

QUALIFICATION FILE

Tool and Die Maker

☐ 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: 5

Submitted By:

Capital Goods and Strategic Skill Council

39, 1st Floor, Samyak Tower, Pusa Road, New Delhi-110005

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Section 1: Basic Details

1.	Qualification Name	Tool and Die Maker																	
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-05-CG-00194-2023-V1.1-CGSC V3.0		Qualification Name of existing/previous version: Tool and Die Maker															
4.	a. OEM Name b. Qualification Name (Wherever applicable)																		
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-05-CG-03947-2025-V2-CGSSC V4.0	6. NCrf/NSQF Level: 5																
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 incumbent at this job performs various machining, fitting and assembling activities to manufacture tool and die as per the work requirements.																	
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>Completed UG Diploma or equivalent</td> <td>No Experience required</td> </tr> <tr> <td>2</td> <td>10th Grade Pass</td> <td>6 year relevant experience</td> </tr> <tr> <td>3</td> <td>12th pass with 2 year of any combination of NTC/NAC/CITS or equivalent.</td> <td>No Experience required</td> </tr> <tr> <td>4</td> <td>Completed UG certificate or equivalent</td> <td>Relevant experience</td> </tr> </tbody> </table>			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	Completed UG Diploma or equivalent	No Experience required	2	10th Grade Pass	6 year relevant experience	3	12th pass with 2 year of any combination of NTC/NAC/CITS or equivalent.	No Experience required	4	Completed UG certificate or equivalent	Relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																	
1	Completed UG Diploma or equivalent	No Experience required																	
2	10th Grade Pass	6 year relevant experience																	
3	12th pass with 2 year of any combination of NTC/NAC/CITS or equivalent.	No Experience required																	
4	Completed UG certificate or equivalent	Relevant experience																	

		5	12th Grade pass	3 year relevant experience																				
		6	Previous relevant Qualification of NSQF Level 4.5	1.5 year relevant experience																				
		7	Previous relevant Qualification of NSQF Level 4	3 year relevant experience																				
		b. Age: <As per Govt. Norms>																						
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	18	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 <table border="1"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>Viva (Hours)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td>184</td><td>296</td><td>60</td><td>-</td><td>540</td></tr> <tr> <td>Online</td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>				Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Viva (Hours)	Total (Hours)	Classroom (offline)	184	296	60	-	540	Online						
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Viva (Hours)	Total (Hours)																			
Classroom (offline)	184	296	60	-	540																			
Online																								
		(Refer Blended Learning Annexure for details)																						
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/7222.050																						
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	- Additive Manufacturing Design and Application -5.5; - Additive Process Engineer - 6																						
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted																							
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 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 Website: www.cgssc.org Contact No.: +91-8882907092
23.	Final Approval Date by NSQC: 30 th April 2025	24. Validity Duration: 3 Years 25. Next Review Date: 30 th 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/N SQF 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
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.	Prepare for the making of tools and die using Additive Manufacturing based Prototype.	CSC/N0307: Version No. – 2.0	Core	5	2	30	30	-	-	60	30	50	-	20	100	15

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/N SQF 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)
4.	Perform machining operations	CSC/N0316 : Version No. – 2.0	Core	5	3	35	55	-		90	30	50	-	20	100	15
5.	Perform fitting operations	CSC/N0308 : Version No. – 2.0	Core	5	4	30	60	30		120	30	50	-	20	100	15
6.	Perform assembly operations	CSC/N0309 : Version No. – 2.0	Core	5	4	30	60	30		120	30	50	-	20	100	15
7.	DGT/VSQ/N0102- Employability Skills (60 hours)	DGT/VSQ/N0102- Version No. – 1.0	Non-Core	4	2	24	36	-	-	60	20	30	0	0	50	10
Duration (in Hours) / Total Marks					18	184	296	60		540	200	370	0	0	650	100

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/N SQF 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/N SQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	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 3 years of relevant industry experience specialization in "Tool & Die Manufacturing" and 2 year training experience specialization in Tool & Die Manufacturing B.E/B. Tech in Mechanical with 2 years of relevant industry experience specialization in Tool & Die Manufacturing and 1 year of training experience in Tool & Die Manufacturing.
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 Tool & Die Manufacturing and 2 years of assessment experience specialization in Tool & Die Manufacturing. B.E/B. Tech in Mechanical with 2 years of relevant industry experience specialization in Tool & Die Manufacturing and 1 year of assessment experience in Tool & Die Manufacturing.
	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: 4078
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 (<i>Mandatory, in case qualification has multiple Entry-Exit</i>)	NA
7.	Annexure: Acronym and Glossary (<i>Optional</i>)	NA
8.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	Attached
9.	Supporting Document: Career Progression (<i>Mandatory - Public view</i>)	Attached
10.	Supporting Document: Occupational Map (<i>Mandatory</i>)	Attached
11.	Supporting Document: Assessment SOP (<i>Mandatory</i>)	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 • Process of preparing the machining, fitting and assembling equipment • Process of conducting machining, fitting and assembling • Process of carrying out fault management • Process of inspecting the workpiece for quality check • Process of segregation and storage of output	The job involves a range of theoretical understanding and practical skills as can be seen from the job requirements given in the adjacent cell. The skills include setting, adjusting and operating fitting and fabrication apparatus and carrying out fitting and fabrication activities on given work piece	5
Professional and Technical Skills/ Expertise/ Professional Knowledge	• Understand the concepts of machining, fitting and assembling. • Knowledge of relevant tools and equipment for conducting machining, fitting and	As indicated by the knowledge and understanding requirements mentioned in the adjacent cell, the job holder needs to have a wide range of information for tool and	5

	assembling process. Knowledge of machining, fitting and assembling process. Able to understand how to minimise risks from the hazards associated with carrying out machining, fitting and assembling	die manufacturing by machining, fitting and assembling process.	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	- Plan the machining, fitting and assembling activities and prepare the appropriate schedules - Perform the operational/function checks - Carry out relevant documentation manually and/ or electronically - Determine the machining, fitting and assembling parameters - Operate machining, fitting and assembling apparatus for machining, fitting and assembling activities	As indicated by the performance criteria in the adjacent cell, the job holder needs to have wide-ranging practical skills for tool and die manufacturing by machining, fitting and assembling activities.	5
Broad Learning Outcomes/Core Skill	Logical and mathematical skills - Follow the technical specification and appropriate procedures. - Perform work-related calculations Collecting and organising information - Use the standard templates and tools for documenting work Collect the relevant information concerning the machining, fitting and assembling activities and carry out the appropriate documentation.	The job holder requires logical and relevant skills for conducting machining, fitting and assembling activities. As indicated by the performance criteria in the adjacent cell, the job involves conducting the machining, fitting and assembling on various metals as per drawing and job order requirement.	5
Responsibility	Responsible for determining the work requirements	The incumbent at this job performs various machining,	5

	- Responsible for planning the machining, fitting and assembling activities - Responsible for carrying out machining, fitting and assembling process. - Responsible for inspecting and testing the welded workpieces. Responsible for preparing and updating the relevant documents.	fitting and assembling activities to manufacture tool and die as per the work requirements.	
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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	Measuring Instruments	Linear Measuring Instruments, Speed Measuring Devices, Multimeter, Continuity Tester, Pressure Testing Devices, Flow Testing Devices	1 Each
8	Mechanical Tools	□ Spanners, Wrenches, Crow Bars, Torque Wrenches, Engineer's Level, Alignment Telescope	1 Each
9	Machine Vice	Standard	1
10	Angle Plate	Standard	1

11	Riveting machine	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)
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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. 1,2 nd 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	Enterprisesans@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-20B,Faridabad, (Haryana)- 121007	8860281177	Rajeev.sharma@jbmgrou.com	

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
2025-2026	1542	1110	154	111	15	11
2026-2027	1696	1221	170	122	17	12
2027-2028	1866	1343	187	134	19	13

Data to be provided year-wise for next 3 years

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

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
4.0	FY2022-23	803	803	579	579	80	80	58	58	8	8	6	6
4.0	FY2023-2024	551	551	483	483	55	55	48	48	6	6	5	5
4.0	FY2024-2025	1402	1402	1009	1009	140	140	101	101	14	14	10	10

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:

- 1.
- 2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

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
<i>Maintain personal health and safety</i>	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	-	-
<i>Assist in hazard management</i>	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	-	-
<i>Check the first aid box, firefighting and safety equipment</i>	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	-	-
<i>Assist in waste management</i>	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	-	-
<i>Follow the fire safety guidelines</i>	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	-	-
<i>Follow the emergency and first-aid procedures</i>	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	-	-
<i>Carry out relevant documentation and review</i>	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
<i>Work effectively with co-workers</i>	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	-	-
<i>Communicate effectively with co-workers</i>	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	-	-
<i>Practice inclusion at work</i>	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/N0316: Perform machining operations

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for machining operations</i>	12	19	-	7
PC1. plan machining operations for tools & die manufacturing on the basis of drawing/blue print	1	1	-	1
PC2. ensure that the components used are free from foreign objects, dirt or other contamination	1	1	-	-
PC3. prepare and maintain the work area as per procedure or operation specification	1	2	-	1
PC4. confirm with the machine setter that the machine is ready for production	-	1	-	-
PC5. ensure that machine guards are in place and are correctly adjusted	1	1	-	-
PC6. identify and fix different types of cutters or cutting tools in the CNC or conventional machines required for various machining operations	2	3	-	1
PC7. clamp the workpiece securely and without distortion in a chuck/work holding device such as vice, V-block, clamp, angle plate, etc.	1	2	-	1

PC8. • ensure that machine settings are adjusted as per SOP to maintain the required accuracy and quality standards • Quality standards: components to be free from false tool cuts, burrs and sharp edges; dimensional tolerance 0.020 to 0.030 mm; flatness and squareness within 0.125mm; surface finish 63in or 1.6m; angles within +/- 1 degree	2	2	-	1
PC9. measure and mark reference points/cutting lines on the metal blocks by using appropriate marking and measuring tools	1	2	-	1
PC10. lift the metal blocks manually or by hoist and place the same securely on the working platform as indicated in the drawing/work instructions	1	2	-	-
PC11. cut the metal blocks into required size by using power operated/manual/automatic cutting tools as per the requirement	1	2	-	1
Perform machining operations	14	22	-	11
PC12. perform rough machining for initial block sizing of work piece	1	2	-	-
PC13. ensure that the right programme is selected in the CNC machine as defined in the SOP	2	2	-	1

PC14. perform various machining operations such as drilling, boring, grinding, turning, milling etc. on the metal block to get the shape and dimension as per the drawing/work order	3	5	-	3
PC15. operate the machine controls in both hand and power modes	1	1	-	-
PC16. produce components as per given quality standards e.g. components to be free from false tool cuts, burrs and sharp edges; dimensional tolerance 0.020 to 0.030 mm; flatness and squareness within 0.125mm; surface finish 63in or 1.6m; angles within +/- 1 degree, etc.	2	3	-	2
PC17. cut, shape and trim the metal block to specified lengths and shapes by using CNC machines	1	2	-	1
PC18. apply cutting fluids with regard to a range of different materials	1	1	-	1
PC19. monitor the process parameters by reading the various gauges and correct them if not within standards	1	1	-	1
PC20. monitor the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction	1	2	-	1
PC21. measure the machined pieces and compare with the dimensions as prescribed in the work order and engineering drawing	1	2	-	1

PC22. shut down the machine to a safe condition on completion of the machining activities	-	1	-	-
Perform post-machining activities	4	9	-	2
PC23. check the machined components for any defects and required quality standards	2	3	-	1
PC24. segregate the machines components in to Ok pieces, defective pieces which can be repaired/reworked and pieces that are beyond repair	1	2	-	-
PC25. maintain and update all the records and reports related to production of tools and die as per the organisational guidelines	1	2	-	1
PC26. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations	-	1	-	-
PC27. report any difficulties or problems that may arise with the machining activities, and carry out any agreed actions	-	1	-	-
NOS Total	30	50	-	20

CSC/N0308: Perform fitting operations

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for fitting operations</i>	8	12	-	5
PC1. plan fitting operations for tools & die manufacturing on the basis of drawing/blue print	2	3	-	1
PC2. prepare the work area for the fitting operations as per procedure or operational specification	2	3	-	2
PC3. ensure that all measuring equipment is calibrated and approved for usage	2	3	-	1
PC4. set work pieces as per job requirements using appropriate positioning and/or holding devices and support mechanisms	2	3	-	1
<i>Perform marking on the components</i>	6	10	-	4
PC5. use a range of marking out equipment and mark the dimensions on the workpiece by applying an appropriate method of marking out	1	2	-	1
PC6. mark out a range of features (Features: datum/centre lines, lines (perpendicular, parallel), circles, profiles (square/rectangular, radial, angles/angular), hole positions (radial, linear), allowances for bending, simple pattern development) on the workpiece	2	3	-	1

PC7. mark out templates for tracing/transferring the specified features on the workpieces as per job specification	2	3	-	2
PC8. trace/transfer the specified features from the templates onto the workpieces as per job specification	1	2	-	-
<i>Perform fitting operations</i>	8	14	-	6
PC9. perform fitting operations on various forms of metal components using a range of hand tools and manually operated machines by following organizational specified sequence and procedure as per job specifications	3	5	-	2
PC10. produce components with various features as per standards applicable to the process (Features of components produced: flat; parallel and angular faces; perpendicular plates; radii and curved profiles; drilled holes(through, to a depth); internal and external threads; sliding or mating parts; counter bore, countersink, or spot face; chamfers; reamed holes; faces which are square to each other; faces which are parallel to each other)	3	5	-	2
PC11. interpret in-built fault indicators and error codes of equipment and respond to the same as per operating manual/organizational guidelines	1	2	-	1
PC12. check the fitted components to ensure completeness of work	1	2	-	1

Perform post-fitting activities	8	14	-	5
PC13. perform necessary quality checks or tests for correct fitting, dimensional accuracy and required quality standards	2	3	-	2
PC14. use the appropriate measuring equipment for checking activities	2	3	-	1
PC15. report conditions and seek appropriate assistance in a timely manner to address risk of failure to comply with necessary targets and specifications	1	2	-	1
PC16. deal with finished components as per organizational guidelines	1	1	-	-
PC17. prepare job card, progress records, incident reports etc. for the higher authorities as per organizational procedures	1	2	-	1

PC18. clean and store all the tools, machine and equipment after completion of work	1	2	-	-
PC19. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations	-	1	-	-
NOS Total	30	50	-	20

CSC/N0309: Perform Assembly Operations

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for assembling operations</i>	10	15	-	8
PC1. plan assembling operations for tools & die manufacturing on the basis of drawing/blue print	1	2	-	1

PC2. prepare the work area for the assembling operations as per procedure or operational specification	2	2	-	2
PC3. select standard and specialized measuring instruments based on tolerances required and take measurements of tools and die components	2	3	-	2
PC4. compare measurements to drawings and sketches to ensure conformity, fits and clearances	2	3	-	1
PC5. record critical dimensions as required by workplace procedures	1	2	-	1
PC6. lift the work pieces manually or by hoist and place the same securely on the designated slot/space as indicated in the drawing/work instructions	2	3	-	1
<i>Perform assembling operations</i>	13	21	-	8
PC7. assemble and secure the components and sub-assemblies in their correct positions by using appropriate assembly methods and techniques	2	3	-	2
PC8. perform drilling, tapping and reaming operation to create holes in the components as per the requirement	3	5	-	3
PC9. fasten components permanently by using engineered fasteners, applying adhesives, soldering and brazing	2	3	-	1

PC10. produce mechanical assemblies by combining the components as per job specifications	3	5	-	1
PC11. dismantle mechanical assemblies without damage to components and/or subassemblies	1	2	-	1
PC12. deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve	1	2	-	-
PC13. report to the supervisor about any problems faced or anticipated during the complete process	1	1	-	-
Perform post-assembly activities	7	14	-	4
PC14. perform necessary quality checks or tests for correct assembly parameters and functioning of the tool and die	2	3	-	1
PC15. use the appropriate measuring equipment for checking activities	1	2	-	-
PC16. produce components within all of the applying quality standards (Quality standards: components to be free from false tool cuts, burrs and sharp edges; dimensional tolerance +/-0.020mm; flatness and squareness 0.05mm; angles within +/- 1 degree; screw threads to fit as per standard; reamed and bored holes within interference: - 0.025mm (hole) + 0.025mm (shaft), transition: - 0.1mm (hole)+ 0.1 (shaft) , clearance: 50microns; radius: 0.5 r; surface finish 1.6 m)				

	2	4	-	2
PC17. prepare inspection and work completion reports for the higher authorities	1	2	-	1
PC18. clean and store all the tools, machine and equipment after completion of work	1	2	-	-
PC19. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations	-	1	-	-
NOS Total	30	50	-	20

DGT/VSQ/N0102: Employability Skills (60 Hours)

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-

PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self- Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-

PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-
Entrepreneurship	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	1	2	-	-
PC26. identify different types of customers	-	-	-	-

PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
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 **Tool and Die Maker**) 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
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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