Mechanical/ Electronics/ Mechatronics with 6 years of relevant experience. M. Tech in Mechanical/ Electronics/ Mechatronics with 4 years of relevant experience.
	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) *(as per NCVET guidelines)*	B. Tech in Mechanical/ Electronics/ Mechatronics with 8 years of relevant experience. M. Tech in Mechanical/ Electronics/ Mechatronics with 4 years of relevant experience.
	Assessment Mode *(Specify the assessment mode)*	**Formative, Summative & Skill Assessment**

	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No *(details to be provided in Annexure-if it is different for Assessment)*

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	**Latest Skill Gap Study (not older than 2 years) (Yes/No):** No
2.	**Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):** No (Industry driven)
3.	**Government /Industry initiatives/ requirement (Yes/No):** Yes
4.	**Number of Industry validation provided:** 11
5.	**Estimated nos. of persons to be trained and employed:** 70
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes** If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	**Annexure:** NCrF/NSQF level justification based on NCrF level/NSQF descriptors *(Mandatory)*	*Q File*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Q File*
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Q File*
4.	**Annexure:** Assessment Strategy *(Mandatory)*	*Q File*
5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	*NA*
6.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*NA*
7.	**Annexure:** Acronym and Glossary *(Optional)*	*NA*
8.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Attached*
9.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*Attached*
10.	**Supporting Document:** Occupational Map *(Mandatory)*	*Attached*
11.	**Supporting Document:** Assessment SOP *(Mandatory)*	*Available in QP*

12.	**Any other document you wish to submit:**	*NA*

Annexure: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	**Wide-ranging specialized theoretical learning requirements** • Check the availability of the required raw materials or components in the appropriate quality, quantity and type • Select the appropriate tools and equipment to be used for machining the components • Check the tools and equipment to ensure they are in working condition and carry out their regular repair and maintenance as per the manufacturer's instructions • Carry out routine cleaning of the CNC EDM • Prepare CNC Spark Erosion tooling for use • Program the relevant tooling data such as holder position and offsets in the operating program	The job role involves a range of theoretical skills as can be seen from the job requirements given in the adjacent cell. The skills include setting up a CNC Electro-Discharge Machine (Spark Erosion) for machining and machining a variety of components using the CNC EDM and achieving the given quality and accuracy	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	• Applicable environmental regulations to be observed • Importance of checking the machine guards is in place before operating the CNC EDM • Process of checking the cutting tools and securing components on the CNC EDM without distortion • Relevant measuring equipment such as micrometre, Vernier scale; slip, bore/hole,	As indicated by the knowledge and understanding requirements mentioned in the adjacent cell, the job holder needs to have a variety of knowledge for setting up a CNC Electro-Discharge Machine (Spark Erosion) This also involves machining and machining a variety of	4

	thread, plug, radius/profile gauges; Dial Test Indicator (DTI) • Work holding methods and devices used with a CNC EDM • Relevant precautions to be taken to prevent Electrostatic Discharge (ESD) damage to circuits and sensitive components • Basic principles of operation of the various CNC EDM, and various operations that they can perform • Different types of electrodes such as plain, profile, and hollow electrodes • Process of selecting the correct grade and type of electrode for the materials and profiles being machined • Use of various electrode tool holding devices • Position and identify the tools in relation to the operating program • Carry out regular repair and maintenance of a CNC EDM and rectify faults encountered during machining • Benefits and methods of resource optimisation • Importance of identifying relevant risks in the work area and dealing with them before operating the CNC EDM Operate the CNC EDM using single block run, full program run and feed/speed override controls	components using the CNC EDM and achieving the given quality and accuracy.	
Employment Readiness & Entrepreneurship **Skills & Mind-set/Professional Skill**	• Determine the job specifications such as limits, tolerances, surface texture and finish requirements by referring to the valid and approved documents	As indicated by the performance criteria in the adjacent cell, the job holder needs to have wide-ranging of knowledge for setting	4

	• Set up, program and use the automated wiring termination equipment • Carry out regular repair and maintenance of tools and equipment as per the manufacturer's instructions • Carry out routine cleaning of the CNC EDM • Assemble sub-units to support housings/brackets, along with connectors and allied devices • Position and alignment of the CNC EDM machine, and make appropriate adjustments as per the requirement • Check the machine sub-systems to ensure they are working as expected	up a CNC Electro-Discharge Machine (Spark Erosion).	
Broad Learning Outcomes/Core Skill	**Logical and mathematical skills** • Perform electrical calculations using a range of variables • Follow the appropriate fitting sequence and procedures • Use the appropriate methods and techniques to assemble the components in their correct positions • Follow the manufacturer's instructions for starting and running the operating system and CNC EDM **Collecting and organizing information**	The job holder requires appropriate logical and mathematical skills for setting up a CNC Electro-Discharge Machine (Spark Erosion) As indicated by the performance criteria in the adjacent cell, the job involves collecting the relevant information and completing the required documentation.	4

	• Check that the operating program is at the correct start point • Maintain the relevant records as per the applicable organisational procedures		
Responsibility	• Setting up the Computer Numerically Controlled (CNC) Electro Discharge Machine (EDM • Carry out routine cleaning of the CNC EDM Identify various mechanical faults, and error messages displayed on the CNC EDM and take appropriate action	The job holder is responsible for assembling the electrical and electronic panels, equipment/systems, components, sub-assemblies, etc. The individual is also responsible for responsible for setting up the Computer Numerically Controlled (CNC) Electro Discharge Machine (EDM) for use and operating it	4

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 20-25 Nos

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Chairs/Tables	Standard	25
2	Computer with internet	Standard	25
3	LCD projector with screen	Standard	1
4	Trainer chair and Table	Standard	1
5	Demonstration table pin up boards	Standard	1
6	White board with marker	Standard	1
7	CNC EDM Machine with All Accessories	Standard	1

8	Cutting Tools	Standard	1
9	Measuring Tools	Standard	1
10	Power Tools	Standard	1
11	Cutting Machines	Standard	1
12	Fire Extinguisher	Standard	1
13	Safety Gloves (Rubber)	Standard	25
14	Ear Plugs	Standard	25
15	Safety Shoes & Helmet	Standard	25
16	Goggles	Standard	25
17	First-Aid Kit	Standard	2

Classroom Aids
The aids required to conduct sessions in the classroom are:

1. Computer / Laptop
2. Whiteboard and marker
3. Projector

Annexure: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile *(if available)*
1	Wangfeng Aluminium Wheel (India) Pvt. Ltd.	Sanjeev Chaudhary	HR Head	Plot No. 15 to 18, Sec-8, Industrial Model TWP,Bawal, Haryana - 123501	8750231400		
2	Palak Plastic Pvt.Ltd.	Hem Chander Yadav	Director	Plot No. 25, Sec-3, Phase 1, IMT, Bawal, Rewari, Haryana - 123501	0124-4019506	palakplastic@gmail.com	
3	Hay Industry	Harshit Yadav	HR Head	504/4, Gali No. 4, Near Rajendra Hospital, Om Nagar, Gurugram,Haryana-122001	9212154114	industryhay@gmail.com	
4	AG Enterprises	Durgesh Gupta	Manager -HR	Room No. 1,2nd Floor,Plot No. 345, Sector-08,IMT, Manesar, Gurugram Haryana -122051	8750279555	bd@agenterpriseshr.com	
5	Hans Enterprises	OP Yadav	Sr. OP Manager	Cyberwalk, Plot No.CP 9,Tower E,GF,Cabin No4, Sec-5,IMT,Manesar, Gurugram Haryana	8750801333	Enterpriseshans@gmail.com	
6	Palak Plastic Pvt.Ltd.	Sunil Kumar	Director	Plot No.345, Sec-8, IMT, Manesar, Gurugram Haryana-122051	9810075433	sunilyadav7143@gmail.com	
7	Revent	Krishnakant Shukla	DGM-Training	Forging Division, unit 2nd, Begumpur, Khataula, Post Office-Khandsa,,Gurugram , Haryana-122004	9262708933	Krishnakant.shukla@reventengineering.com	
8	Sudhir Foundation	Ravi Prakash	DGM-Training	Plot No.93, Sector-8,IMT,Manesar,Gurugram , Haryana-122051	7988101508	965sudhirfoundation@gmail.com	
9	JBM Group	Rajeev Kumar Sharma	VP-Head Skill Development – JBM Group	JBM Auto Limited,Skill Development Centre, Plot No.16, sector-	8860281177	Rajeev.sharma@jbmgroup.com	

				20B,Faridabad, (Haryana)- 121007			
10	Subros	Pawan Yadav	HR Head	Plot No. 395-396, Sec-8, Phase-3, IMT Manesar, Gurugram, -122050	9818148609	p.yadav@subros.com	
11	Texmaco	Rajeev Gupta	Chief Business Officer	Belgharia,24 Parganas(North), Kolkata-700056	7042644994	Rajeev.gupta@texmaco.in	

Annexure: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
FY2025-2026	550	0	55	0	6	0
FY2026-2027	605	0	61	0	6	0
FY2027-2028	666	0	67	0	7	0

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification	Year	Total Candidates	Women	People with Disability

Version		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
	FY2022-2023	0	0	0	0	0	0	0	0	0	0	0	0
	FY2023-2024	0	0	0	0	0	0	0	0	0	0	0	0
	FY2024-2025	500	0	0	0	50	0	0	0	5	0	0	0

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented: *Not applicable*

1. PMKVY 4.0 CSM STT
2. Non PMKVY
3. TNSDC
4. Fee Based
5. NABARD
6. MSSDS
7. GSDM
8. SDIS Orissa State Skilling Scheme
9. NULM
10. SDIS DDU GKY

Content availability for previous versions of qualifications: No

☐ Participant Handbook ☐ Facilitator Guide ☐ Digital Content ☐ Qualification Handbook ☐ Any Other:

Languages in which Content is available: no

Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on:
https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf

Annexure: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

CSC/N1335: Follow the health and safety practices at the work

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain personal health and safety	**7**	**12**	**-**	**-**
PC1. follow the recommended practices to ensure protection from infections and transmission to others, such as the use of hand sanitiser and face mask	2	3	-	-
PC2. check the work conditions, assess the potential health and safety risks, and take appropriate measures to mitigate them	1	2	-	-

PC3. select and use the appropriate Personal Protective Equipment (PPE) relevant to the task and work conditions	1	2	-	-
PC4. follow the recommended techniques while lifting and moving heavy objects to avoid injury	1	3	-	-
PC5. follow the manufacturer's instructions and workplace safety guidelines while working on heavy machinery, tools and equipment	2	2	-	-
Assist in hazard management	**4**	**10**	**-**	**-**
PC6. identify existing and potential hazards at work	1	1	-	-
PC7. assess the potential risks and injuries associated with the identified hazards	1	3	-	-
PC8. coordinate with the supervisor or other relevant personnel to prevent or minimise the identified hazards	1	3	-	-
PC9. handle hazardous materials safely and store them in the designated storage	1	3	-	-
Check the first aid box, firefighting and safety equipment	**3**	**7**	**-**	**-**
PC10. check the first aid box to ensure it is updated with the relevant first aid supplies	1	2	-	-

PC11. check and test the firefighting and various safety equipment to ensure they are in usable condition	1	3	-	-
PC12. coordinate with the supervisor for the repair and replacement of firefighting and safety equipment	1	2	-	-
Assist in waste management	**3**	**8**	**-**	**-**
PC13. segregate waste into appropriate categories	1	3	-	-
PC14. recycle the recyclable waste appropriately	1	3	-	-
PC15. dispose of the non-recyclable waste in an environment-friendly manner, complying with the applicable regulations	1	2	-	-
Follow the fire safety guidelines	**3**	**12**	**-**	**-**
PC16. use the appropriate type of fire extinguisher to extinguish different types of fires safely	1	4	-	-
PC17. follow the recommended practices for a safe rescue during a fire emergency	1	4	-	-
PC18. coordinate with the fire department to request assistance to extinguish a serious fire	1	4	-	-
Follow the emergency and first-aid procedures	**7**	**12**	**-**	**-**
PC19. follow the organisational health and safety guidelines during workplace emergencies to ensure own and co-workers' safety	1	2	-	-

PC20. follow the recommended practices to minimise loss to organisational property during an emergency	1	3	-	-
PC21. follow the recommended procedure to free a person from electrocution	1	2	-	-
PC22. administer appropriate first aid to the injured personnel	1	2	-	-
PC23. perform Cardiopulmonary Resuscitation (CPR) on a potential victim of cardiac arrest	1	2	-	-
PC24. coordinate with the emergency services to request medical assistance for seriously injured/ ill personnel requiring professional medical attention or hospitalisation	2	1	-	-
Carry out relevant documentation and review	**3**	**9**	**-**	**-**
PC25. carry out appropriate documentation following a health and safety incident at work, including all the required information	1	3	-	-
PC26. coordinate with the relevant personnel to review health and safety conditions at work regularly or following an incident	1	3	-	-
PC27. assist in implementing appropriate changes to improve the health and safety conditions at work	1	3	-	-
NOS Total	**30**	**70**	**-**	**-**

CSC/N1336: Coordinate with co-workers to achieve work efficiency

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work effectively with co-workers	**20**	**43**	**-**	**-**
PC1. plan daily tasks at work to ensure their timely completion and efficient use of time	2	4	-	-
PC2. carry out work responsibilities adhering to the limits of authority	2	4	-	-
PC3. follow the supervisor's instructions to ensure adherence to the applicable quality standards and timescales	2	4	-	-
PC4. coordinate with the co-workers to achieve the work objectives efficiently	2	4	-	-
PC5. prepare the relevant documents and reports as per the supervisor's instructions, providing appropriate information clearly and systematically	2	4	-	-
PC6. coordinate with the supervisor or relevant personnel to deal with out of authority tasks and concerns	2	4	-	-

PC7. mentor and assist subordinates in the execution of their work responsibilities	2	4	-	-
PC8. identify possible disruptions to work through coordination with the relevant stakeholders and take appropriate preventive measures	2	4	-	-
PC9. use various resources efficiently to ensure maximum utilisation and minimum wastage	2	4	-	-
PC10. follow the recommended practices to avoid and resolve conflicts at work	1	4	-	-
PC11. follow the relevant organisational policies to ensure disciplined behaviour with maximum productivity at work	1	3	-	-
Communicate effectively with co-workers	**6**	**15**	**-**	**-**
PC12. follow the organisational policy for the efficient and timely dissemination of information to the authorised personnel	2	5	-	-
PC13. communicate clearly and politely to ensure effective communication with co-workers	2	5	-	-
PC14. follow the appropriate techniques for active listening during interactions	2	5	-	-
Practice inclusion at work	**4**	**12**	**-**	**-**

PC15. empathise with Persons with Disabilities (PwD)	2	6	-	-
PC16. adopt gender-neutral behaviour at work	2	6	-	-
NOS Total	**30**	**70**	**-**	**-**

CSC/N0121: Set up the CNC EDM for machining components

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for setting up the CNC EDM	**17**	**36**	**-**	**-**
PC1. determine the job specifications such as limits, tolerances, surface texture and finish requirements by referring to the valid and approved documents, such as job instruction sheet, component drawings, approved sketches/illustrations, etc.	1	4	-	-
PC2. coordinate with the supervisor or other relevant personnel for the rectification of any incorrect and inconsistent information in the job specification documents	1	4	-	-
PC3. check the availability of the required raw materials or components in the appropriate quality, quantity and type	1	4	-	-
PC4. select the appropriate tools and equipment to be used for machining the components	1	2	-	-

PC5. check the tools and equipment to ensure they are in working condition and carry out their regular repair and maintenance as per the manufacturer's instructions	1	2	-	-
PC6. prepare the work area for setting up the CNC EDM, ensuring there are no hazards in the area	1	2	-	-
PC7. use the relevant Personal Protective Equipment while setting up the CNC EDM, as required	1	2	-	-
PC8. carry out routine cleaning of the CNC EDM	1	2	-	-
PC9. check the position and alignment of the CNC EDM machine, and make appropriate adjustments as per the requirement	1	2	-	-
PC10. use the appropriate measuring tools as per the job requirement, ensuring the tools are calibrated and approved for use	1	2	-	-
PC11. check that the correct electrode is in place, and is in usable condition	1	2	-	-
PC12. apply the recommended grade of grease on the relevant machine parts	1	2	-	-
PC13. check the dielectric fluid, coolant and lubricant have the recommended levels, and replenish them, if required	1	2	-	-
PC14. check the machine sub-systems to ensure they are working as expected	2	2	-	-
PC15. prepare CNC Spark Erosion tooling for use	2	2	-	-

Set up the CNC EDM for use	13	34	-	-
PC16. pre-set electrodes in tooling holders manually or by using setting jigs/fixtures, as appropriate	1	4	-	-
PC17. position electrode holders in the correct position on the machine head or magazine	1	4	-	-
PC18. check the electrode holders have the recommended tool number or technology setting with respect to the operating program	1	2	-	-
PC19. program the relevant tooling data such as holder position and offsets in the operating program	1	2	-	-
PC20. set the electrode datum point and save changes to the program	1	2	-	-
PC21. mount and set the required work holding devices appropriately	1	2	-	-
PC22. position and secure workpieces to machine table/ pneumatic or magnetic table using the appropriate accessories such as angle plate, v-block, clamp, chuck, etc.	1	2	-	-
PC23. select, load and set the appropriate tool holding device appropriate to different types of electrodes, such as plain, profile, and hollow electrodes	1	2	-	-
PC24. set the recommended machine tool operating parameters to achieve the required component specifications	1	2	-	-

PC25. set up the machine with the appropriate specifications such as current density, spark frequency, linear feeds and speeds, dielectric flow rates, as per the requirement for machining various ferrous and non-ferrous metal components	1	2	-	-
PC26. ensure to set up the CNC EDM to produce required features on the machined components such as angular, flat, square, parallel face; threads, concave, convex, internal and external profiles, etc.	1	2	-	-
PC27. conduct trial runs and adjust machine parameters and positioning until the required accuracy parameters are achieved	1	2	-	-
PC28. follow the manufacturer's instructions to resolve any issues encountered while setting up the CNC EDM, tooling, work holding devices and proving the program	1	2	-	-
PC29. ensure there is no damage to the tool/fixture while performing the prove-out	-	2	-	-
PC30. carry 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	-	2	-	-
NOS Total	30	70	-	-

CSC/N0118: Operate the Digitally Enhanced CNC EDM to machine

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Carry out machining using CNC EDM	**26**	**62**	**-**	**-**
PC1. check that the operating program is at the correct start point	2	4	-	-
PC2. ensure that the workpiece is clear of tooling and secure to prevent distortion, before starting the machine	1	3	-	-
PC3. follow the manufacturer's instructions for starting and running the operating system and CNC EDM	1	3	-	-
PC4. carry out machining on the component as per the applicable organisational procedures to achieve the required specifications	2	4	-	-
PC5. identify various mechanical faults, and error messages displayed on the CNC EDM and take appropriate action as per the manufacturer's instructions to deal with them promptly	2	4	-	-
PC6. coordinate with the supervisor or the relevant expert to resolve any complex issues encountered with the CNC EDM	2	4	-	-
PC7. monitor the machining process and adjust the machine settings as per the requirement to maintain the required accuracy	2	4	-	-

PC8. use the appropriate gauges and instruments for carrying out the necessary quality and accuracy checks during and after the machining process	1	4	-	-
PC9. check the machined components to ensure they meet the applicable quality standards and have the required accuracy and specifications, such as flatness and squareness, surface texture, tolerance, dimensions, etc.	2	4	-	-
PC10. segregate the components that don't meet the applicable quality and accuracy standards, and carry out further processing or dispose them as per the organisational policy	1	4	-	-
PC11. ensure the daily production targets are met	**1**	**4**	**-**	**-**
PC12. isolate the CNC EDM appropriately after closing the operating programs	**2**	**4**	**-**	**-**
PC13. carry out regular maintenance of the CNC EDM as per the manufacturer's instructions	**1**	**4**	**-**	**-**
PC14. follow the recommended steps to deal with spilt cutting fluids	**2**	**4**	**-**	**-**

PC15. collect and dispose the industrial waste appropriately in compliance with the applicable regulations and organisational procedures	**2**	**4**	**-**	**-**
PC16. ensure adherence to the applicable national, international and organisational standards	**2**	**4**	**-**	**-**
Use resources optimally	**4**	**8**	**-**	**-**
PC17. optimise the usage of electricity and other resources in various tasks and processes	**2**	**4**	**-**	**-**
PC18. connect the electrical tools and equipment safely, and turn them off when not in use	**2**	**4**	**-**	**-**
NOS Total	**30**	**70**	**-**	**-**

DGT/VSQ/N0101: Employability Skills (30 Hours)

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**1**	**3**	**-**	**-**
PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	**1**	**1**	**-**	**-**
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-

Diversity & Inclusion	**1**	**1**	**-**	**-**
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
Financial and Legal Literacy	**3**	**4**	**-**	**-**
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
Essential Digital Skills	**4**	**6**	**-**	**-**
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	**3**	**5**	**-**	**-**
PC14. identify and assess opportunities for potential business	-	-	-	-

PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
Customer Service	**2**	**2**	**-**	**-**
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**1**	**3**	**-**	**-**
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

Assessment Parameters:

Assessment Plan:

1. Components of Assessment:

- Each subject will be assessed in three components: Theory (40% weightage), Practical (40% weightage), and On-job Training (OJT, 20% weightage).

2. Passing Parameters:

- To pass the semester, students must meet both the assessment parameters given below.

Parameter 1 - Weighted Semester Score:

- Students must achieve a minimum of 60% in the weighted average score across all three components (Theory, Practical, and OJT) for each subject.

Parameter 2 - Individual Component Score:

- Students need to score at least 40% in each individual component (Theory, Practical, and OJT) of every subject.

Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

<1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME
- Questions are mapped to the specified assessment criteria
- Assessor must be ToA certified & trainer must be ToT Certified

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

5. Method of verification or validation:
   - Surprise visit to the assessment location
6. Method for assessment documentation, archiving, and access
   - Hard copies of the documents are stored

On the Job:

1. Each module (which covers the job profile of Electro Discharge Machine (EDM) Operator will be assessed separately.
2. The candidate must score 60% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
   - Videos of Trainees during OJT
   -
4. Assessment of each Module will ensure that the candidate is able to:

- Effective engagement with the customers
- Understand the working of various tools and equipment
- …..>

Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.

Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf