QUALIFICATION FILE – Micro-Credentials

Junior Instrumentation Technician (Process Control)

☒Public ☐ Private

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

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

NCrF/NSQF Level: 4

Submitted By:

IASC SECTOR SKILL COUNCIL

324, US Complex, New Delhi- 110076

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Section 1: Basic Details

<table>
<tr><td>1.</td><td>Micro Credential-Qualification Name</td><td colspan="2">Junior Instrumentation Technician (Process Control)</td></tr>
<tr><td>2.</td><td>Sector/s</td><td colspan="2">IASC Sector Skill Council</td></tr>
<tr><td>3.</td><td>National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval.)</td><td>2022/ETR/IASC/06498</td><td>4. NCrF/NSQF Level: 3</td></tr>
<tr><td>5.</td><td>Brief Description of the Micro-Credential</td><td colspan="2">This OS Junior Instrumentation Technician (Process Control) carries out duties related to general site/plant readiness and usability and assists in preventive maintenance under supervision and guidance.</td></tr>
<tr><td>6.</td><td>Eligibility Criteria for Entry for Students/Trainee/Learner/Employee</td><td colspan="2">a. Entry Qualification & Relevant Experience
b. Age 18+:
<table><tr><th>S. No.</th><th>Academic/Skill Qualification (with specialization- if applicable)</th><th>Relevant Experience (with specialization- if applicable)</th></tr><tr><td></td><td>8th Class +

OR
8th Class +
OR
10t Class Pass
OR
Previous relevant Qualification of NSQF Level 2</td><td>2 Yrs. Experience in the relevant field

2 Yrs ITI in the relevant field

1 Yr. Experience in the relevant field.</td></tr><tr><td></td><td>*Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics</td><td></td></tr></table></td></tr>
<tr><td>7.</td><td>Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</td><td>11</td><td>8. Common Cost Norm Category (I/II/III) (wherever applicable): I</td></tr>
<tr><td>9.</td><td>Any Licensing Requirements/ Pre-requisites for Undertaking Training (wherever applicable)</td><td colspan="2">NA</td></tr>
<tr><td>10.</td><td>Expected Outcomes of the Micro-Credential</td><td colspan="2">Terminal learning outcomes are:
• Identify the role, responsibilities and scope of work of Technical Sales Executive (Automation).</td></tr>
</table>

		• Identify potential client channel. • Analyse the aspect of automation for technical demonstration. • Maintain Industry networking. • Demonstrate product and industry knowledge. • Able to acquire new customers. • Demonstrate working effectively in a team. • Follow the safety procedures. • Experiential hands-on learning and troubleshooting skills.

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>11.</td><td>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</td><td>☒Offline Only ☐ Online Only ☐Blended
<table>
<tr><th>Training Delivery Mode</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>Total (Hours)</th></tr>
<tr><td>Classroom (offline)</td><td>90</td><td>240</td><td>420</td></tr>
<tr><td>Online</td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>12.</td><td>Assessment Criteria</td><td>
<table>
<tr><th>Theory (Marks)</th><th>Practical (Marks)</th><th>Project (Marks)</th><th>Viva (Marks)</th><th>Total (Marks)</th><th>Passing %</th></tr>
<tr><td>291</td><td>399</td><td>0</td><td>10</td><td>700</td><td>100</td></tr>
</table></td></tr>
<tr><td>13.</td><td>Is the Qualification Amenable to Persons with Disability</td><td>☐ Yes ☒No If “Yes”, specify the applicable type of Disability:</td></tr>
<tr><td>14.</td><td>How participation of women will be encouraged?</td><td></td></tr>
<tr><td>15.</td><td>Other Indian Languages in which the Micro Credential will be implemented.</td><td>No</td></tr>
<tr><td>16.</td><td>Is similar Micro Credential Qualification(s) available on NQR-if yes, justification for this qualification</td><td>☐ Yes ☒No URLs of similar Qualifications:</td></tr>
</table>

17.	**Name and Contact Details Submitting/Awarding Body SPOC**	**Name: Mayank Bansal** **Email: sqa**@iascsectorskillcouncil.in **Contact No.: 7599140834** **Website: https://iascsectorskillcouncil.in**	
18.	**NSQC Approval Date: 26.05.2022**	**19. Validity Duration: 3 years**	**20. Next Review Date: 26.05.2025**

Section 2: Training Related

1.	**Trainer's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	**Post-Graduation with relevant Field** (Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics)
2.	**Master Trainer's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	**Post-Graduation with one Year Industry related Experience** (Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics)
3.	**Tools and Equipment Required for Training**	☐ **Yes** ☐ **No** (*If "Yes", details to be provided in Annexure)*

Section 3: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	**Post-Graduation with one Year Industry related Experience** (Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics)
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	**Post-Graduation with Two Year Industry related Experience** (Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics)
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	**Post-Graduation with Three Year Industry related Experience** (Instrumentation/EEE/ECE/Mechanical/Electrical/Mechatronics)

4.	**Assessment Mode** *(Specify the assessment mode)*	**Mode: ☐Online Only ☐ Offline Only ☒Blended**
5.	**Tools and Equipment Required for Assessment**	**☒Same as for training ☐ Yes ☒No** *(details to be provided in Annexure-if it is different for Assessment)*

Section 4: Evidence of Need of the Micro Credential

As per the NCVET Guidelines for evidence of need, provide the required Annexure/Supporting documents.

1.	Government /Industry initiatives/ requirement (Yes/No): YES
2.	Number of Industry validation provided: 3
3.	Estimated number of people to be trained:

Section 5: Annexure Check List

Specify Annexure Number and Name.

1.	**Annexure:** NCrF/NSQF level justification based on NCrF Level/NSQF descriptors *(Mandatory)*	Filled
2.	**Annexure:** Learning Outcomes and Assessment Criteria *(Mandatory)*	Filled
3.	**Annexure:** Assessment Strategy *(Mandatory)*	*Filled*
4.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory – Except in case of online course)*	*Filled*

5.	**Annexure:** Blended Learning *(Mandatory in case selected mode of delivery is "Blended Learning")*	*Filled*
6.	**Annexure:** Acronym and Glossary *(Optional)*	*Filled*

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			
Professional and Technical Skills/ Expertise/ Professional Knowledge			
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill			
Broad Learning Outcomes/Core Skill			
Responsibility			

Annexure: Learning Outcomes and Assessment Criteria

Detailed learning outcomes and assessment criteria for the qualification are as follows:

S. No.	Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
1.	*Introduction to Employability Skills*	1	1	-	-
2.	PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
3.	*Constitutional values – Citizenship*	1	1	-	-
4.	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
5.	*Becoming a Professional in the 21st Century*	1	3	-	-
6.	PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
7.	*Basic English Skills*	2	3	-	-
8.	*PC4. speak with others using some basic English phrases or sentences*	-	-	-	-
9.	*Communication Skills*	1	1	-	-
	PC5. follow good manners while communicating with others	-	-	-	-
10.	PC6. work with others in a team	-	-	-	-
11.	*Diversity & Inclusion*	1	1	-	-
12.	*PC7. communicate and behave appropriately with all genders and PwD*	-	-	-	-
13.	*PC8. report any issues related to sexual harassment*	-	-	-	-
14.	*Financial and Legal Literacy*	3	4	-	-
15.	PC9. use various financial products and services safely and securely	-	-	-	-
16.	PC10. calculate income, expenses, savings etc.	-	-	-	-
17.	PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-

18.	*Essential Digital Skills*	**4**	**6**	-	-
19.	**PC12.** operate digital devices and use its features and applications securely and safely	-	-	-	-
20.	**PC13.** use internet and social media platforms securely and safely	-	-	-	-
21.	*Entrepreneurship*	**3**	**5**	-	-
22.	**PC14.** identify and assess opportunities for potential business	-	-	-	-
23.	**PC15.** identify sources for arranging money and associated financial and legal challenges	-	-	-	-
24.	*Customer Service*	**2**	**2**	-	-
25.	**PC16.** identify different types of customers	-	-	-	-
26.	**PC17.** identify customer needs and address them appropriately	-	-	-	-
27.	**PC18.** follow appropriate hygiene and grooming standards	-	-	-	-
28.	*Getting ready for apprenticeship & Jobs*	**1**	**3**	-	-
29.	**PC19.** create a basic biodata	-	-	-	-
30.	**PC20.** search for suitable jobs and apply	-	-	-	-
31.	**PC21.** identify and register apprenticeship opportunities as per requirement	-	-	-	-
32.	**NOS Total**	**20**	**30**	-	-
33.	*Report faults*	**5**	**5**	-	-
34.	**PC1.** Report and Escalate faults/issues to immediate supervisor	5	5	-	-
35.	*Prepare PM Report*	**10**	**15**	-	-
36.	**PC2.** Complete entry of preventive maintenance check lists/reports	10	15	-	-
37.	*Prepare Corrective Maintenance report*	**10**	**15**	-	-
38.	**PC3.** Complete entry of Corrective Maintenance Check lists /reports	10	15	-	-
39.	*Report unusual occurrence*	**10**	**10**	-	-
40.	**PC4.** Complete report on noticing any visible changes in control valve installation or its accessories. Report for immediate attention of supervisor	10	10	-	-
41.	*Report theft*	**5**	**5**	-	-
42.	**PC5.** Report any theft in control valve assembly/spares to supervisor	5	5	-	-
43.	*Report security breach*	**5**	**5**	-	-
44.	**PC6.** Report suspicious movement of new persons near control valve installation to security and supervisor	5	5	-	-
45.	**NOS Total**	**45**	**55**	-	-
46.	*Follow SHE-Instructions*	**15**	**15**	-	-
	PC1. Interpret and follow formal Instructions from SHE Dept.	5	5	-	-
	PC2. Participate in the prescribed drills including familiarization of personal protective equipment, fire extinguisher and first aid.	5	5	-	-

	PC3. Follow Instructions on Work permit, Fire permit and Hazardous Area Classification, Fire and explosion hazards	5	5	-	-
	Follow SHE for Personal Protection	**5**	**5**	-	-
47.	PC4. Use right personal protective equipment, such as: Use safety shoes and helmet at all times in plant Use ear muffs in prescribed high decibel areas Adapt right posture during lifting of heavy objects. Use correct gas mask/breathing air apparatus as per area and directives Use safety goggles and gloves as per directives	5	5	-	-
48.	*Support SHE - Audit*	**5**	**5**	-	-
49.	PC5. Support supervisor during SHE Audit Check for leaks Check for unsafe scaffolding and temporary installations Check for correct storage of cleaning solvents and consumable such as waste cloth Ensure safe working in crane movement area. Check housekeeping including oil and water spillages on floor Check for improper bolting or open enclosures / junction boxes	5	5	-	-
50.	**NOS Total**	**25**	**25**	-	-
51.	*Observe Instructions relating to Process Plant*	**10**	**10**	-	-
52.	PC1. Follow Process Plant related instructions and directives, includingequipment, location, lay out, procedures, forms etc. covering: Process package units such as Boilers, compressors, heaters, chillers including equipment location /lay out etc. Work Permits Various formats and Check Sheets Field Instrumentation and Control loops Recognize and locate Control Valves Recognize and locate On line Analyzers and Analyzer House Recognize and locate DCS and PLC Recognize and locate Fire and Gas systems Safety, Health, Environment and emergency procedures	10	10	-	-
53.	*Follow Processes regarding Work Permits, Check Sheets& Formats*	**10**	**10**	-	-
54.	PC2. Follow rules regarding various permits to work and use the right onedepending on the job he/she undertakes. This includes: Normal working in plant WHITE permit Drilling, Grinding, Welding, Gas cutting in plant - RED Permit or Fire Permit. Excavation work for underground cables and pipe work etc.- EXCAVATION Permit	5	5	-	-
55.	PC3. Understand the purpose of Check sheets used in InstrumentationMaintenance work and make entries in it: Site Hygiene Check Sheets Calibration Check Sheets Preventive Maintenance check sheets	5	5	-	-
56.	*Follow plant working and instrumentation documents*	**10**	**10**	-	-
57.	PC4. Read and Use the Plant working document relevant to a particularInstrument tag/control loop he/she is working on, as required, relating to: Main Process Plants Package units such as Boilers, Heaters, Compressors Chillers etc.	5	5	-	-

58.	**PC5.** Read and use the Instrumentation document relevant to a particularInstrument tag he/she is working with, as required: P and I diagram Instrument Index Data Sheets Hook Up diagram Loop diagram Instrument lay out diagram. Wiring Diagrams Cause and Effect diagram	5	5	-	-
59.	*Support Servicing of Field Instrumentation and Control valves under guidance*	**10**	**20**	-	-
60.	**PC6.** Attend to maintenance requests and resolve the problems with guidance. Request for supervisors advice and assistance during difficult problem resolution. This includes: Measurement sensors and associated impulse lines/sensor cables Pneumatic/electronic transmitters Controllers and control room receivers Control valves and other final control elements.	5	15	-	-
61.	**PC7.** Perform basic overhaul and testing under supervision. Globe, Cage type, Butterfly, Rotary control valves Control Valve accessories, Solenoid Valves, Fail safe shut down devices Pneumatic and Digital Valve positioners Control Valve Data Sheet, control Valve characteristics i.e. quick opening, equal percentage, Linear Overhaul, testing and calibration of Control Valves	5	5	-	-
62.	*Perform routine checks for On line Analyzers and Analyzer House*	**5**	**5**	-	-
63.	**PC8.** Carry out routine checks of: Analyzer sampling system Sensor and electronics section (liquid analyzers, Gas analyzers, Gas Chromatograph etc.) Receivers and accessories in Analyzer house. Calibration Gas cylinders storage and procedures.	5	5	-	-
64.	*Identify and locate DCS& PLC devices*	**5**	**5**	-	-
65.	**PC9.** Locate the field devices and identifies the interface units able to work on the system with guidance.	5	5	-	-
66.	*Locate and identify trouble in PackageUnits Boilers, Heaters, Compressors, Chillers etc.*	**5**	**5**	-	-
67.	**PC10.** Locate faults relating to operation of package units, location, relates instrument tags to respective Process package unit and undertakes routines and perform basic trouble shooting in these units.	5	5	-	-
68.	*Locate Fire and Gas Detection system and Maintain under guidance*	**5**	**5**	-	-
69.	**PC11.** Refer to overview of fire and gas detection, Locate the main field devices, identify interface units and perform maintenance work on the system with guidance.	5	5	-	-
70.	*Follow Site Guidelines of Field Installations Visual , Integrity Checks and Electrical Safety norms*	**15**	**25**	-	-
71.	**PC12.** .Check for visual damage, tampering: Check for visible damage to specified Instruments (in an inventory list or otherwise provided by the Supervisor) caused by impact of an external body.a. Check for prominent damage to Accessories of the specifiedInstruments caused by impact of an external body.b. Check for water ingress in indoor working area due to seepage/roof leaks /damaged windows.c. Check for misuse of installation by other agencies for example, using instrument installation as support				

	or for scaffolding build up. d. Check for prominent deterioration due to environment for example, corrosion / proximity to hot surfaces / process leaks etc.	5	10	-	-
72.	**PC13.** Check for any visible loss of installation integrity. Integrity here means that the instrument and the installation is in a healthy working condition without any unusual appearance, breakage or foreign objects fallen in/on/around the installation which is likely to cause or lead to instrument malfunction.a. Check for improper closure of junction boxes, panels, cable termination.b. Check for improper tubing /impulse piping connectionc. Check for unauthorized /unexplained cable connection disconnection d. Check for unauthorized /unexplained process impulse lines /instrument air connection /disconnection.	5	10	-	-
73.	**PC14.** Check for potential electrical problems due to deviation from standard electrical practicesa. Check for unused flood light /field plug connections with trailing cable. b.Check for bare, untagged or un- insulated wiresc. Check for any modifications or deviation in explosion proof enclosures and intrinsic safety installation with special focus on bolting integrityd. Check to ensure no deviation in ex proof enclosures and intrinsic safety installation with special focus on bolting integrity	5	5	-	-
74.	*Follow guidelines regarding House Keeping and Lighting*	**7**	**6**	-	-
75.	**PC15.** Check for floor condition and cluttering of items Check for wet/slippery work areas, improper storage of items and cluttering of items on work areas. These are potential safety hazards	5	3	-	-
76.	**PC16.** Check for lighting and their operation. Check for unsafe temporary wiring of lighting. Check in plant and indoor areas	2	3	-	-
77.	*Monitor and maintain Consumables and perform follow- up*	**7**	**10**	-	-
78.	**PC17.** Check consumption and storage of consumables. Check for excessive consumption /visible wastage of cleaning solvents, lubrication oil and grease Check for excessive consumption of other related consumables such as waste cloth and gloves Check for proper storage of solvent and waste cloth (potential fire hazard).	2	5	-	-
79.	**PC18.** Complete follow up action as per assigned areas of responsibility and stipulated instructions. Items found unusual outside this boundary to be reported to supervisor. Complete entry of relevant site Readiness check sheet and obtain required approval /endorsement. Replace protective covers which have been removed	5	5	-	-
80.	**NOS Total**	**89**	**111**	-	-
81.	*Obtain PM-work permit*				

80.	**PC1.** Obtain work permit (mandatory) from the Process supervisor before commencing maintenance work.	**5**	**5**	-	-
81.	*Organize PM- Preparatory tasks*	5	5	-	-
82.	**PC2.** Organize for the days Preventive Maintenance task which include: Check sheets and related documents Tools and tackles and calibrating equipment Personal protective safety equipment	**10**	**30**	-	-
83.	*Execute PM Schedule*	10	30	-	-
84.	**PC3.** Execute Preventive maintenance jobs as per available Preventive Maintenance Schedule.	**10**	**10**	-	-
85.	*Prepare PM-Process List*	10	10	-	-
86.	**PC4.** Prepare Process list from process supervisor.	**10**	**10**	-	-
87.	*Plan PM Schedule*	10	10	-	-
88.	**PC5.** Plan for next days preventive maintenance schedule	-	-	-	-
89.	*Perform PM Visual Checks & Actions*	-	-	-	-
90.	**PC6.** Carry out Visual Checks & takes corrective actions wherever possible or else transfer job to shut down list. Check abnormal noise & locates source. Check for abnormal vibration locates source- corrects /informs supervisor. Check for gland leak and arrests .If not possible informs supervisor and transfers to shut down list Check for Instrument air leaks arrests leak-if not possible informs supervisor and transfers to shut down list Check for control valve bonnet and body flange leaks- informs Process supervisor& Instrument supervisor Check for poor electric integrity like exposed terminal and opens enclosure- rectifies. If not permitted informs supervisor& transfer to shut down list Check pneumatic and electric connections to solenoid valve Check for pneumatic connections in Pneumatic transmitters and or I/Pconverters Check for integrity of valve positioners feedback link/connection and rectifies fault after informing Process supervisor Check for environment impact, water ingress/corrosion rectifies fault.Or else .transfers to shut down list. Check for loose bolting and rattling in control valve and accessories including manual operator- rectifies fault	**10**	**20**	-	-
91.	*Complete PM schedule*	**5**	**15**	-	-
92.	**PC7.** Complete preventive maintenance schedule list of Field Instrumentation and controls. Close the list.	5	15	-	-
93.	*Prepare PRM List*	**7**	**8**	-	-
94.	**PC8.** Collect and consolidate daily-diagnostic messages from control valves which have a digital valve controller and Smart Transmitters and record the same in either Preventive Maintenance list or Opportunistic shut down list for execution.	7	8	-	-

95.	*List PMs to be performed during Shut down*	**10**	**15**	-	-
96.	**PC9.** Include preventive maintenance jobs during annual shut down or opportunistic shut down list.	10	15	-	-
97.	*Follow up PM consolidated list*	**5**	**15**	-	-
98.	**PC10.** Follow up on consolidated preventive maintenance list and closes list.	5	15	-	-
99.	**NOS Total**	**72**	**128**	-	-
100.	*Work as per the organisational team environment*	**15**	**8**	-	**5**
101.	**PC1.** identify team objectives and goals, team members by name, their role and responsibilities, greet them appropriately and respond to their greetings	4	4	-	-
102.	**PC2.** comply with organisation's policies and procedures for working with team members within and outside the organisation—especially related to privacy, confidentiality and security	4	-	-	2
103.	**PC3.** work as per the environment to build trust and mutual respect	2	-	-	1
104.	**PC4.** participate in decision making by providing facts and figures, give / accept constructive suggestions, take initiatives to help team members arrive at workable decisions and meet the goals	4	4	-	1
105.	**PC5.** accept decisions professionally and support even if they do not match suggestions and personal views	1	-	-	1
106.	*Communicate effectively*	**6**	**10**	-	**1**
107.	**PC6.** communicate professionally as per organisation's protocols, using appropriate mode of communication—verbal, written, mail, phone or text—and clearly articulate the message to ensure that the receiver understands the message	2	6	-	1
108.	**PC7.** listen to team members attentively, respond promptly, seek / provide clarifications if required	2	-	-	-
109.	**PC8.** share important information with the team timely and refrain from overloading them with unnecessary and unsolicited information	2	4	-	-
110.	*Co-operate with team members and superiors*	**8**	**18**	-	**1**
111.	**PC9.** perform own role, receive inputs from others and make adjustments within permissible rules as per requirement, to produce output in time for other team members to follow	2	6	-	-
112.	**PC10.** help team members to perform their role effectively and provide any clarifications/support they need, including tools /equipment / common resources as well as resolve any contentious issues amicably, involving the team lead or the supervisor if needed	-	6	-	1
113.	**PC11.** let team members know in good time if commitments cannot be carried out, explaining the reasons, and provide alternate solutions, if any; let the team lead know about this	2	-	-	-

114.	**PC12.** act in the interest of the team and the organisation, take initiative to correct the wrong, seek help or escalate if needed to ensure that things do not 'fall through the gap' and team goals are achieved	4	6	-	-
115.	*Respect customs / preferences and gender / ability differences*	**11**	**14**	**-**	**3**
116.	**PC13.** follow organisation's policies and statutory guidelines w.r.t seeking information about others' customs / preferences, making references or comments on social customs / preferences, and refrain from hurting sentiments	2	4	-	-
117.	**PC14.** accommodate team members' preferences to the extent feasible, and in case they come in the way of fulfilling team goals, discuss with the supervisor/ team leader	2	-	-	1
118.	**PC15.** ensure personal behaviour, conduct and communication styles, taking gender and disability of the person into consideration	2	6	-	1
119.	**PC16.** list the different types of disabilities with their respective issues and ways to help them overcome challenges	1	-	-	1
120.	**PC17.** use inclusive language, verbal as well as non- verbal, irrespective of the disability and the gender of the person	2	4	-	-
121.	**PC18.** ensure equal treatment for all clients, colleagues and co-workers while respecting their personal space	2	-	-	-
122.	**NOS Total**	**40**	**50**	**-**	**10**

Annexure: Assessment Strategy

Assessment Guidelines

1. Criteria for assessment for the Qualification Pack will be created by IASC.

2. Performance Criteria (PC) have been assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

3. The assessment for the theory part will/may be based on knowledge bank of questions approved IASC.

4. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

5. Assessment Agencies will create Assessor Guides comprising of Theory and Practical Assessment Set and Guidelines for each examination/training centre (as per assessment criteria below). The same will be approved by IASC for adequacy.

6. To successfully attain Certification on the Qualification Pack, the trainee must score a minimum of 70% in each Core NOS and minimum of 70% in all non-core NOS. In addition, a candidate needs to attain a minimum overall pass percentage of 70% for certification.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Annexure: Tools and Equipment

List of Tools and Equipment

Batch Size: 30 Candidate

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	CAD Software	As per requirement	As per requirement
2	3D scanner, 3D Printers, and their strategy-making software	As per requirement	As per requirement
3	measuring tools	As per requirement	As per requirement
4	sand blasting machine	As per requirement	As per requirement
5	Inert gas muffle furnace	As per requirement	As per requirement
6	Inert gas or nitrogen gas	As per requirement	As per requirement

7	safety equipment & tools	As per requirement	As per requirement
8	Laser Cutting Machine	As per requirement	As per requirement

Classroom Aids:

The aids required to conduct sessions in the classroom are:

1. Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films

Annexure: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile *(if available)*
1	Servilink	Pratik Patel	Business Development Manager	Servilink Systems Ltd,3rd Floor Concord Building, 201, RC Dutt Rd, opposite Alkapuri Petrol Pump, Aradhana Society, Alkapuri, Vadodara, Gujarat 390007, India	70690 49716	servitech.ssl@servilinksystems.com	
2	TANSAM	Sukhpreet Singh	CEO	Tamil nadu Smart and Advanced Manufacturing Centre, C block, Tidel Park, Taramani, Chennai	9779777057	sukhpreet@tansam.org	
3	TAC Automation	Asif Khan	VP- Sales & Operations	TAC Automation Pvt Ltd- A 20 Phase 2, Noida 201305	8373912163	asif@cloudgem.co.in	
4	IJIRA	Dr. Pradip Chakarvarti	HOD-HRD-IJIRA	17, Taratala Rd, CPT Colony, Taratala, Kolkata, West Bengal 700088	7003997232	pradip@ijira.org.in	

5	AKGEC Skill Foundation	Prof. SOM Ashutosh	GM	27th KM Milestone, Delhi - Meerut Expy, Ghaziabad, Uttar Pradesh 201015	7669094516	ashutoshsom@akgec.ac.in	

Annexure: Training Details

Training Projections:

Year	Estimated Training # of Total Candidates	Estimated training # of Women	Estimated training # of People with Disability
1	500	100	
2	600	150	
3	700	150	

Data to be provided year-wise for next 3 years.

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		
2	☐ Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners		
3	☐ Showing Practical Demonstrations to the learners		
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training		
5	☐ Tutorials/ Assignments/ Drill/ Practice		
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations		
7	☐ On the Job Training (OJT)/ Project Work Internship		

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
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
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 based on their main economic function, product, service or technology.