







# **APPRENTICESHIP CURRICULUM (OPTIONAL TRADE)**

## Rubber

# **Designer\_Die and Mould for Plastic**

**Course Code: C0082200016** 

**⊠NAPS** □Non-NAPS

**NSQF Level: 4** 



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## **Course Details**

1.	Course Name	Designer	Designer_Die and Mould for Plastic					
2.	Course Code	CO082200016						
3.	Apprenticeship Training Duration:	Months: 12 months						
	(2 to 4 weeks of BT is embedded in this duration as per the requirement							
	of the establishment)							
	Remarks							
4.	Credit	TBD						
5.	NSQF Level (Mandatory for NAPS)	4	NSQC	Approval Date: 30,	/12/2021			
6.	Related NSQF aligned qualification details							
		S. No.	QP/ Qualification/ NOS	QP/ NOS Code &	NQR Code			
			Name (As applicable)	Version				
		1.	Designer_Die and	RSC/Q8001_V1	2021/RUB/RSDC/04893			
			Mould for Plastic					
7.	Brief Job Role Description		vidual at work is responsil					
			f die/mould parts, their w	•	•			
		requiren	nents for manufacturing o	of the plastic produc	cts.			
8.	NCO-2015 Code & Occupation (Access the NCO 2015 volumes from:	NCO-201	15/3115.12					
	https://labour.gov.in/organizationsofmole/directorate-general-employment-training-							
9.	<u>dget</u> ) Minimum Eligibility Criteria		121	th Class (Science)				
<b>]</b> 3.	(Educational and/ or Technical Qualification)		121	OR				
	Leaded to the first and of reclinical Qualifications		ITI ((two years af	ter Class 10th) in rel	levant trade)			
			i.i.i ((two years ar	OR	icvanic dadej			
				Oit				

		Certificate-NSQ	F (Level 3 - Jr. De	esigner- Die and N	Nould for Plastic)	with 2 Years of			
		experience relevant							
10.	Entry Age for Apprenticeship	18 years							
11.	Any Licensing Requirements (wherever applicable)	NA							
12.	Is the Job Role amenable to Persons with Disability	☐ Yes	lo						
		If yes, check the	applicable type	e of Disability					
ı			T	Γ	Τ	T			
			☐ Leprosy	☐ Cerebral	☐ Dwarfism				
ı		Locomotor	Cured	Palsy		Muscular			
l		Disability	Person			Dystrophy			
		☐ Acid	☐ Blindness	☐ Low Vision	☐ Deaf	☐ Hard of			
		Attack				Hearing			
		Victims							
		☐ Speech		☐ Specific	☐ Autism	☐ Mental			
		and	니 Intellectual	Learning	Spectrum	Illness			
				Disabilities	Disorder	iiiiess			
		Language Disability	Disability	Disabilities	Disorder				
		Disability							
		☐ Multiple				☐ Sickle			
		Sclerosis	Parkinson's	Haemophilia	Thalassemia	Cell			
			Disease			Disease			
		☐ Multiple							
		Disabilities							
		Remarks:	1	<u>l</u>	1				
13.	Submitting Body Details	Name: Rubber,	Chemical & Petr	ochemical Skill De	evelopment Cour	ncil			
		E-mail ID: ceo@			•				
		Contact Numbe	r: 011-41009347	7- 48					

14.	Certifying Body	Rubber, Chemical & Petrochemical Skill development Council
15.	Employment Avenues/Opportunities	Self-Employment:
		Trainees can also start their own business and also provide jobs to other
		people.
		Washing of the vehicles
		Jobs Opportunities in private companies:
		The trainees can get a job in a corporate as Designer - Die and Mould for Plastic.
16.	Career Progression	Vertical progression Supervisor
		Supervisor (Level 5)
17.	Trainer's Qualification & Experience:	Candidates certified in the same trade or a Graduate or ITI pass out orDiploma
		may be exempted from Basic training
18.	Curriculum Creation Date	24/07/2022
19.	Curriculum Valid up to Date	30/12/2024

## **Module Details**

S. No	Module/NOS Name,	Outcomes	Assess	ment	Passir	g
	Code, Version		Ма	rks	Perce	ntage
			Th.	Pr.	Th.	Pr.
1.	Introduction	<ul> <li>Discuss the objectives and benefits of theSkill India Mission</li> <li>Describe the scope of the Plastic Industryand its sub-sectors</li> <li>Discuss job role and opportunities for Designer - Die and Mould for Plastic inPlastic Manufacturing sector</li> <li>Elaborate the basic terminology used inPlastic Manufacturing sector</li> </ul>	0	0	0	0
2.	Supervise die/mould designing RSC/N8001 Version: 1.0	<ul> <li>State the significance of ensuring thatthe junior designer interprets the sketches and work orders correctly</li> <li>Explain the operating procedure of computer aided design and manufacturing software, manual andsoftware based drafting techniques and procedure to create 2-d and 3-d designs of mould</li> <li>Describe the technical and functional requirements of moulds or dies as well as the sequence of operations formould/die design process</li> <li>List various types engineering drawing, plastics and additives used for mould/die designing and plastic materials and its properties includingshrink behaviors</li> <li>Describe the methods of verifying thespecifications regarding moulding material, machine specifications, and other tool specifications and validating the appropriate moulding procedure and processes</li> <li>State the significance of availability ofthe raw materials to execute the designing</li> <li>Explain the moulding process flow andtypes of manufacturing processes and functions like hydraulics, pneumatics, electronic instrumentation, servo driven actions, etc.</li> <li>State the importance of following thesequence of operations required for moulding process and ensuring the drawings of the mould/die are sharedwith the in-house</li> </ul>	40	60	70%	70%

S. No	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passin Percei	_
			Th.	Pr.	Th.	Pr.
		tool room or third- party agency for review  Explain the methods of reviewing thedrawing and operation of the mould/die using simulation software and analyzing the end result through CAE software during the design stage  Outline the importance of developingand integrating new mould design approaches and latest mould design technologies and adhering to GD&T requirements for any on-line gauges designed as part of designing  Discuss various methods to establish the working system for the mould/dielike guiding system, feed system, ejection system, etc. for injection mould; type of die, size of mandrel required in extrusion die; and shape of bottle and its size in blow moulding  Role play on how to discuss the work order and other relevant details with the junior designer  Employ proper procedures to analyze and approve the process of moulding items, requirement for new tool, etc. for mould design along with validating the mechanismof the working for the mould/die based on the sequence of operations required for the moulding process  Apply proper methods to check the rough dimensions of the mould/die prepared bythe junior designer  Explain how to inform the junior designerabout the prototype requirement of the mould for proper working  Create a sample drawing for the requiredmould/die using CAD/CAE software  Show how to design complete injection moulds, including all solid models and 2D drawings and update the dimensions of themould/die as per the feedback obtained				
		<ul> <li>Employ appropriate methods to validate theoperation sequence program while using robotics/automation application for mould functioning</li> </ul>				

Code, Version	Outcomes	Assessment Marks		Passing Percentage	
		Th.	Pr.	Th.	Pr.
	<ul> <li>Apply proper methods to ratify the typical allowances, fits and tolerances required on matching parts for the process trimming, and warpage, etc.</li> <li>Roleplay on how to share the finalized mould profile and dimensions with the in-house tool room or third-part agency for review</li> <li>Discuss Process Failure Mode EffectsAnalysis, and various problem identification and root cause analysis techniques with regards to any problem encountered during the development orassembly of parts of the mould</li> <li>Describe the methods of mould flowanalysis, stress analysis, FMEA, etc.</li> <li>State the significance of maintaining performance data of the mould for nextproject</li> <li>Explain the methods of Identifying appropriate solution in case of requirement of any change in the designconsidering cost, time, impact on mechanism etc.</li> <li>Discuss standard procedure fordocumentation</li> <li>Apply appropriate methods to check andensure that the list of raw material and required size as per finished mould/die design is prepared as per the SOP</li> <li>Dramatize a situation to ensure that the drawings of the mould/die are released asper standard procedure</li> <li>Employ proper methods to appropriately monitor the development as per machiningprocess in tool room for any revision or clarity required</li> <li>Identify the operating procedure of computer aided design, software baseddrafting techniques.</li> <li>Demonstrate the procedure to create 2-dand 3-d designs of mould. List the sequence of operations for mould/die design process.</li> <li>Verify the specifications of the moulding material, machine, andother tools.</li> <li>Ensure the availability of the raw materials to execute the designing.</li> </ul>				
	Code, Version	<ul> <li>Apply proper methods to ratify the typical allowances, fits and tolerances required on matching parts for the process trimming, and warpage, etc.</li> <li>Roleplay on how to share the finalized mould profile and dimensions with the in-house tool room or third-part agency for review</li> <li>Discuss Process Failure Mode EffectsAnalysis, and various problem identification and root cause analysis techniques with regards to any problem encountered during the development orassembly of parts of the mould</li> <li>Describe the methods of mould flowanalysis, stress analysis, FMEA, etc.</li> <li>State the significance of maintaining performance data of the mould for nextproject</li> <li>Explain the methods of Identifying appropriate solution in case of requirement of any change in the designconsidering cost, time, impact on mechanism etc.</li> <li>Discuss standard procedure fordocumentation</li> <li>Apply appropriate methods to check andensure that the list of raw material and required size as per finished mould/die design is prepared as per the SOP</li> <li>Dramatize a situation to ensure that the drawings of the mould/die are released asper standard procedure</li> <li>Employ proper methods to appropriately monitor the development as per machiningprocess in tool room for any revision or clarity required</li> <li>Identify the operating procedure of computer aided design, software baseddrafting techniques.</li> <li>Demonstrate the procedure to create 2-dand 3-d designs of mould. 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Demonstrate the procedure to create 2-dand 3-d designs of mould.  List the sequence of operations for mould/die design process.  Verify the specifications of the moulding material, machine, andother tools.

S. No	Module/NOS Name, Code, Version	Outcomes	Assess		Passir Perce	_
			Th.	Pr.	Th.	Pr.
		<ul> <li>functions.</li> <li>Review the drawing and operation of the mould/die using simulation software.</li> <li>Discuss the importance of developingand integrating new mould design approaches and latest mould design technologies.</li> <li>Adhere to GD&amp;T requirements for anyon-line gauges designed as part of designing</li> <li>Perform steps for establishing the working system for the mould/die, forinjection mould.</li> <li>Analyze and approve the process of moulding items, requirement for new tool,etc.</li> <li>Validate the working mechanism for themould/die based on the sequence of operations required for the moulding process.</li> <li>Check the rough dimensions of the mould/die prepared by the junior designer. Inform the junior designer about the prototype requirement of the mould.</li> <li>Use CAD/CAE software for creating a sampledrawing for the required mould/die.</li> <li>Demonstrate how to design complete injection moulds, including all solid modelsand 2D drawings.</li> <li>Review the finalized mould profile and dimensions with the in-house tool room orthird-part agency.</li> <li>List various problem identification androot cause analysis techniques.</li> <li>Maintain performance data of themould for next project.</li> <li>Prepare the documents as per the standardprocedure.</li> <li>Arrange the raw material for the mould/diedesign as per the SOP.</li> <li>Ensure that the drawings of the mould/dieare released as per standard procedure.</li> <li>Monitor the development as per machiningprocess in tool room for any revision or clarity required.</li> </ul>				
3.	Coordinate	Explain the standard policies on behavioural etiquette, professionalism and gender	40	60	70%	70%

No Module/NOS Name, Code, Version	Outcomes				~
		Th.	Pr.	Th.	Pr.
and communicate effectively at the workplace RSC/N5610 Version: 1.0	<ul> <li>sensitive service practices atworkplace and standard hierarchy and reporting structure</li> <li>Discuss effective ways of teamcoordination</li> <li>List the key helpline numbers</li> <li>State the significance of listening, responding, trusting, supporting andrespecting all colleagues and seniors</li> <li>Outline the importance of maintaining clarity, honesty and transparency while communicating with the seniors and colleagues as well as seeking clarification on the information provided by seniors</li> <li>Discuss the importance of complying with standard policies and proceduresfor team work and respecting the personal and professional space of colleagues and superiors</li> <li>Role play on how interact with colleagues and seniors in a polite and professional manner, listen actively to the issues or requirements of colleaguesand respond timely and appropriately</li> <li>Dramatize how to pass on essential information to the colleagues timely and coordinate with seniors on work-related and behavioral feedback</li> <li>Role play on how to report the status ofwork in the desired format as per the schedule to seniors and inform about any deviations or anomalies</li> <li>Dramatize on how to coordinate and support maintenance/engineering teamand environmental health and safety (EHS) team and other department for smooth work process</li> <li>Role play on how to provide inputs tothe concerned stakeholders for reviewing and</li> </ul>				
	and communicate effectively at the workplace RSC/N5610	and communicate effectively at the workplace and Standard hierarchy and reporting structure effectively at the workplace and Standard hierarchy and reporting structure effectively at the workplace and Standard hierarchy and reporting structure effectively at the workplace and Standard hierarchy and reporting structure effectively at the workplace and Standard hierarchy and reporting andrespecting all colleagues and seniors  • State the significance of listening, responding, trusting, supporting andrespecting all colleagues and seniors • Outline the importance of maintaining clarity, honesty and transparency while communicating with the seniors and colleagues as well as seeking clarification on the information provided by seniors • Discuss the importance of complying with standard policies and proceduresfor team work and respecting the personal and professional space of colleagues and superiors • Role play on how interact with colleagues and seniors in a polite and professional manner, listen actively to the issues or requirements of colleaguesand respond timely and appropriately • Dramatize how to pass on essential information to the colleagues timely and coordinate with seniors on work-related and behavioral feedback • Role play on how to report the status ofwork in the desired format as per the schedule to seniors and inform about any deviations or anomalies • Dramatize on how to coordinate and support maintenance/engineering teamand environmental health and safety (EHS) team and other department for smooth work process	and communicate effectively at the workplace and standard hierarchy and reporting structure Discuss effective ways of teamcoordination  List the key helpline numbers  State the significance of listening, responding, trusting, supporting andrespecting all colleagues and seniors  Outline the importance of maintaining clarity, honesty and transparency while communicating with the seniors and colleagues as well as seeking clarification on the information provided by seniors  Discuss the importance of complying with standard policies and procedures for team work and respecting the personal and professional space of colleagues and superiors  Role play on how interact with colleagues and seniors in a polite and professional manner, listen actively to the issues or requirements of colleaguesand respond timely and appropriately  Dramatize how to pass on essential information to the colleagues timely and coordinate with seniors on work-related and behavioral feedback  Role play on how to report the status ofwork in the desired format as per the schedule to seniors and inform about any deviations or anomalies  Dramatize on how to coordinate and support maintenance/engineering teamand environmental health and safety (EHS) team and other department for smooth work process  Role play on how to provide inputs tothe concerned stakeholders for reviewing and	and communicate effectively at the workplace RSC/NS610 Version: 1.0  Discuss effective ways of teamcoordination  List the key helpline numbers  State the significance of listening, responding, trusting, supporting andrespecting all colleagues and seniors  Outline the importance of maintaining clarity, honesty and transparency while communicating with the seniors and colleagues as well as seeking clarification on the information provided by seniors  Discuss the importance of complying with standard policies and proceduresfor team work and respecting the personal and professional space of colleagues and superiors  Role play on how interact with colleagues and seniors in a polite and professional manner, listen actively to the issues or requirements of colleaguesand respond timely and appropriately  Dramatize how to pass on essential information to the colleagues timely and coordinate with seniors on work-related and behavioral feedback  Role play on how to report the status ofwork in the desired format as per the 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S. No	Module/NOS Name, Code, Version	Outcomes	Assess		Passin Percei	_
			Th.	Pr.	Th.	Pr.
4.	Carry out housekeeping RSC/N5001 Version: 3.0	<ul> <li>in the own group as well as other groups.</li> <li>Use all forms of verbal and non-verbal methods to communicate clearly and effectively with colleagues, supervisors, customers and other stakeholders.</li> <li>Interact appropriately with customers by understanding their body language. Apply the best practices for groomingto look presentable and make good impression on customers.</li> <li>Use proper personal etiquettes atworkplace.</li> <li>Acquire knowledge and understandingrequired for team working.</li> <li>Resolve inter-personnel conflicts andachieve smooth workflow.</li> <li>Assist colleagues in resolving problems.</li> <li>Achieve optimal servicing quality andstandards with full cooperation of colleagues.</li> <li>Describe what is housekeeping.</li> <li>Explain the importance of housekeepingin storage area.</li> <li>List the cleaning equipment and chemicals used for cleaning process.</li> <li>Identify various safety board's/signsplaced on the shop floor.</li> <li>Discuss the importance of adequateventilation during cleaning work.</li> <li>Discuss the importance of monitoring and supervising the cleaning activities.</li> <li>Describe what is '5S.'</li> <li>Define each 'S' and its meaning.</li> <li>Discuss the necessary precautions to avoid any hazard and accident duringcleaning activities.</li> <li>Discuss the documents and records needed to be maintained and updatedrelated to</li> </ul>	40	60	70%	70%

S. No	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passin Percer	_
			Th.	Pr.	Th.	Pr.
		cleaning activities done.				
		Demonstrate how to inspect the area forcleaning purpose.				
		<ul> <li>Apply appropriate ways to check theworking condition of cleaning equipment.</li> </ul>				
		<ul> <li>Demonstrate the cleaning process of creel room area and equipment with thespecified cleaning aid and chemicals.</li> </ul>				
		<ul> <li>Prepare a sample report related to issuesoccur during cleaning activities and for requirement of any additional cleaning at work area.</li> </ul>				
		<ul> <li>Apply appropriate ways to check thatwork area is cleaned properly after completion of cleaning activities.</li> </ul>				
		<ul> <li>Show how to return back the cleaning equipment and material to store after completion of work.</li> </ul>				
		<ul> <li>Show how to dispose the waste material properly as per the organization's policies and environmental regulations.</li> </ul>				
		<ul> <li>Identify the potential risks, damages andmajor causes of potential injuries such assharp objects, burns, falls, etc. and report the same to the concerned authorities</li> </ul>				
		Follow the safety, health and environment related practicesdeveloped by the organization				
		<ul> <li>Illustrate the safety procedures (firefighting, first aid) to be followedwithin the organization</li> </ul>				
		Perform inspection of the working areawhile taking into account various surfaces				
		<ul> <li>Develop a plan with the seniors for cleaning the area to avoid re-soilingclean areas and surfaces</li> </ul>				
		List the various types of PPE and theirusage.				

S. No	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passing Percentage	
			Th.	Pr.	Th.	Pr.
		Operate the machine using the recommended Personal ProtectiveEquipment (PPE)				
		<ul> <li>Maintain a clean and safe working environment near the workplace and ensure there is no spillage of chemicals, production waste, oil, solvents etc.</li> </ul>				
		Ensure that there is adequate ventilation for the work being carried out				
		Check the housekeeping equipment and supplies and replenish, if required				
		Demonstrate how to clean and return the equipment, materials and PPEs thatwere used to the store				
		Discuss the importance of maintaining				
		schedules and records for housekeepingduty				
		Ensure the work area, tools, equipment andmaterials are clean				
		Store cleaning material and equipment in the correct location and in good condition				
		Ensure cleanliness of self and the workplacewithout disturbing others				
		Follow daily cleaning schedules according to organization standards				
		<ul> <li>Use correct cleaning methods for the workarea, type of soiling and surface</li> </ul>				
		<ul> <li>Sort materials, tools, equipment, spare parts and place them in their designated storage area</li> </ul>				
		Follow proper procedures for marking orrepairing				
		Follow proper storage procedures forspares				
		<ul> <li>Follow the proper procedure for dealing with the accidental damage, if any, causedwhile carrying out work</li> </ul>				
		List the importance of waste disposal				
		Carry out segregation of waste into hazardous and non-hazardous waste and dispose				

S. No	Module/NOS Name,	Outcomes	Assess	ment	Passin	g
	Code, Version		Marks		Percer	ntage
			Th.	Pr.	Th.	Pr.
		the waste as per SOP				
		<ul> <li>Participate in training programs, audit, andother activities of 5s groups</li> </ul>				
		Follow 5S guidelines at workplace				
		<ul> <li>Perform the job within given time as perquality standards/work schedule</li> </ul>				
		Identify and manage resource and use itefficiently and effectively				
		Prepare a sample report of data/problems/incidents as applicable ina timely manner				
		Perform in accordance with the organisational policies and procedures				
		Follow the reporting structure laid downby the organisation				
		Manage time effectively at work				
		Apply best practices to keep workplaceclean				
		<ul> <li>Acquire knowledge and understandingrequired for planning and organising.</li> </ul>				
		<ul> <li>Interact and communicate effectively with colleagues including members in the own group as well as other groups</li> </ul>				
		Use all forms of verbal and non-verbal methods to communicate clearly and				
		effectively with colleagues, supervisors, customers and other stakeholders				
		<ul> <li>List the required documents related toone's role in the organisation</li> </ul>				
		<ul> <li>Prepare a sample form showing how tofill the details in an appropriate manner</li> </ul>				
		<ul> <li>Ensure completion of all documentation within stipulated time according to company procedure</li> </ul>				
		Ensure that confidentiality of information is maintained at all times				
		Apply the best practices for grooming tolook presentable and make good impression on customers				

S. No	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passing Percentage	
			Th.	Pr.	Th.	Pr.
		<ul> <li>Use proper personal etiquettes atworkplace</li> <li>Acquire knowledge and understandingrequired for team working</li> <li>Resolve inter-personnel conflicts andachieve smooth workflow</li> <li>Assist colleagues in resolving problems</li> <li>Achieve optimal servicing quality andstandards with full cooperation of colleagues</li> <li>Define need of Quality Control inTyre/Rubber products finishing</li> <li>Ensure damage free handling of theequipment</li> <li>List the range of checks to be performedon the final products</li> <li>Use appropriate measuring instruments, equipment, tools, accessories etc, as required</li> <li>Perform diagnoses accurately and withinthe assigned time</li> <li>Ensure 100% customer satisfaction</li> <li>Perform steps for establishing thesuspected reasons for the non-conformance</li> <li>Follow the catalogues to match theproducts</li> <li>Communicate problem/remedial action to appropriate parties</li> <li>Take corrective action for problems identified according to the company procedures within the stipulated time</li> <li>Closely monitor the corrective action</li> <li>Evaluate implementation of corrective action taken to determine if the problemhas been resolved</li> </ul>	Th.	Pr.	Th.	Pr.
		<ul> <li>Discuss with the seniors whether thecorrective action selected is viable/practical or not</li> <li>Describe need for escalation</li> </ul>				

S. No	Module/NOS Name, Code, Version	Outcomes	Assess		Passin Percei	_
			Th.	Pr.	Th.	Pr.
		<ul> <li>Discuss how to escalate the problem laiddown by the escalation matrix within the stipulated time</li> <li>Follow the documentation procedure for</li> <li>recording such problems, as percompany norms</li> </ul>				
5.	Carry out health andsafety RSC/N5007 Version: 3.0	<ul> <li>Explain the health and safety requirements in storage facility.</li> <li>Discuss organisational procedures for health, safety and security and individual role and responsibilities related to the same.</li> <li>Describe the ill-effects of improperstorage conditions in storage area.</li> <li>List the safety arrangement available instorage area.  Outline the requirements of Personal Protective Equipment (PPE) duringstorage operations.</li> <li>State details of common injuries whichcan occur while working in a storage area.</li> <li>Recall the constituents of a first aid boxused in industry.</li> <li>Demonstrate the use of the given Personal Protective Equipment (PPE).</li> <li>Demonstrate how to handle fire emergencies through a role play.</li> <li>Demonstrate how to use a multi-purposefire extinguisher on simulated fire.</li> <li>Select the fire extinguisher from the given fire extinguishers, for the specifiedfire type and class.</li> <li>Demonstrate first aid procedure for agiven injury.</li> <li>List the health, safety, environment guidelines and regulations in accordance with international/national standards orthe organizational standards</li> <li>Demonstrate how to use a multi-purposefire extinguisher on simulated fire.</li> </ul>	30	70	70%	70%

S. No	Module/NOS Name, Code, Version		Assessment Marks		Passing Percentage	
			Th.	Pr.	Th.	Pr.
		<ul> <li>Ensure that all activities are carried out in an appropriate manner without riskinglives</li> <li>Spread awareness about first aid, evacuation and emergency procedures</li> <li>Follow all safety procedures at all timeswithout neglecting any event</li> <li>Demonstrate how to use safety materials such as protective gear, goggles, caps, shoes, etc. (as applicablewith workplace)</li> <li>Demonstrate how to handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders</li> <li>Discuss the different methods for minimizing environmental damageduring work.</li> <li>Use certified/tested tools and machine</li> <li>Adhere to all safety norms (such as wearing protective gloves and shoes)</li> <li>List the health, safety, environment guidelines and regulations in accordancewith international/national standards orthe organizational standards</li> <li>Demonstrate how to safely handle thefork type trimming knife</li> <li>List the materials to be avoided on theinspection table/place</li> <li>Ensure that all activities are carried out in an appropriate manner without riskinglives</li> <li>Adhere to all safety norms (such as</li> <li>wearing protective gloves, masks andshoes)</li> </ul>				
		<ul> <li>Monitor closely all procedures and workinstructions for controlling risk</li> <li>Report any accidents, incidents or problems without delay to an appropriate person and take immediatenecessary action to reduce further danger.</li> </ul>				
6.	Follow ethical	Discuss organisational policies for usage of alternate energy source, such as solar energy,	40	60	70%	70%

S. No	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passing Percentage	
			Th.	Pr.	Th.	Pr.
	and sustainable practicesat the workplace RSC/N5603 Version: 1.0	<ul> <li>Discuss the importance of efficient utilisation of fuels, material, water andenergy/electricity.</li> <li>Explain the processes to optimize usageof fuels, material, water and energy/electricity.</li> <li>Enlist common practices for conservingelectricity at workplace.</li> <li>Discuss the significance of greening.</li> <li>Classify different categories of waste forthe purpose of segregation.</li> <li>Differentiate between hazardous, recyclable and non-recyclable waste.</li> <li>Discuss various methods of wastecollection and disposal.</li> <li>Discuss the importance of completingtasks on time.</li> <li>Discuss the ways to adjust the communication styles to reflect sensitivity towards gender and personswith disability (PwD).</li> <li>Discuss gender-based concepts, issues and legislation as well organization standards, guidelines, rights and duties of PwD.</li> <li>Discuss the importance of PwD andgender sensitization.</li> <li>State the importance of following organizational standards and guidelinesrelated to PwD.</li> <li>Employ practices for efficient utilization fuels, material, water and energy/electricity.</li> <li>Apply appropriate ways to prevent soilerosion during plantation and other related activities.</li> </ul>				

S. No	Module/NOS Name,	Outcomes	Assess	ment	Passin	g
	Code, Version		Marks		Percentage	
			Th.	Pr.	Th.	Pr.
		<ul> <li>Demonstrate proper waste collectionand disposal mechanism depending upon types of waste.</li> <li>Apply appropriate ways to organisestorage of recyclable and reusable material at identified location.</li> <li>Employ different means and methods ofcommunication depending upon the requirement to interact with the team members.</li> </ul>				
		<ul> <li>Demonstrate how to communicate with different genders and persons with disability (PwD) in a sensitive manner.</li> <li>Role play a situation on how to offer help to people with disability (PwD) if</li> <li>required at work.</li> </ul>				
	Total Marking	required at work.	190	310		

# Glossary

Term	Description
Sector	Sector is a conglomeration of different business operations
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.

# Acronyms

Acronym	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

# Annexure 1: Tools and Equipment

## List of Tools and Equipment

The tools and equipment required are:

Sno	Tool / Equipment Name	Specification (per batch of 30 trainees)
1	Cre-o software	3
2	Solid Works software	3
3	CAE software	3
4	Computers / Laptops	30
5	NX software	3
6	Auto CAD/CAM & Coral Draw	3
7	Charts	30
8	Black / White board & Duster.	1
9	LCD Projector/Screen	1

### Classroom Aids

The aids required to conduct sessions in the classroom are:

- 1 Projector
- 2 Computer/laptops
- 3 Internet connectivity
- 4 Whiteboard

## Annexure 2: Assessment Strategy

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

#### Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDSM/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
- If the batch size is more than 30, then there should be 2 Assessors.

#### Testing Environment: Assessor must:

- 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.
- 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.

#### Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME should be verified by the other subject Matter Experts along with the approval required from SSC
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 is for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor higher management Apprenticeship Curriculum: NAPS Jr. Machine Operator CNC Milling of Plastic Page 20 of 14
- Assessor must be ToA certified

• Assessment agency must follow the assessment guidelines to conduct the assessment

### 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.

#### Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

### 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 and are stored in the Hard Drive

### On the Job:

- 1. Assessment for on the job training to be conducted by the industry partner on the practical competency output defined in the NOS/QP and the assessment criteria.
- 2. The candidate must score 70% in each module to complete the OJT.
- 3. Tools of Assessment that can be used are:
  - a. Videos of Trainees during OJT should be shared by employer to RCPSDC.
- 4. Assessment will ensure that the apprentice will be able to:
  - a. Work effectively and efficiently as per schedules and timelines while complying with the health and hygiene norms.
  - b. Implement safety practices.
  - c. Optimize the use of resources to ensure less wastage and maximum conservation.
  - d. Communicate effectively and develop interpersonal skills.