



QUALIFICATION FILE

Quality Control Inspector – Plastics Materials & Products

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

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

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

NCrF/NSQF Level: 4.5

Submitted By:

Central Institute of Petrochemicals Engineering & Technology (CIPET)
Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India
CIPET Head office, T.V.K Industrial Estate, Guindy, Chennai – 600 032.

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Section 1: Basic Details

1.	Qualification Name	Quality Control Inspector – Plastics Materials & Products																						
2.	Sector/s	Chemicals & Petrochemicals (CPC)																						
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: 2021/CP/CIPET/04621	Qualification Name of existing/previous version: Testing & QC for Plastics Materials & Products - Technician																					
4.	a. OEM Name b. Qualification Name (Wherever applicable)	Not Applicable.																						
5.	National Qualification Register (NQR) Code&Version (Will be issued after NSQC approval)	QG-4.5-CP-04138-2025-V2-CIPET	6. NCrf/NSQF Level: Level 4.5																					
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 Quality Control Inspector for Plastics Materials & Products will be able to carry out inspection / testing for incoming Plastics Raw Materials and intermediate / finished goods w.r.to IS / ASTM standards /In house SOPs, operate testing equipments and assist in documenting test results.																						
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 Education Completed</th> <th>LTT/ STT Skilling completed in Years</th> <th>Relevant Experience in Years</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>UG Certificate or equivalent</td> <td></td> <td>-</td> </tr> <tr> <td>2.</td> <td>10th or Equivalent</td> <td>3 years of (NTC/ NAC)</td> <td>-</td> </tr> <tr> <td>3.</td> <td>12th or Equivalent</td> <td></td> <td>1.5*</td> </tr> <tr> <td>4.</td> <td>10th or Equivalent</td> <td></td> <td>3*</td> </tr> </tbody> </table> *Experience in relevant Field / Manufacturing / Plastics Processing Industry			S. No.	Academic Education Completed	LTT/ STT Skilling completed in Years	Relevant Experience in Years	1.	UG Certificate or equivalent		-	2.	10 th or Equivalent	3 years of (NTC/ NAC)	-	3.	12 th or Equivalent		1.5*	4.	10 th or Equivalent		3*
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2.	10 th or Equivalent	3 years of (NTC/ NAC)	-																					
3.	12 th or Equivalent		1.5*																					
4.	10 th or Equivalent		3*																					
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(whenever applicable)	-																						

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="936 164 2038 304"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Employability skills</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>120</td> <td>60</td> <td>300</td> <td>60</td> <td>540</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)	Employability skills	Practical (Hours)	OJT Mandatory (Hours)	Total (Hours)	Classroom (offline)	120	60	300	60	540	Online	-	-	-	-	-
Training Delivery Modes	Theory (Hours)	Employability skills	Practical (Hours)	OJT Mandatory (Hours)	Total (Hours)																
Classroom (offline)	120	60	300	60	540																
Online	-	-	-	-	-																
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/7543.3003																			
15.	Progression path after attaining the qualification (<i>Please show Professional and Academic progression</i>)	Testing and Quality Control Specialist – Plastics materials & products																			
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 If “Yes”, specify applicable type of Disability:																			
19.	How Participation of Women will be Encouraged	During Mobilisation / Selection of candidates for the training programme, female candidates are given preference. Industries are giving priority to offer placement for Female specially in the Testing / Quality Control field. The same will be conveyed during awareness / mobilisation sessions to attract more female candidates for training.																			
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: Arunav Banerjee Email: cipethovtc@cipet.gov.in Contact No.: 9402183512 Website: www.cipet.gov.in																			
23.	Final Approval Date by NSQC: 26.05.2025	24. Validity Duration: 3 Years	25. Next Review Date: 25.05.2028																		

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	Basic Knowledge about polymers and different plastic material. Introduction on Measuring Instruments and Hand Tools. Basics on Plastics Processing Techniques	CPC/N0414 & V2.0	Core	4.5	1	15	15	-	-	30	30	60	-	-	90	-
2	Objective, Significance & Concepts of Testing	CPC/N 8106 & V2.0	Core	4.5	1	15	15	-	-	30	30	60	-	-	90	-
3	Testing of Physical Properties of Raw Materials & Product	CPC/N0117 & V2.0	Core	4.5	3	20	70	-	-	90	45	80	-	-	125	-
4	Testing & Quality Control of Plastics Materials & Products	CPC/N0118 & V2.0	Core	4.5	3	20	70	-	-	90	20	40	-	-	60	-
5	Product Testing	CPC/N0119 & V2.0	Core	4.5	4	30	90	-	-	120	45	80	-	-	125	-
6	Basics of MS Office / Office Open source suite	CPC/N0219 & V2.0	Non-Core	4.5	1	10	20	-	-	30	10	40	-	-	50	-
7	Maintain basic health and safety practices at the workplace, 5S.	CPC/N0411 & V2.0	Non-Core	4.5	1	10	20			30	10	30			40	-
8	Employability Skills	CPC/DGT/N0103 & V1.0	Non-Core	4.5	2	60	-	-	-	60	10	10	-	-	20	-
9	On the Job Training (OJT)	N/A	Core	4.5	2	-	-	60	-	60	-	-	-	-	-	-
Duration (in Hours) / Total Marks				-	18	180	300	60	-	540	200	400	-	-	600	-

Elective NOS/s:

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

Assessment - Minimum Qualifying PercentagePlease specify **any one** of the following:**Minimum Pass Percentage –Aggregate at qualification level:**50% for theory and 70% for practical (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)**Minimum Pass Percentage –NOS/Module-wise**

(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) <i>(as per NCVET guidelines)</i>	Diploma with minimum 2 years experience in field of Plastics / Polymer Engineering / Technology
2.	Master Trainer's Qualification and experience in the relevant sector (in years) <i>(as per NCVET guidelines)</i>	B.E. / B.Tech. / M.Sc. with 2 years experience in the field of Plastics / Polymer Engineering / Science
3.	Tools and Equipment Required for Training	☒ Yes ☐ No <i>(If "Yes", details to be provided in Annexure)</i>
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	Nil

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Diploma with minimum 5 years experience in the field of Plastics / Polymer Engineering / Technology Or B.E. / B.Tech. with minimum 2 years experience in the field of Plastics / Polymer Engineering / Technology
2.	Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Diploma with minimum 6 years experience in the field of Plastics / Polymer Engineering / Technology Or B.E. / B.Tech. with minimum 3 years experience in the field of Plastics / Polymer Engineering / Technology
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	B.E. / B.Tech. with minimum 4 years experience in the field of Plastics / Polymer Engineering / Technology Or M.E. / M.Tech. with minimum 2 years experience in the field of Plastics / Polymer Engineering / Technology
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Physical Assessment
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

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
3.	Government / Industry initiatives/ requirement (Yes/No): YES
4.	Number of Industry validation provided: 06
5.	Estimated nos. of persons to be trained and employed: 500 CANDIDATES
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)	- Entry Qualification for this course is <table><tr><th>S. No.</th><th>Academic Education Completed</th><th>LTT/ STT Skilling completed in Years</th><th>Relevant Experience in Years</th></tr><tr><td>1.</td><td>UG Certificate or equivalent</td><td></td><td>-</td></tr><tr><td>2.</td><td>10th or Equivalent</td><td>3 years of (NTC/ NAC)</td><td>-</td></tr><tr><td>3.</td><td>12th or Equivalent</td><td></td><td>1.5*</td></tr><tr><td>4.</td><td>10th or Equivalent</td><td></td><td>3*</td></tr></table> * Experience in relevant Field / Manufacturing / Plastics Processing Industry - After attaining the qualification, the candidate is eligible for job role such as QC Inspector / Lab technician/Quality Control Technician / Lab chemist (Plastics) / Junior Analyst etc. in the lab of Plastics Raw Material manufacturer or Plastics Processing Industries. - Job description: The QC Inspector operates laboratory equipment and tests the incoming raw material and online / finished plastics products. Assists in maintaining record of test results.	S. No.	Academic Education Completed	LTT/ STT Skilling completed in Years	Relevant Experience in Years	1.	UG Certificate or equivalent		-	2.	10 th or Equivalent	3 years of (NTC/ NAC)	-	3.	12 th or Equivalent		1.5*	4.	10 th or Equivalent		3*
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2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Equipment Required: Class Room equipments: LCD Projector/Screen, Computer, charts, Black / White board & Duster. Measuring equipments: Steel Ruler, Micrometer, Vernier Caliper, Radius gauge, Feeler gage, Steel measuring tape, Weighing Balance (1 No.) Hand Tools: Hammer, screw driver set with Multiple heads, Allen key hexagonal , File triangular, Hacksaw, adjustable, Spanner set double side, Adjustable spanner Personal Protective equipments: Safety Goggles, Rubber Gloves, Asbestos gloves, Fire Extinguisher, Apron, Helmet, First Aid Box with Medicines.																				

		Plastics raw material: PP, HDPE, etc., for basic practical training on machines of injection, Blow and Extrusion grade. Testing Equipment: Bunsen Burner, chemicals for identification of Plastics. • Specimen Preparation Equipment viz. Fly Press, Injection molding, Milling apparatus etc • Conditioning Chamber • Melt Flow Tester • Density Tester • Muffle Furnace • Hot Air Oven • Weighing Balance • Testing Equipment for mechanical properties viz. Tensile Testing Machine, Izod / Charpy Impact Tester, Hardness Tester (Durometer, Rockwell Hardness Testers) • Thermal Properties Apparatus viz. HDT / VSP Tester • Optical Properties Apparatus viz.Opacity / Transparency tester • Pipes & Fittings, Films & sheets, woven sacks testing equipments such as • Hydrostatic Pressure tester, Drop impact tester, Dart impact tester, Carbon Black content tester, Carbon black dispersion tester, Deep freezer, Oil bath (reversion) etc
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	1. Criteria for assessment for each Qualification Document are being created by CIPET. 2. Each Assessable outcome (AO) will be assigned marks proportional to its importance in Learning Outcome and few performance criteria may be allotted marks in combine. 3. Each Learning outcome will be assessed both for theoretical knowledge and practical which is being proportionately demonstrated in the table below. 4. The assessment for the theory part will be based on knowledge bank of questions created by CIPET which will contain multiple choice theory questions and Practical question database with mark allotment criteria. 5. To pass the Qualification Document, every trainee should score a minimum of 50 % in Functional and all Generic Learning Outcome's. 6. In case of successfully passing only certain number of Learning Outcome's, the trainee is eligible to take Subsequent assessment on the balance Learning Outcome's to pass the Qualification Document.

4.	Annexure: Assessment Strategy(Mandatory)	Assessment strategy: - Assessment criteria for Qualification Document have been developed. Each Learning outcome has separate marks for Theory and Practical Skills. - The Training Assessment Wing will have assessors who will not be associated with training activities and will be provided training on the said work. Thus it will ensure that the assessment carried out is fair and consistent. - Set of question bank developed to assess the theoretical and practical knowledge. To ensure the quality, each trainee gets the unique set of question. - Student has to score minimum marks separately for theoretical and practical skill and overall percentage should also be 50% for theory and 70% for practical. - Empanelment of subject matter expert as assessor to assess trainee specifically on practical skills. - Assessments are preferably conducted by written examination papers in English/ regional languages according to the requirement. - It has been ensure that TP/trainer should not be present during assessment.
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	-
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	-
7.	Annexure: Acronym and Glossary (Optional)	-
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Enclosed as Annexure-I
9.	Supporting Document: Career Progression (Mandatory - Public view)	Enclosed as Annexure-II
10.	Supporting Document: Occupational Map (Mandatory)	Enclosed as Annexure-III
11.	Supporting Document: Assessment SOP (Mandatory)	Enclosed as Annexure-IV
12.	Any other document you wish to submit: Industry validation	Enclosed as Annexure-V

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	The Quality Control Inspector -is expected to ensurehousekeeping, Quality and safety in the plastics testing labarea of Industries and select the correct process, parameter etc he/she has to- ➤ To ensure availability of consumables and quality data sheet of incoming Raw Material ➤ Quality checking of Physical Properties of Incoming Raw Materials and comparing with the Material Data sheet issued by the suppliers of Raw Material. ➤ Clearly understanding the does and don'ts while working & operating the testing equipment as defined in SOPs/ Work Instructions or defined by operator. ➤ Check availability of the personal protective equipment's (PPE) like Gloves, Goggles etc. ➤ Understand the testing proceduresas per SOP / IS / ASTM etc Standards. ➤ Understand and follow the work instructions for operating the testing equipment. ➤ Ensure the calibration of equipment for precise and accurate results. ➤ Understanding the concept of traceability. ➤ Understand the appropriate specimen preparation technique and the affect of improper test specimen on the testing results. ➤ Knowledge on maintaining Laboratory Conditions as per ASTM / IS / ISO standards. ➤ Knowledge of Conditioning of Test Specimen as per the Standards. ➤ Ensuring the proper working of Testing apparatus for operating the test equipment for evaluating properties viz. Mechanical, Thermal and basics of optical& other properties. ➤ Ensure the availability of Test Standards / Product Standards with latest amendments. ➤ Acquiring the proper training on Complete Operation of Testing Equipment and their preventive maintenance requirements / procedures. ➤ Ensure cleaning of the other auxiliaries tools, (if any) before the initiation of the testing. ➤ Ensure the availability of Consumables / reference standards.	The Quality Control Inspector – job requires limited range of activities which are routine and predictablelike availability of consumables, safety PPE, raw material used, and Test Procedures / Work Instructions of Equipment and Apparatus. Parts and its functions etc. • He / She has to collect the incoming Raw material, and testing of physical properties of Raw Material to compare with the Technical Data Sheet of Raw Material Suppliers. • He / She has to do the measurement of physical dimensions of Product during its production / Stacking / pre delivery stage as per the approved / standard sampling criteria. • He / She has do perform quality tests by operating the Testing equipment and record the results obtained. The tests are to be performed as per the prescribed National / International Standards or Validated SOPs. • He / She has to follow the system of reporting of failure (If any), for raw material or finished product for further Quality Control Analysis.	4.5
Professional and	The user/individual on the job needs to know and understand:	The Quality Control Inspector personnel should	4.5

Technical Skills/ Expertise/ Professional Knowledge	➤ General operation and procedure of measuring the physical dimensions using Measuring Instruments. ➤ Understanding the Raw Material Technical Data Sheets and document / record the same. Performing the physical tests on raw material for conformity as per Technical Data Sheet. ➤ Complete knowledge on Basic Tools and Operating procedure of testing equipment. ➤ Should have rigorous knowledge on IS / ASTM / ISO or inhouse validated Standards / SOPs and perform testing as per respective standards.	understand and know basic facts, testing procedures and principles etc., The Quality Control Inspector shall have the factual knowledge of the required field . It requires quality problem detection and basic reasoning but minimal independent decision-making with observation and measurement..	
Professional Skill / Employment Readiness & Entrepreneurship Skills & Mind-set	The user/individual on the job needs to know and understand: ➤ Types of plastics and Grades of Plastics being used by the Plant. ➤ Different types of tools and machinery to process the plastic and test them. ➤ Physical Properties like Density, MFI etc. Also the knowledge of Filler Content / Ash Content / Water / Moisture Content testing procedures is essential and to be performed on daily / regular basis as per the norms of the firm. ➤ Shall have deep knowledge of noting the test results, maintain in the particular records and validating the test results by superior authorities of the firm. ➤ Hazards and safety aspects involved in duties of Testing / Quality Control Lab ➤ Shall be skillful in preparation of accurate defect free test specimen to obtain reliable results. ➤ Shall be skilled in maintaining Laboratory Conditions, Pre Conditioning of Test Specimen and recording the conditions before proceeding for the tests. ➤ Shall operate the Testing Apparatus for evaluating properties viz. Mechanical, Thermal and basic optical and other properties as per curriculum. ➤ Shall possess knowledge on following Standards and their latest amendments and testing the product without deviating the test procedures. ➤ Apart from operating of testing equipment, the inspector shall be aware of maintaining Log sheets of equipment, calibration of Measuring instruments / equipment, Preventive Maintenance of Equipment etc ➤ The inspector must be skillful in maintaining records and appraising to higher authorities time-to-time. ➤ Complete the assigned tasks with minimum supervision	The Quality Control Inspector – should recall general testing procedures, and able to operate the testing equipment for physical, mechanical, thermal and basic electrical etc properties. Shall be responsible for proper housekeeping. Shall be able to read and understand the standards and operate the testing equipment by following the prescribed procedure of testing and reporting of the results. Shall be able to maintain environmental / test conditions. Shall be able to understand the Quality Management System and its documentation and assist to maintain the same. The Quality Control Inspector demonstrates and recall the practical skills, doing the routine and repetitive work using appropriate methods.	4.5

	➤ Complete the job defined / assigned within the timelines and quality. The user/individual on the job needs to know and understand how to: ➤ Use common sense and make judgments during day to day basis ➤ Use basic reasoning skills to identify and resolve basic problems ➤ Use intuition to detect any potential problems in testing operations.		
Broad Learning Outcomes/Core Skill	The user/ individual on the job needs to know and understand how to: ➤ How to assess the Technical Data Sheets of Raw Material and ensuring the proper receipt of Raw Material as per requirement. ➤ How to maintain records of daily test results and appraise the same to reporting official. How to assist in maintain the documentation as per Quality Management System. ➤ Read instructions especially safety instructions especially symbol while using the equipment in the plant area logs. The user/individual on the job needs to know and understand how to: ➤ Discuss task lists, schedules, and work-loads with co-workers ➤ Question internal customers/ Shop floor operator appropriately in order to understand the nature of the problem and make a dialog ➤ Avoid using jargon, slang or acronyms when communicating with a operator /fellow subordinates etc. Unless it is required.	The Quality Control Inspector should be able to read& understand warnings, instructions and other text material on product labels, components etc., with minimum required clarity, should have skill of basic arithmetic, like raw material weights additions etc. The Quality Control Inspector has the ability to communicate written and oral with required clarity, skill to basic arithmetic and understanding of working environment.	4.5
Responsibility	The Quality Control Inspector is majorly responsible for his own job, self-learning and proper reporting of quality results to superiors of testing and production departments. He/she shall acquire proper understanding of Test Standards / procedures and perform testing. Shall have dedication in assisting / maintaining the daily documentations & Records and shall feel the sense of his importance as a team member to upkeep the Plant.	The Quality Control Inspector is majorly responsible for operating testing equipment as per SOPs / Standards and reporting, appraising, recording & documenting them, by maintaining the conditions of Laboratory.	4.5

Annexure: Tools and Equipment(Lab Set-Up)

List of Tools and Equipment

Batch Size:Maximum 50 candidates per batch

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Measuring equipments / Consumables / Glassware	Steel Ruler, Micrometer, Vernier Caliper, Measuringtape, Weighing Balance (1 No.), Thermometers, Chemical Glassware, Burettes, Pipettes, Measuring Jars, Gauges, Bunsen Burner, Desiccators, required chemicals& consumables etc Plastics raw material: PP, HDPE, etc., for basic practical training on machines of injection, Blow and Extrusion grade	As per requirement
2.	Hand Tools	Hammer, screw driver set with Multiple heads, Allen key hexagonal, File triangular, Hacksaw, adjustable, Spanner set double side, Adjustable spanners etc	As per requirement
3.	PPEs	Safety Goggles, Rubber Gloves, Asbestos gloves, Fire Extinguisher, Apron, Helmet, First Aid Box with Medicines	As per requirement
4.	Testing Equipment	All the required equipment for evaluating the various properties as per Material / Product Standards/ Validated SOPs. Testing Equipment: Bunsen Burner, chemicals for identification of Plastics. • Specimen Preparation Equipment viz. Fly Press, Injection molding, Milling apparatus etc • Conditioning Chamber • Melt Flow Tester • Density Tester • Muffle Furnace • Hot Air Oven • Testing Equipment for mechanical properties viz. Tensile Testing Machine, Izod / Charpy Impact Tester, Hardness Tester (Durometer, Rockwell Hardness Testers) • Thermal Properties Apparatus viz. HDT / VSP Tester • Optical Properties Apparatus viz. Opacity / Transparency tester • Pipes & Fittings, Films & sheets, woven sacks testing equipments such as Hydrostatic Pressure tester, Drop impact tester, Dart impact tester, Carbon Black content tester, Carbon black dispersion tester, Deep freezer, Oil bath (reversion) etc	As per requirement
5.	Miscellaneous	Specimen Preparation apparatus, Conditioning Equipment, Reference Materials, ISO/IS/ASTM Standards etc	As per requirement

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. LCD Projector/Screen,
2. Computer
3. Charts
4. White board & Marker pen

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.	M K Plast Pvt. Ltd.,	Mr. Niranjana Nayak	DGM (Production)	Ramdasapur Industrial Estate, Baranga, Cuttack – 754 006, Odisha	8456857716	niranjana.mkplast@gmail.com	-
2.	Metroplast Industries	Mr. Atanu Kumar Das	Q. C. Manager	Kuruda, Near Kuruda Fly Over, NH-5, Balasore – 756 056, Odisha	8847894040	metro_plast@yahoo.com	-
3.	Magnum Fibers Pvt. Ltd.,	Mr. Biraja Acharay	Dy. General Manager	Plot No. 132A, Zone-A, Sector-A, Mancheswar Industrial Estate, Bhubaneswar – 751 010, Odisha	9040011139	birajaacharya@magnum-india.com	-
4.	Biosterile Corporation	Mr. Vijay Sharma	Partner	Khasra No. 1051/1 & 1051/2 Central Hope Town, Selaqui Dehradun, Uttarakhand	9997144040	Bio_acct1051@yahoo.com	-
5.	Savoir Faire Manufacturing Co. Pvt. Ltd.,	Mr. Vijay Kumar	General Manager	Plot No.: 29, Sector – 3A, Sidcul, Haridwar – 249 403, Uttaranchal	9997144040	Sfmc_hrd@yahoo.co.in	-
6.	Vajra Plastics	Mr. Rejani A T	HR Manager	Industrial Development Area, Erumathala PO, Aluva, Ernakulam – 683 112	9142213340	hr@aizar.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
2024-25	500	400	50	38	-	-
2025-26	600	480	60	49	-	-
2026-27	700	560	70	57	-	-

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
1.0	2021-22	40	40	40	34	13	13	13	11	-	-	-	-
1.0	2022-23	-	-	-	-	-	-	-	-	-	-	-	-
1.0	2023-24	131	131	131	109	29	29	29	23	-	-	-	-

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. CSR Scheme

Content availability for previous versions of qualifications:

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

Languages in which Content is available: English

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	Audio / Video & Visual Modes of Theoretical Training	
2	☐ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Computer Systems	
3	☐ Showing Practical Demonstrations to the learners	Adequate Measuring Instruments, Hand / Fitting Tools, Plastics Processing Machinery, Testing Equipment, Standards, SOPs etc	
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training		
5	☐ Tutorials/ Assignments/ Drill/ Practice	Audio / Video & Visual Modes Exclusive faculty for Practice and Motivation.	
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Inhouse Assessment Wing	
7	☐ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	-	

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
1. CPC/N8106: Basic Knowledge about polymers and different plastic material. Introduction on Measuring Instruments and Hand Tools. Basics on Plastics Processing Techniques	AO1. Identify the appropriate Raw Material	2	4		
	AO2. Draw sample of the material from the lot to be tested as per standard procedures (SOP)	2	4		
	AO3. Identify the sample by labeling/numbering as per SOP	2	4		
	AO4. Checking the Technical Data Sheet of supplied Plastics Material	2	4		
	AO5. Calibrate /verify/validate the testing equipment periodically as per SOP	2	4		
	AO6. Identify defective equipment/ apparatus and steps to be taken as per SOP	2	4		
	AO7. Identifying the appropriate Hand Tools / Fitting tools used for Testing purpose	2	4		
	AO8. Identifying the appropriate Measuring Instruments used for Testing purpose	2	4		
	AO9. Checking the Zero Error in the Measuring Instruments	2	4		
	A10. Housekeeping of Instruments and Fitting Tools	2	4		
	A11. Checking Least Count and Calibration Certificates	2	4		
	A12. Identifying the appropriate Processing Method for the products being tested	2	4		
	A13. Checking for visual Processing defects of Product	2	4		
	A14. Ensure the cleanliness of fitting tools, measuring instruments and testing area	2	4		
	A15. Ensure the availability of manuals for lab equipments	2	4		
Total Marks		30	60	-	-
2.CPC/N8107: Objective, Significance & Concepts of Testing	AO1. Ensure that total range of checks are regularly and consistently performed	2	4		
	AO2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required	2	4		
	AO3. Identify non-conformities to quality assurance standards	2	4		
	AO4. Identify potential causes of non-conformities to quality assurance standards	2	4		

	A05. Identify impact on final product due to non-conformance to company standards	2	4		
	A06. Evaluating the need for action to ensure that problems do not recur	2	4		
	A07. Suggest corrective action to address problem	2	4		
	A08. Review effectiveness of corrective action	2	4		
	A09. Interpret the results of the quality check correctly	2	4		
	A010. Take up results of the findings with QC in charge/appropriate authority.	2	4		
	A011. Checking of Calibrations Stickers on all equipment available with their validity	2	4		
	A012. Noting Environmental Conditions as per standards	2	4		
	A013. Ensure proper Conditioning of Test Specimen	2	4		
	A014. Review effectiveness of action taken	2	4		
	A015. Follow reporting procedures where the cause of defect cannot be identified	2	4		
	Total Marks	30	60		
3. CPC/N8108: Testing of Physical Properties of Raw Materials & Product	A01. Identify defects/indicators of problems	2	4		
	A02. Identify any wrong practices that may lead to problems	2	4		
	A03. Identify practices that may impact the final product quality	2	4		
	A04. Identify if the problem has occurred before	2	4		
	A05. Identify other operations that might be impacted by the problem	2	4		
	A06. Ensure that no delays are caused as a result of failure to escalate problems	2	4		
	A07. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)	2	4		
	A08. Consider possible reasons for identification of problems	2	4		
	A09. Consider applicable corrections and formulate corrective action	2	3		
	A010. Formulate action in a timely manner	2	3		
	A011. Communicate problem/remedial action to appropriate parties	2	3		

	AO12. Take corrective action in a timely manner	2	3		
	AO13. Take corrective action for problems identified according to the company procedures	2	3		
	AO14. Report/document problem and corrective action in an appropriate manner	2	3		
	AO15. Monitor corrective action	2	3		
	AO16. Evaluate implementation of corrective action taken to determine if the problem has been resolved	2	3		
	AO17. Ensure that corrective action selected is viable and practical	2	3		
	AO18. Ensure that correct solution is identified to an identified problem	2	3		
	AO19. Take corrective action for problems identified according to the company procedures	2	3		
	AO20. Ensure that no delays are caused as a result of failure to take necessary action	2	3		
	AO21. Escalate problem as per laid down escalation matrix	2	3		
	AO22. Escalate the problem within stipulated time	1	3		
	AO23. Escalate the problem in an appropriate manner	1	3		
	AO24. Ensure that no delays are caused as a result of failure to escalate problems	1	3		
	Total Marks	45	80		
4. CPC/N8104: Testing & Quality Control of Plastics Materials & Products	AO1. Report data/problems/incidents as applicable in a timely manner	2	4		
	AO2. Report to the appropriate authority as laid down by the company	2	4		
	AO3. Follow reporting procedures as prescribed by the company	2	4		
	AO4. Identify documentation to be completed relating to one's role	2	4		
	AO5. Record details accurately an appropriate format	2	4		
	AO6. Complete all documentation within stipulated time according to company procedure	2	4		
	AO7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly	2	4		
	AO8. Make sure documents are available to all appropriate authorities to inspect	2	4		

	AO9. Respond to requests for information in an appropriate manner whilst following organizational procedures	2	4		
	AO10. Inform the appropriate authority of requests for information received	2	4		
	Total Marks	20	40		
5. CPC/N8105: Product Testing	AO1. Inspect the area while taking into account various surfaces	2	4		
	AO2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain	2	4		
	AO3. Ensure that the cleaning equipment is in proper working condition	2	4		
	AO4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person	2	4		
	AO5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces	2	4		
	AO6. Inform the affected people about the cleaning activity	2	4		
	AO7. Display the appropriate signage for the work being conducted	2	4		
	AO8. Ensure that there is adequate ventilation for the work being carried out	2	4		
	AO9. Wear the personal protective equipment required for the cleaning method and materials being used	2	4		
	AO10. Use the correct cleaning method for the work area, type of soiling and surface	2	4		
	AO11. Carry out cleaning activity without disturbing others	2	4		
	AO12. Deal with accidental damage, if any, caused while carrying out the work	2	3		
	AO13. Report to the appropriate person any difficulties in carrying out your work	2	3		
	AO14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill	2	3		
	AO15. Ensure that there is no oily substance on the floor to avoid slippage	2	3		
	AO16. Identifying appropriate Standard Method	2	3		
	AO17. Maintain and store housekeeping equipment and supplies	2	3		
	AO18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process	2	3		

	AO19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements	2	3		
	AO20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored	2	3		
	AO21. Dispose the waste garnered from the activity in an appropriate manner	2	3		
	AO22. Dispose of used & un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly	2	3		
	AO23. Maintain schedules & records for house-keeping duty	1	3		
	Total Marks	45	80		
6. CPC/N0411: Basics of MS Office / Office Open-source suite	AO1. Fill and process mandated forms for receiving, processing, or tracking data enter data from source documents (such as trial report, process sheet etc.) into Computer application having MS OFFICE software.	1	4		
	AO2. Scan source documents in accordance with specific instructions.	1	4		
	AO3. verify data entered with source documents, checks for compliance and corrects all typographical errors and missing or repeated data.	1	4		
	AO4. Maintain files of source documents or other information related to data entered.	1	4		
	AO5. Investigate and confirm data that is unclear before entering, generate reports of data entry, store completed work in designated locations and perform backup operations.	1	6		
	AO6. update database information to reflect most current source information	1	6		
	AO7. assist in the filing and storage of security and back up data files	2	6		
	AO8. respond to requests for information and access relevant files	2	6		
	Total Marks	10	40		
7. CPC/N1108 Maintain basic health and safety practices at the workplace, 5S, Effective working with others.	AO1. Wear protective clothing/equipment for specific tasks and work conditions	0.5	1		
	AO2. Carry out safe working practices while dealing with hazards to ensure the safety of self and others.		1		
	AO3. Apply good housekeeping practices at all times	0.5	1		
	AO4. Use the various appropriate fire extinguishers on different types of fires correctly	0.5	1		
	AO5. Demonstrate rescue techniques applied during fire hazard, demonstrate good housekeeping in order to prevent fire hazards, demonstrate the correct use of a fire extinguisher.	0.5	1		
	AO6. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise, and Identify areas in the plant which are potentially hazardous/unhygienic in nature. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine.	0.5	1		

	AO7. Inform the concerned authorities on the potential risks identified in the processes, workplace area/ layout, materials used etc, Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations.	0.5	1		
	AO8. Create awareness amongst other by sharing information on the identified risks.	0.5	1		
	AO9. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un- necessary items are not cluttering the workbenches or work surfaces.	0.5	1		
	AO10. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions	0.5	1		
	AO11. Follow the technique of waste disposal and waste storage in the proper bins as per SOP	0.5	1		
	AO12. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places	0.5	1		
	AO13. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions	0.5	2		
	AO14. Ensure that areas of material storage areas are not overflowing	0.5	2		
	AO15. Properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required	0.5	2		
	AO16. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area	0.5	2		
	AO17. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards.	0.5	2		
	AO18. Follow the proper labelling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists	0.5	2		
	AO19. Check that the items in the respective areas have been identified as broken or damaged	0.5	2		
	AO20. Follow the given instructions and check for levelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.	0.5	2		
	AO21. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions.	0.5	2		
	Total Marks	10	30		
8.DGT/VSQ/N0101 Employability Skills	AO1. Discuss the importance of Employability Skills in meeting the job requirements.	1	1		
	AO2. Use appropriate basic English sentences/phrases while speaking, Demonstrate how to communicate in a well -mannered way with others & working with others in a team.	1	1		

	AO3. Discuss the significance of using financial products and services safely and securely. Explain the importance of managing expenses, income, and savings & Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws.	2	2		
	AO4. Discuss the significance of using the internet for browsing, accessing social media platforms, safely and securely.	1	1		
	AO5. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges.	2	2		
	AO6. Differentiate between types of customers & Explain the significance of identifying customer needs and addressing them.	2	2		
	AO7. Create biodata, use various sources to search and apply for jobs & Discuss the significance of dressing up neatly and maintaining hygiene for an interview.	1	1		
	Total	10	10		
	Grand Total	200	400		

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 are assigned to Training Assessment Wing (TAW), CIPET HO for planning of assessment
- Training Centers request TAW for Assessment and Certification of Trainees
- TAW identifies suitable assessor and nominates the assessor to the respective Training Centre
- TAW monitors the assessment process
- Training Centers maintain necessary records

2. Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 02 Assessors in a day (or) 01 assessor in 2 days
- Check that the allotted time to the candidates to complete the Theory & Practical Assessment

3. Assessment Quality Assurance levels/Framework:

- Question bank / Question Paper is prepared by the Subject Matter Experts (SME) / Assessor
- Questions are mapped to the specified assessment criteria
- Certified Assessor & Trainer will be engaged in the process

4. Types of evidence or evidence-gathering protocol:

- Date / Time recorded for the reporting of the assessor from assessment location
- Assessment batch - Group Photo of Trainees along with Assessor

5. Method of verification or validation:

- Surprise visit to the assessment location
- Virtual meet with the Assessor / Trainees

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored, soft copies of assessment evidences are stored in Email for future correspondence

On the Job:

1. Each module (which covers the job profile of Machine Operator Injection Moulding) will be assessed during the assessment.
2. The candidate must have adequate knowledge in the relevant module of the OJT.
3. Evidences of OJT:
 - Videos of Trainees during the OJT
 - Photographs of Trainees during the OJT
4. Ensure that the candidate is able to:
 - Effective engagement with the customers
 - Understand the working of various tools and equipment

Annexure: Acronym and Glossary

Acronym

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

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf