



QUALIFICATION FILE

Assistant Machine Operator - CNC Milling of Plastic

☒ 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: 3

Submitted By:

Rubber, Chemical & Petrochemical Skill Development Council (RCPSDC)

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New Delhi – 110017 (India)

Table of Contents

Section 1: Basic Details.....	3
Section 2: Module Summary.....	5
NOS/s of Qualifications.....	5
Mandatory NOS/s.....	5
Assessment - Minimum Qualifying Percentage	5
Section 3: Training Related.....	6
Section 4: Assessment Related.....	6
Section 5: Evidence of the need for the Qualification	7
Section 6: Annexure & Supporting Documents Check List.....	7
Annexure: Evidence of Level	8
Annexure: Tools and Equipment (Lab Set-Up).....	11
Annexure: Industry Validations Summary	13
Annexure: Training & Employment Details	14
Annexure: Blended Learning.....	15
Annexure: Detailed Assessment Criteria.....	16
Annexure: Assessment Strategy	22
Annexure: Acronym and Glossary	23

Section 1: Basic Details

1.	Qualification Name	Assistant Machine Operator - CNC Milling of Plastic																						
2.	Sector/s	Polymer																						
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i>	Qualification Name of existing/previous version:																					
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>																							
5.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval)</i>	QG-03-RI-04049-2025-V2-RSDC	6. NCrF/NSQF Level: 3																					
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	Certificate																						
8.	Brief Description of the Qualification	The Assistant Machine Operator CNC Milling of Plastic supports CNC machining operations by assisting in machine setup, loading/unloading materials, monitoring processes, carrying out basic quality checks, and supporting routine maintenance. The role ensures efficient production of plastic components under supervision while adhering to safety and quality standards.																						
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10th grade pass or Equivalent</td> <td></td> </tr> <tr> <td>2</td> <td>8th Pass with 1-year NTC/ NAC/ or equivalent</td> <td></td> </tr> <tr> <td>3</td> <td>9th grade pass</td> <td>1.5-year relevant experience</td> </tr> <tr> <td>4</td> <td>8th grade pass</td> <td>3 -year relevant experience</td> </tr> <tr> <td>5</td> <td>5th grade pass</td> <td>5 -year relevant experience</td> </tr> <tr> <td>6</td> <td>Previous relevant qualification of NSQF Level 2.5</td> <td>1.5-year relevant experience</td> </tr> </tbody> </table> b. Age: 18 years		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	10 th grade pass or Equivalent		2	8 th Pass with 1-year NTC/ NAC/ or equivalent		3	9 th grade pass	1.5-year relevant experience	4	8 th grade pass	3 -year relevant experience	5	5 th grade pass	5 -year relevant experience	6	Previous relevant qualification of NSQF Level 2.5	1.5-year relevant experience
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5	5 th grade pass	5 -year relevant experience																						
6	Previous relevant qualification of NSQF Level 2.5	1.5-year relevant experience																						
10.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	14	11. Common Cost Norm Category (I/II/III) <i>(wherever applicable): I</i>																					
12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	NA																						

13.	Training Duration by Modes of Training Delivery (<i>Specify Total Duration as per selected training delivery modes and as per requirement of the qualification</i>)	☒ Offline ☐ Online ☐ Blended <table border="1" data-bbox="1034 148 2136 316"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>135:00</td> <td>225:00</td> <td>60:00</td> <td>00:00</td> <td>420:00</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>						Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	135:00	225:00	60:00	00:00	420:00	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																				
Classroom (offline)	135:00	225:00	60:00	00:00	420:00																				
Online																									
14.	Aligned to NCO/ISCO Code/s (<i>if no code is available mention the same</i>)	NCO-2015/7223.5004																							
15.	Progression path after attaining the qualification (<i>Please show Professional and Academic progression</i>)	Machine Operator - CNC Milling of Plastic																							
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi																							
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:																							
18.	Is the Job Role Amenable to Persons with Disability	☐ Yes ☒ No																							
19.	How Participation of Women will be Encouraged	No gender sensitization																							
20.	Are Greening/ Environment Sustainability Aspects Covered (<i>Specify the NOS/Module which covers it</i>)	☒ 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 (<i>In case of CS or MS, provide details of both Lead AB & Supporting ABs</i>)	Name: Saif Mohammad Email: ceo@rcpsdc.in Website: http:// https://rcpsdc.in/ Contact No.: 011 41009347																							
23.	Final Approval Date by NSQC: 30/04/2025	24. Validity Duration: 3 Years				25. Next Review Date: 30/04/2028																			

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

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.	Understand job requirements and work instructions	RSC/N8403 & V1.0	Core	3	3	36	54	00	00	90	40	60	0	0	100	20
2.	Assist in CNC Machine setup and operation	RSC/N9907 & V1.0	Non-Core	3	4	43	77	00	00	120	40	60	0	0	100	25
3.	Carry out quality checks and maintenance	RSC/N9908 & V1.0	Non-Core	3	3	36	54	00	00	90	40	60	0	0	100	25
5.	Follow health and safety protocols	RSC/N5007 & V1.0	Non - Core	4	1	10	20	00	00	30	30	70	0	0	100	15
6.	Employability Skills (30 Hours)	DGT/VSQ/N0101 & V1.0	Non - Core	2	1	10	20	00	00	30	20	30	0	0	50	15
7.	OJT		Core	3	2	00	00	60	00	60	0	0	0	0	0	0
Duration (in Hours) / Total Marks					14	135	225	60	0	420	170	280	0	0	450	100

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:**Minimum Pass Percentage – Aggregate at qualification level: 50 %** (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Pass Percentage – NOS/Module-wise: 50 % (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)	ITI in any stream of Engineering with 3 years of industrial experience
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	ITI in any stream of Engineering with 5 years of industrial 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

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma in any stream of Engineering with 5 industrial years of industrial experience.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	ITI in any stream
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma in any stream of Engineering with 7 industrial years of industrial experience
4.	Assessment Mode (Specify the assessment mode)	Blended
5.	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): Work in progress
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Work in progress
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 29
5.	Estimated nos. of persons to be trained and employed: Work in progress
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Mail shared

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 <i>(Mandatory)</i>	<i>Attached</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Attached</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Attached</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Attached</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	<i>Attached</i>
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	<i>Attached</i>
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	<i>Attached</i>
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	<i>Attached</i>
9.	Supporting Document: Career Progression <i>(Mandatory - Public view)</i>	<i>Attached</i>
10.	Supporting Document: Occupational Map <i>(Mandatory)</i>	-
11.	Supporting Document: Assessment SOP <i>(Mandatory)</i>	<i>Attached</i>
12.	Any other document you wish to submit:	-

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	Person may carry out a job which may require limited range of activities routine and predictable. • Perform milling operations • Carry out housekeeping • Carry out health and safety • Follow ethical and sustainable practices at the workplace • Coordinate and communicate effectively at the workplace	• A Jr. Machine Operator- CNC Milling of Plastic should be able to perform milling operations as per the organizational standards. The person prepares to carry out a job that may require a limited range of activities routine and is predictable in nature. • Hence Level 3	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	Basic facts, process and principle applied in trade of employment. • Outline the organization policies, procedures rules & regulations regarding milling machine • Explain standard procedure maintain work area, handle components, set up and maintain milling machine • Describe the procedure to sequence the operations as per job specifications • Describe the procedure to operate milling machine and perform test run and various milling operations on it • Discuss various types of cutters used in horizontal and vertical milling machine and tools used for various milling machine operations and job/tool cooling methods • Explain various format of records used in documentation of milling machine operation • Discuss standard policies on behavioural etiquette, professionalism and gender sensitive service practices at workplace and hierarchy and reporting structure • List key helpline number • Explain effective ways of team coordination • Discuss various factors to determine the type of cleaning, level of hygiene and methods and material used for cleaning	• A Jr. Machine Operator- CNC Milling of Plastic should follow basic facts, processes and principles applied in the operation of CNC milling machine like maintaining the work area, the procedure to operate milling machine, performing test runs and other milling operations, etc. • Hence Level 3	3

	• Discuss health, safety and environment guidelines, legislation and regulations, knowledge of do's and don'ts and importance of Personal Protective Equipment (PPE) • Outline the importance of optimal utilization of resources and providing feedback for improvement • Explain the procedures of escalation for soils or stains that could not be removed and reporting for any unidentified soiling • Describe the method to check the treated surface and equipment on completion of the cleaning process and the importance of completing the activities as per the schedule • Explain the procedures for disposing off waste and personal protective equipment • Describe the correct method for cleaning equipment and/or machinery used for the cleaning activities • Discuss the methods for minimizing environmental damage during work and risks of health and safety at workplace • Explain the standard procedure to use machines, materials and equipment • Describe the process of reporting accidents, incidents and problems to appropriate authorities • Elaborate the process of contact of local emergency services, emergency evacuation process and first aid procedures to be followed • Describe the methods to handle hazardous materials, tools and equipment • Outline the importance of good housekeeping and maintaining safe and secure work area at workplace • Discuss harmful effect of using fuel such as diesel etc. along with alternate energy sources and alternate fuels • Explain water harvesting techniques and soil erosion		
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	- Describe the different types of waste and the different colours of dustbin for proper waste management - State the importance of following organizational standards and guidelines related to PwD		
Professional skill	Recall and demonstrate practical skill, routine and repetitive in narrow range of application. - Apply problem-solving approach prior to resolve difficulties - Suggest solutions to improve work processes - Seek clarification as and when required - Make timely decisions for efficient utilization of resources - Identify cause and effect of greening of jobs - Maintain data on waste disposal at workplace	- A Jr. Machine Operator- CNC Milling of Plastic has to perform milling operations by applying professional skills at the workplace as per the organizational service standards. This person recalls and demonstrates practical skills, which are routine and repetitive in a narrow range of application. - Hence Level 3	3
Core skill	Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment - Read job requirements from the job specification document - Interact and communicate with supervisor or other organizational personnel as per requirement - Write fill log sheets, forms, information, and details communicated by senior - Communicate with all stakeholders in a polite and courteous manner using effective communication skills - Write in English or any regional language - Read and understand documentation clearly - Communicate effectively with colleagues - Ensure punctuality, proper utilization of time and management workload efficiently - Provide support in dealing with stress and anxiety help colleagues to work efficiently - Create awareness about maintaining hygiene at workplace	- A Jr. Machine Operator- CNC Milling of Plastic should apply core skills such as communication in written and oral language, with minimum required clarity, the skill of basic arithmetic and algebraic principles, basic understanding of the social and natural environment. - Hence Level 3	3

Responsibility	Under close supervision. Some responsibility for own work within defined limit. • Prepare for milling operations • Carry out milling operations on plastic material • Prepare relevant documentation • Prepare for housekeeping practices • Carry out housekeeping operations • Perform post housekeeping activities • Maintain safe and efficient workplace • Follow appropriate emergency procedures • Comply with standard safety procedures • Participate in safety awareness campaigns	• A Jr. Machine Operator- CNC Milling of Plastic is responsible for preparing and carrying out milling operations on plastic material as per the organizational standards. This person works under close supervision and has some responsibility for his own work but within a defined limit. • Hence Level 3	3
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Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment
Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	CNC Milling Training Machine	Desktop/Table-top CNC Router (3-axis, suitable for plastics)	2 Nos.
2	CNC Controller Software	Mach3/UCCNC or equivalent	2 licenses
3	CAD/CAM Software	Fusion360 (educational/free license)	1
4	Collet Chuck Set	ER20/ER32 collets with holder	2 sets
5	End Mills	Carbide cutters for plastics (3–12 mm)	15 pcs
6	Work holding Fixtures	Clamps, sacrificial plates	2 sets
7	Tool-setting Gauge	Manual gauge for tool zeroing	1
8	Spanners & Allen Keys	Basic machine toolkit	2 sets
9	Digital Vernier Calipers	0–150 mm, 0.01 mm least count	6 Nos.
10	Micrometers	0–25 mm, 0.01 mm least count	3 Nos.
11	Dial Gauge with Magnetic Stand	0–10 mm, 0.01 mm resolution	1 No.
12	Surface Inspection Lamp	LED magnifier lamp	1 No.
13	Maintenance Kit	Spanners, brushes, oil can, blower	2 sets
14	Lubricants / Coolant	Plastic-compatible (water-soluble coolant)	5 L
15	Maintenance Logbooks	Printed sheets for 30 students	30 Nos.
16	Safety Goggles	Polycarbonate, ISI-marked	30 Nos.
17	Cut-resistant Gloves	Level-3 ANSI cut protection	30 pairs
18	Aprons	Cotton/polycotton, chemical resistant	30 Nos.
19	Ear Protection	Ear muffs / plugs	10 sets
20	First Aid Kit	Standard industrial kit	1 set

21	Fire Extinguisher	CO ₂ type, 4.5 kg	1 No.
22	Safety Signage	Emergency stop, PPE mandatory boards	5 Nos.
23	Spill Kit / Disposal Bin	For coolant and plastic waste	1 set

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Flip Charts
3. Markers
4. Duster
5. Projector
6. Projector screen
7. Computer/ Laptop with charger
8. Power Point Presentation
9. 2.1 Laptop External Speakers
10. Whiteboard marker/Blackboard
11. Training kit (Trainer guide, Presentations)
12. Participant Handbook and Related Standard Operating Procedures

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	Sidhi Thermoformers Village Bhanokheri	Ashish Sareen	Manager Operations	Ambal	9416195379	ashusareen1@yahoo.com	-
2	Medicoplast	Paresh	Proprietor	Vadodara	9638371969	medicoplastindia@gmail.com	-
3	Ahilya Enterprises	Abhishek Dubey	Proprietor	-	9148364916	avdubey.ahilya@gmail.com	-
4	Kira Enterprises	Abhinav Jalan	Accounts And Sales	-	8853841030	kiranenterprises91@yahoo.com	-
5	R J TACKLES PVT LTD.	Harishankar Das	Factory Incharbe	Howrah	7003754291	factoryrjt@gmail.com	-
6	PRINCE PET	Raja Gosh	Proprietor	Kolkata	9681569912	princepet.kp@gmail.com	-
7	Packaging and Recycling Consultant	Rajesh Kumar Gera	-	-	9967033107	rajeshkgera@gmail.com	-

8	Grihzon Plastic Bottle Manufacturing Pvt Ltd	Sumit Kumar	Director	Jharkhand	6370578724	grihzone.info@gmail.com	-
9	Mahabir Plastic Industries	Pooja Rehlan	Head- HR	Haryana	8287955040	marketing@mahabirplastic.com	-
10	Manjushree Solutions	Smitha	HR	Assam	7811020465	smitha.b@manjushree.in	-
11	Prandeep Plasto Industries Pvt Ltd	Prangopal Saha	Proprietor	Tripura	9436451890	prangopal.saha@gmail.com	-
12	RFL Plastics	Arindam Modak	Project Manager	Tripura	6009905225	info@rflapp1.com	-
13	Royal fasteners	Kamlesh Jain	Director	Guwahati	6290734254	kamleshjain2006@gmail.com	-
14	Tarashankar Platsoc Industries	Sajib Saha	Project Head	Tripura	0381-2381364	infor@tarashankar.com	-
15	Vishnu Enterprise Pvt Ltd	Ramesh Kumar	Manager	Bihar	7484908397	vishnuenterprize520@gmail.com	-
16	GAIL	Manish Khandelwal	GM	Uttar Pradesh	9958745666	m.khandelwal@gail.com	-
17	Globus Enterprises	Asif Khan	HR Manager	Haryana	8950100576	asif.khan2396@gmail.com	-

18	EPL	Yaram VV Sudhakar	Manager- Technical Recruitment	Maharashtra	9673333546	sudhakar.yaram@eplglobal.com	-
19	Polyplex Cooperation Limited	Sunil Kumar Singh	Lead Manager	Uttarakhand	9568006870	ssingh@polyplex.com	-
20	Cosmo Auto Tech pvt Ltd	Mr Prahalad	Senior Manager	Haryana	9911663852	accounts@cosmoautotech.com	-
21	Suman Auto Parts Limited	Anand Sharma	Manager- HR	Haryana	9540777930	anand@sumanauto.net	-
22	Reliance Industries Ltd.	Dr Ajit Mathur	Retired Vice President (R and D)		9998954004	drajitmathur@gmail.com	-
23	Lisa Plastic	Sunil Sahoo	Manager	Odisha	9776645779	lisa_plastics@yahoo.co.in	-
24	The Sirpur Paper Mills	M. Naga Raju	Sr. Manager	Telangana	9912345001	naga.raju@spm.jkmail.com	-
25	Sekisui Dljm Moulding Pvt Ltd	R. Kumaresan	Assistant Manager	Tamil Nadu	7823930455	hrd5.ch@sekisuidljm.com	-
26	Innovsource Services Private Limited	Mr Ashwin Kute	Vp and Head Sales	Maharashtra	9820854493	ashwinkute@innov.in	-
27	Varroc Polymers	Mr Mahendra Pujari	Manager, HR	Maharashtra	9673001465	mahendra.pujari@varroc.com	-
28	Arya Industry	Mr. Satyandra Sharma	Director	Rajasthan	98877-07318, 89497-22017	aryaindustryhanumangarh@gmail.com	-
29	Tirupati Plastics	Mr Navneet Bansal	Director	Rajasthan	94133-82217, 94623-94224	tirupatiplastic.hmh@gmail.com	-

Annexure: Training & Employment Details

Training and Employment Projections: Work in progress

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities

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>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☒ Theory/ Lectures - Imparting theoretical and conceptual knowledge	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	50:50
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	• Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content	50:50
3	☒ Showing Practical Demonstrations to the learners	• Video Content • E-Resource library • AR/ VR/ XR	50:50
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	• Training tools (tools list attached) • Video Play • Presentations	50:50
5	☒ Tutorials/ Assignments/ Drill/ Practice	• Online Question Bank • Mobile Quick test app • MCQ based tests	50:50
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	• Assessment engine for Essays • Up-loadable file examinations • Mock test sessions	50:50
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	• Online tests • Offline assessments	50:50

Annexure: Detailed Assessment Criteria

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

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
RSC/N8403: Understand job requirements and work instructions	<i>Interpretation of Work Documents</i>	12	30	-	-
	PC1. read and interpret job sheets, operation manuals, and engineering drawings related to CNC milling of plastic components	2	4	-	-
	PC2. identify dimensions, tolerances, surface finish, and special instructions mentioned in work documents	3	3	-	-
	PC3. recognize the type and grade of plastic material specified for the machining operation	2	4	-	-
	PC4. confirm cutting tools, tool holders, and fixtures required as per the job instructions	3	4	-	-
	PC5. cross-check machining parameters (spindle speed, feed rate, depth of cut) mentioned in the work instruction sheet	2	4	-	-
	PC6. verify availability of raw materials, tools, and measuring instruments before beginning machine setup	3	3	-	-
	PC7. report any discrepancies, unclear details, or missing information in work documents to the supervisor/operator	2	4	-	-
	PC8. follow standard operating procedures (SOPs) for documentation and record-keeping	3	4	-	-
	<i>Preparation for Job Execution</i>	12	30	-	-
	PC10. verify availability of raw materials, plastic workpieces, and consumables required for the assigned job	3	4	-	-
	PC11. check the availability and readiness of appropriate cutting tools, tool holders, and fixtures as per work instructions	2	4	-	-
	PC12. ensure measuring instruments (calipers, micrometers, gauges) are calibrated and ready for use	3	3	-	-
	PC13. collect and wear the required personal protective equipment (PPE) before entering the CNC work area	2	4	-	-
	PC14. confirm the CNC machine is clean, free from obstructions, and in working condition prior to setup	3	4	-	-
	PC15. arrange tools, materials, and documents systematically to support smooth execution of the machining operation	2	4	-	-

	PC16. communicate with the supervisor/operator to clarify doubts and confirm job readiness	3	3	-	-
	PC17. Record job preparation details in the prescribed format or logbook as per organizational procedures	2	4	-	-
	Total Marks	40	60	-	-
RSC/N9907: Assist in CNC Machine setup and operation	<i>Preparation and Setup Support</i>	13	24	-	-
	PC1. identify and confirm the raw materials required for the CNC milling job as per job sheet/work instructions	2	2	-	-
	PC2. arrange and organize required cutting tools, inserts, tool holders, and fixtures as instructed by the supervisor/operator	1	3	-	-
	PC3. collect and verify jigs, clamps, and gauges specified for the job	1	2	-	-
	PC4. read and interpret reference work documents, drawings, and setup sheets to understand setup requirements	2	2	-	-
	PC5. ensure safe handling and proper placement of raw materials and tools at the designated machine location	1	3	-	-
	PC6. assist in cleaning and preparing the machine bed, fixtures, and work holding devices before setup	1	2	-	-
	PC7. check availability of required consumables (e.g., coolant, lubricants, cleaning clothes) as per instructions	1	2	-	-
	PC8. arrange the setup items in a systematic and accessible manner to avoid delays in machine setup	2	3	-	-
	PC9. follow organizational protocols and safety procedures while handling raw materials and tools	1	2	-	-
	PC10. report any missing, damaged, or unsuitable tools/fixtures/materials to the concerned authority for corrective action	1	3	-	-
	<i>Machine Operation Assistance</i>	14	18	-	-
	PC11. confirm the CNC milling program and machining parameters with the operator/supervisor before starting operations	2	2	-	-
	PC12. assist in safely loading raw materials/workpieces onto the machine using proper handling techniques	2	2	-	-
	PC13. secure workpieces in the chuck/fixture/clamp as per instructions to ensure stability during machining	1	2	-	-
	PC14. assist in aligning the workpiece with reference points or datums as guided by the operator	1	2	-	-
	PC15. support in running trial cycles under supervision to check program correctness and machine readiness	1	2	-	-
	PC16. monitor machine operation during machining cycles for unusual sounds, vibrations, or tool issues	1	2	-	-
	PC17. monitor machine operation during machining cycles for unusual sounds, vibrations, or tool issues	2	2	-	-
	PC18. handle finished workpieces and transfer them to designated inspection/collection areas	1	1	-	-
	PC19. follow standard operating procedures (SOPs) while assisting in machining operations	1	2	-	-
	PC20. report any abnormalities or deviations observed during machining (e.g.,	2	1	-	-

	tool wear, dimensional variation, coolant leakage) to the operator/supervisor immediately				
	<i>Monitoring and Adjustments</i>	13	18	-	-
	PC 21. handle finished workpieces and transfer them to designated inspection/collection areas	2	2	-	-
	PC 22. monitor machining parameters such as spindle speed, feed rate, and coolant flow as per the job instructions	2	1	-	-
	PC 23. identify minor deviations in tool alignment, workpiece positioning, or clamping during the machining process	1	2	-	-
	PC 24. assist the operator in making minor adjustments to fixtures, tools, or machine settings under supervision	1	2	-	-
	PC 25. check for signs of tool wear, damage, or incorrect cutting action and report promptly	1	2	-	-
	PC 26. ensure that finished parts meet dimensional and quality requirements by visual inspection or basic measurement	1	2	-	-
	PC 27. follow SOPs and safety protocols while monitoring the machine and adjusting	2	2	-	-
	PC 28. document any observations, adjustments, or issues in the job log as per organizational procedures	1	1	-	-
	PC 29. communicate effectively with the operator/supervisor regarding any critical observations that may affect production quality	1	2	-	-
	PC 30. report immediately any machine faults, breakdowns, or safety hazards to the supervisor	1	2	-	-
	Total Marks	40	60	-	-
RSC/N9908: Carry out quality checks and maintenance	<i>Perform Quality Checks</i>	19	30	-	-
	PC1. verify dimensions of machined plastic components using vernier calipers, micrometers, gauges, and other measuring instruments	2	3	-	-
	PC2. inspect surface finish and tolerances against the specifications in the job sheet or drawing	2	3	-	-
	PC3. identify defects such as burrs, cracks, warping, or dimensional deviations in finished parts	2	4	-	-
	PC4. ensure compliance with organizational quality standards and customer requirements	2	3	-	-
	PC5. record inspection results accurately in the quality log or job sheet	2	3	-	-
	PC6. report non-conforming components or deviations to the supervisor/operator promptly	2	3	-	-
	PC7. assist in segregating acceptable and rejected components to prevent mix-up	2	3	-	-
	PC8. apply basic troubleshooting techniques to identify potential causes of defects	2	2	-	-
	PC9. follow safety and SOP protocols while performing quality inspections	1	4	-	-
	PC10. participate in continuous improvement activities by suggesting minor enhancements in process or inspection	2	2	-	-

	<i>Assist in Maintenance Activities</i>	21	30	-	-
	PC11. carry out routine cleaning of CNC machine surfaces, fixtures, and work area	3	2	-	-
	PC12. apply lubricants and coolants as per machine maintenance schedule	2	3	-	-
	PC13. inspect tools, inserts, and fixtures for wear, damage, or improper functioning	1	4	-	-
	PC14. assist in minor adjustments or replacements under supervision to maintain machine efficiency	2	3	-	-
	PC15. ensure that all maintenance activities comply with organizational SOPs and safety standard	3	2	-	-
	PC16. maintain maintenance logs and record all preventive and corrective actions taken	2	3	-	-
	PC17. identify and report any major faults, breakdowns, or safety hazards to the supervisor	1	4	-	-
	PC18. follow proper storage procedures for tools, lubricants, and consumables	3	3	-	-
	PC19. participate in periodic checks to ensure continued machine reliability and performance	2	2	-	-
	PC20. support senior operators in implementing preventive maintenance schedules	2	4	-	-
	Total Marks	40	60	-	-
RSC/N5007: Follow health and safety protocols	<i>Maintain safe and efficient workplace</i>	9	32	0	0
	PC1. perform basic safety checks before operation of all machinery and equipment	1	4	0	0
	PC2. report hazards identified during safety checks to the appropriate supervisor	1	4	0	0
	PC3. use appropriate protective clothing/equipment/safety gear to carry out the related duties in accordance with the workplace policy	1	3	0	0
	PC4. assess the risk prior to performing the jobs which involve manual handling	1	4	0	0
	PC5. carry out work according to the recommended safe practices while ensuring minimum environmental damage	1	4	0	0
	PC6. return the equipment and materials to the designated storage after every use	1	4	0	0
	PC7. dispose off the waste safely as per the procedure in the designated area	1	3	0	0
	PC8. plan and implement actions to reduce the risk to bystanders	1	3	0	0
	PC9. monitor all the procedures and work instructions for controlling the risk	1	3	0	0
	<i>Follow appropriate emergency procedures</i>	12	22	0	0
	PC10. report accidents, incidents or problems, if any, without delay to an appropriate person	2	4	0	0
	PC11. perform immediate necessary action as required to reduce the damage	2	4	0	0

	PC12. follow procedures for dealing with accidents, fires and emergencies as per the company standards and workplace requirements	2	4	0	0
	PC13. operate emergency equipment in accordance with manufacturers' specifications and workplace requirements	2	3	0	0
	PC14. provide appropriate treatment to the patient's injuries in accordance with approved first aid techniques	1	2	0	0
	PC15. clean, inspect/ test, refurbish, replace and store the first aid equipment as appropriate	2	3	0	0
	PC16. report details of first aid administered in accordance with the workplace procedures	1	2	0	0
	<i>Comply with standard safety procedures</i>	5	12	0	0
	PC17. comply with standard safety procedures while handling heavy/hazardous material, chemicals, machine, equipment, or sharp tool to avoid accidents	1	3	0	0
	PC18. perform preventive actions to protect from leakages, water logging, pests, fire, pollution, etc.	2	3	0	0
	PC19. ensure zero accidents, damages, or breach of company safety procedure	1	3	0	0
	PC20. maintain the workplace organized, clean and hazard free	1	3	0	0
	<i>Participate in safety awareness campaigns</i>	4	4	0	0
	PC21. participate in the fire drills and other safety related workshops organized at the workplace	2	2	0	0
	PC22. create awareness about first aid, evacuation	2	2	0	0
	Total Marks	30	70	0	0
DGT/VSQ/N0101 - Employability Skills (30 hours)	<i>Introduction to Employability Skills</i>	1	1	0	0
	PC1. understand the significance of employability skills in meeting the job requirements	0	0	0	0
	<i>Constitutional values – Citizenship</i>	1	1	0	0
	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	0	0	0	0
	<i>Becoming a Professional in the 21st Century</i>	1	3	0	0
	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.	0	0	0	0
	<i>Basic English Skills</i>	2	3	0	0
	PC4. speak with others using some basic English phrases or sentences	0	0	0	0
	<i>Communication Skills</i>	1	1	0	0
	PC5. follow good manners while communicating with others	0	0	0	0
	PC6. work with others in a team	0	0	0	0
	<i>Diversity & Inclusion</i>	1	1	0	0
	PC7. communicate and behave appropriately with all genders and PwD	0	0	0	0
	PC8. report any issues related to sexual harassment	0	0	0	0

<i>Financial and Legal Literacy</i>	3	4	0	0
PC9. use various financial products and services safely and securely	0	0	0	0
PC10. calculate income, expenses, savings etc.	0	0	0	0
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	0	0	0	0
<i>Essential Digital Skills</i>	4	6	0	0
PC12. operate digital devices and use its features and applications securely and safely	0	0	0	0
PC13. use internet and social media platforms securely and safely	0	0	0	0
<i>Entrepreneurship</i>	3	5	0	0
PC14. identify and assess opportunities for potential business	0	0	0	0
PC15. identify sources for arranging money and associated financial and legal challenges	0	0	0	0
<i>Customer Service</i>	2	2	0	0
PC16. identify different types of customers	0	0	0	0
PC17. identify customer needs and address them appropriately	0	0	0	0
PC18. follow appropriate hygiene and grooming standards	0	0	0	0
<i>Getting ready for apprenticeship & Jobs</i>	1	3	0	0

	PC19. create a basic biodata	0	0	0	0
	PC20. search for suitable jobs and apply	0	0	0	0
	PC21. identify and register apprenticeship opportunities as per requirement	0	0	0	0
	Total Marks	20	30	0	0
	Grand Total	170	280	0	0

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 SDMS/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:

- 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 as 10 a.m. and 5 p.m.
- 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.
- 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 level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- 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:
 - Surprise visit to the assessment location
 - Random audit of the batch
 - Random audit of any candidate
6. Method for assessment documentation, archiving, and access
 - 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 in the Hard Drives

On the Job:

1. Each module (which covers the job profile of Jr. Machine Operator – CNC Milling of Plastic) will be assessed separately.
2. The candidate must score 50% 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
 - Answer Sheets of Question Banks
 - Assessing the Log Book entries of Trainees at Employer location
 - Employer Performance Feedback.
4. Assessment of each Module will ensure that the candidate is able to:
 - Perform milling operations
 - Coordinate and communicate effectively at workplace
 - Carry out housekeeping
 - Carry out health and safety practices
 - Follow ethical and sustainable practices at the workplace

Annexure: Acronym and Glossary

Acronym

Acronym	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
SOP	Standard operating procedure
LOTO	Lock Out Tag Out
PPE	Personal Protective Equipment
PwD	Persons with Disabilities
POSH	Prevention Of Sexual Harassment Policy At Workplace

4Ps	Product, Price, Place and Promotion
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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