



## QUALIFICATION FILE

### Industrial Automation Technician

- 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

Submitted By:

**Instrumentation Automation Surveillance & Communication Sector Skill Council**

**324-US COMPLEX, Jasola New Delhi- 110076**

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## Table of Contents

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

## Section 1: Basic Details

| 1.     | <b>Qualification Name</b>   | <b>Industrial Automation Technician</b>   |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
|--------|---|---|--|--------|--|---|---|---|--|---|------------|--------|---|--|--|---|---|----------|---|---|--------|
| 2.     | <b>Sector/s</b>   | <b>Instrumentation</b>  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 3.     | <b>Type of Qualification:</b> <input type="checkbox"/> New <input checked="" type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options<br><input type="checkbox"/> OEM | <b>NQR Code &amp; version of existing/previous qualification:</b> 2022/AUT/IASC/06502, V3.0   | <b>Qualification Name of existing/previous version:</b><br><b>Industrial Automation Technician</b> |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 4.     | <b>a. OEM Name</b><br><b>b. Qualification Name</b><br><i>(Wherever applicable)</i>  | NA  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 5.     | <b>National Qualification Register (NQR) Code &amp;Version</b><br><i>(Will be issued after NSQC approval)</i>   | QG-04-CG-045562025-V2-IASC  | <b>6. N C r F /NSQF Level: NSQF Level: 4</b>   |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 7.     | <b>Award (Certificate/Diploma/Advance Diploma/ Any Other</b> <i>(Wherever applicable specify multiple entry/exits also &amp; provide details in annexure)</i>                         | Certificate   |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 8.     | <b>Brief Description of the Qualification</b>   | The Industrial Automation Technician is responsible for the installation of control panels, integrating it with the customer's system, and assisting the engineer in commissioning and powering up at the customer site / Industry location.  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 9.     | <b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>  | <b>a. Entry Qualification &amp; Relevant Experience:</b> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10th pass + 2 years of NTC/NAC in the relevant field*</td> <td></td> </tr> <tr> <td>2</td> <td>12 Science</td> <td>1 year</td> </tr> <tr> <td>3</td> <td>Completed 02nd year of a 3-year engineering diploma (after 10th) in the relevant field</td> <td></td> </tr> <tr> <td>4</td> <td>Previous relevant Qualification of NSQF Level 3.5</td> <td>1.5 year</td> </tr> <tr> <td>5</td> <td>Previous relevant Qualification of NSQF Level 3.0</td> <td>3 Year</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Instrumentation/Mechanical/EEE/ECE/Electrical/Mechatronics</li> </ul> <b>b. Age:</b> NA |  | S. No. | Academic/Skill Qualification (with Specialization - if applicable) | Required Experience (with Specialization - if applicable) | 1 | 10th pass + 2 years of NTC/NAC in the relevant field* |  | 2 | 12 Science | 1 year | 3 | Completed 02nd year of a 3-year engineering diploma (after 10th) in the relevant field |  | 4 | Previous relevant Qualification of NSQF Level 3.5 | 1.5 year | 5 | Previous relevant Qualification of NSQF Level 3.0 | 3 Year |
| S. No. | Academic/Skill Qualification (with Specialization - if applicable)  | Required Experience (with Specialization - if applicable)   |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 1      | 10th pass + 2 years of NTC/NAC in the relevant field*   |   |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 2      | 12 Science  | 1 year  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 3      | Completed 02nd year of a 3-year engineering diploma (after 10th) in the relevant field  |   |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 4      | Previous relevant Qualification of NSQF Level 3.5   | 1.5 year  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |
| 5      | Previous relevant Qualification of NSQF Level 3.0   | 3 Year  |  |        |  |   |   |   |  |   |            |        |   |  |  |   |   |          |   |   |        |

| 10.                     | <b>Credits Assigned to this Qualification, Subject to Assessment</b> (as per National Credit Framework (NCrF))  | 15  | <b>11. Common Cost Norm Category (I/II/III)</b> (wherever applicable): <b>I</b> |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
|-------------------------|---|---|---|---|---------------|-------------------------|----------------|-------------------|-----------------------|-------------|---------------|---------------------|-----|-----|-----|----|-----|--------|--|--|--|--|--|
| 12.                     | <b>Any Licensing requirements for Undertaking Training on This Qualification</b> (wherever applicable)  | Not applicable  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 13.                     | <b>Training Duration by Modes of Training Delivery</b> (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification) | <input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended<br><table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>Emp (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>150</td> <td>150</td> <td>150</td> <td>00</td> <td>450</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(Refer Blended Learning Annexure for details)</p> |   |   |               | Training Delivery Modes | Theory (Hours) | Practical (Hours) | OJT Mandatory (Hours) | Emp (Hours) | Total (Hours) | Classroom (offline) | 150 | 150 | 150 | 00 | 450 | Online |  |  |  |  |  |
| Training Delivery Modes | Theory (Hours)  | Practical (Hours)   | OJT Mandatory (Hours)   | Emp (Hours)                             | Total (Hours) |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| Classroom (offline)     | 150   | 150   | 150   | 00                                      | 450           |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| Online                  |   |   |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 14.                     | <b>Aligned to NCO/ISCO Code/s</b> (if no code is available mention the same)  | NCO 2015: 2433.0601   |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 15.                     | <b>Progression path after attaining the qualification</b> (Please show Professional and Academic progression)   | Industrial Automation Specialist  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 16.                     | <b>Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>   | English and Hindi   |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 17.                     | <b>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</b>  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:   |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 18.                     | <b>Is the Job Role Amenable to Persons with Disability</b>  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><b>If "Yes", specify applicable type of Disability:</b>  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 19.                     | <b>How Participation of Women will be Encouraged</b>  | Training on this job role is planned for school only and female candidates will also be encouraged  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 20.                     | <b>Are Greening/ Environment Sustainability Aspects Covered</b> (Specify the NOS/Module which covers it)  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 21.                     | <b>Is Qualification Suitable to be Offered in Schools/Colleges</b>  | Schools <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 22.                     | <b>Name and Contact Details of Submitting / Awarding Body SPOC</b> (In case of CS or MS, provide details of both Lead AB & Supporting ABs)                          | <b>Name:</b> Mayank Bansal<br><b>Email:</b> <a href="mailto:sqa@iascsectorskillcouncil.in">sqa@iascsectorskillcouncil.in</a> <b>Contact No.:</b> 9599284350<br><b>Website:</b> <a href="https://iascsectorskillcouncil.in/">https://iascsectorskillcouncil.in/</a>  |   |   |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |
| 23.                     | <b>Final Approval Date by NSQC: 07/10/2025</b>  | <b>24. Validity Duration: 03 Years</b>  |   | <b>25. Next Review Date: 07/10/2028</b> |               |                         |                |                   |                       |             |               |                     |     |     |     |    |     |        |  |  |  |  |  |

## 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 to the 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<br>(if applicable) | Core/ Non-Core | NCrF/NS QF Level | Credits as per NCrF | Training Duration (Hours) |            |            |            |            | Assessment Marks |            |          |          |            |                               |  |
|--|--------------------------------------|--|----------------|------------------|---------------------|---------------------------|------------|------------|------------|------------|------------------|------------|----------|----------|------------|-------------------------------|--|
|  |                                      |  |                |                  |                     | Th.                       | Pr.        | OJT-Man.   | Emp Hours. | Total      | Th.              | Pr.        | Proj.    | Viva     | Total      | Weightage (%) (if applicable) |  |
| 1.                                       | Install and Commission Control Panel | IAS/N5605                                    | Core           | 4                | 11                  | 60                        | 120        | 150        | 00         | 330        | 40               | 60         | -        | -        | 100        | 50                            |  |
| 2.                                       | Adoption of Industry 4.0             | IAS/N0219                                    | Core           | 4                | 2                   | 30                        | 30         |            |            | 60         | 40               | 60         |          |          | 100        | 30                            |  |
| 3.                                       | Employability Skills                 | DGT/VSQ/N0102                                | Core           | 4                | 2                   |                           |            | 00         | 60         | 60         | 20               | 30         | -        | -        | 50         | 15                            |  |
| <b>Duration (in Hours) / Total Marks</b> |                                      |  |                |                  |                     |                           |            |            |            |            |                  |            |          |          |            |                               |  |
|  |                                      |  |                |                  | <b>15</b>           | <b>90</b>                 | <b>150</b> | <b>150</b> | <b>60</b>  | <b>450</b> | <b>100</b>       | <b>150</b> | <b>-</b> | <b>-</b> | <b>250</b> | <b>100</b>                    |  |

#### Elective NOS/s:

| S. No                                    | NOS/Module Name | NOS/Module Code & Version<br>(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.                                       |                 |  |                |                  |                     |                           |     |          |          |       |                  |     |       |      |       |                               |
| <b>Duration (in Hours) / Total Marks</b> |                 |  |                |                  |                     |                           |     |          |          |       |                  |     |       |      |       |                               |

## 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 Percentage

Please specify **any one** of the following:

**Minimum Pass Percentage – Aggregate at qualification level: 70%** (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

**Minimum Pass Percentage – NOS/Module-wise: %** (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. | <b>Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines)        | Diploma (Electrical, Electronics, Instrumentation, or similar trades) with 2 years' experience (Industry), and 1 year of experience (Teaching) |
| 2. | <b>Master Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines) | B. Tech (Electrical, Electronics, Instrumentation or similar trades) with 2 years' experience (Industry), and 1 years of experience (Teaching) |
| 3. | <b>Tools and Equipment Required for Training</b>   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)                             |
| 4. | <b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>                          | According to New NOS   |

## Section 4: Assessment Related

|    |   |  |
|----|---|--|
| 1. | <b>Assessor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)                | Diploma (Electrical, Electronics, Instrumentation or similar trades) with 3 years' experience (Industry), and 2 years of experience (Teaching)   |
| 2. | <b>Proctor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)                 | B.Tech (Electrical, Electronics, Instrumentation or similar trades) with 3 years' experience (Industry), and 2 years of experience (Teaching)  |
| 3. | <b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines) | B.Tech (Electrical, Electronics, Instrumentation or similar trades) with 5 years' experience (Industry), and 2 years of experience (Teaching)  |
| 4. | <b>Assessment Mode</b> (Specify the assessment mode)  | Both online and offline  |
| 5. | <b>Tools and Equipment Required for Assessment</b>  | <input checked="" type="checkbox"/> Same as for training <input type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment) |

## Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

|    |  |
|----|--|
| 1. | <b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b> In Process                            |
| 2. | <b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> NO        |
| 3. | <b>Government /Industry initiatives/ requirement (Yes/No):</b> Yes                                     |
| 4. | <b>Number of Industry validations provided:</b> 21   |
| 5. | <b>Estimated nos. of persons to be trained and employed:</b> Approx 1500                               |
| 6. | <b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> Yes<br>If "No", why: |

## Annexure: Learning Outcomes and Assessment Criteria

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

| NOS/Module Name  | Learning Outcomes   | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|--|---|--------------|-----------------|---------------|------------|
| IAS/N5605: Install and Commission Control  | <i>Prepare for installation and integration of control panel</i>  | 5            | 15              | -             | -          |
|  | identify accurately the work requirements and delivery time schedule from authorized sources  | 1            | 3               | -             | -          |
|  | carry out micro-level planning for installation and commissioning activities  | 1            | 3               | -             | -          |
|  | clarify doubts by referring to design, drawing, job instructions and work manuals before going to the site                          | 1            | 3               | -             | -          |
|  | identify tools and tackles required at the site   | 1            | 3               | -             | -          |
|  | ensure availability of control panel and tools required for installation at the site before visiting the site                       | 1            | 3               | -             | -          |
|  | <i>Install control panel</i>  | 10           | 15              | -             | -          |
|  | ensure adequacy of working space, access and maintenance facilities at the site and ensure panel fixing is proper                   | 1            | 3               | -             | -          |
|  | Inspect and determine any transit damage of goods and equipment   | 1            | 3               | -             | -          |
|  | prepare a transit damage report accurately in the presence of the customer representative and proceed as per the organization's SOP | 1            | 3               | -             | -          |
|  | Ensure the required tools are available to carry out the installation   | 1            | 3               | -             | -          |
|  | prepare a physical verification of the equipment and accessories that are available at site as per the checklist list               | 1            | 3               | -             | -          |
|  | Ensure that all the devices in the panel are dust free  | 1            | 3               | -             | -          |
|  | Check the internal panel wiring and ensure that it is in accordance with the design drawing   | 1            | 3               | -             | -          |
|  | Check the insulation of internal panel wiring and devices within the panel  | 1            | 3               | -             | -          |
| check if batteries and chargers have been assembled in accordance with the manufacturer's recommended procedures |   |              |                 |               |            |

|  |  |           |           |   |   |
|--|--|-----------|-----------|---|---|
|  |  | 1         | 3         | - | - |
|  | verify the electrical conductors sizes and capacity for installation according to specifications   | 1         | 3         | - | - |
|  | ensure that panel is positioned as prescribed, following safety norms  | 1         | 3         | - | - |
|  | inspect the connection to socket outlets, switches and protective conductors   | 1         | 3         | - | - |
|  | verify and / or perform settings of various components/sub-systems of the control panels supplied as per design and customer requirements  | 1         | 3         | - | - |
|  | ensure that fuses, switches and other protective devices are labeled correctly   | 1         | 3         | - | - |
|  | prepare ground and earth the panels  | 1         | 3         | - | - |
|  | check for various voltage levels on charged panel, danger and warning notices, if necessary  | 2         | 2         | - | - |
|  | follow company approved standard procedures in erection and commissioning process  | 2         | 2         | - | - |
|  | use the wiring diagram to validate the accuracy of the installation to meet the specifications   | 2         | 2         | - | - |
|  | ensure that applicable local electrical codes and standards are used   | 2         | 2         | - | - |
|  | ensure that no installation damage has occurred, if there is damage to the panel while installing, prepare report and proceed as per organization SOP to rectify the damage                          | 2         | 2         | - | - |
|  | <i>Test control panel</i>  | <b>12</b> | <b>12</b> | - | - |
|  | determine the process for testing the control panel and identify requirements for connections to the customer system, by referring to the organization SOP for panel testing and instruction therein | 2         | 2         | - | - |
|  | ensure cable ends, glands and terminators are properly processed   | 2         | 2         | - | - |
|  | ensure end to end continuity of all the cables   | 2         | 2         | - | - |
|  | ensure control panel is grounded properly  | 2         | 2         | - | - |

|  |  |           |           |   |   |
|--|--|-----------|-----------|---|---|
|  | ensure continuity of all the fuses   | 2         | 2         | - | - |
|  | test MCB functioning to ensure it is according to panel design   | 2         | 2         | - | - |
|  | check the electrical load of the control panel and verify that it is within the specification                                | 2         | 2         | - | - |
|  | check control systems interlocks, record any faults and create rectification list  | 2         | 2         | - | - |
|  | check each digital control point by comparing the command at the control panel and status of the devices that it controls    | 2         | 2         | - | - |
|  | perform continuity check, insulation resistance, functions of all devices after completion of installation of all devices    | 2         | 2         | - | - |
|  | check the functional testing information to be carried out in accompaniment with client and record and document the same     | 2         | 2         | - | - |
|  | prepare work site test report and document for future use  | 2         | 2         | - | - |
|  | <i>Integrate control panel with customer system</i>  | <b>12</b> | <b>20</b> | - | - |
|  | interact with commissioning engineer in order to understand customer system integration requirements and work schedule       | 2         | 2         | - | - |
|  | check the design/ drawing of the customer system to extract relevant information for integration                             | 2         | 2         | - | - |
|  | check the location of the customer system and plan for cable routing and related work, ensuring safety and efficiency        | 2         | 2         | - | - |
|  | check with customers engineer or authorized person for planned integration work and ensure availability of the system        | 2         | 2         | - | - |
|  | check shutdown requirement for the integration work then coordinate with the customer representative and ensure availability | 2         | 1         | - | - |
|  | perform the required installation and or connection to the customer system , preferably                                      |           |           |   |   |

|  |  |           |           |   |   |
|--|--|-----------|-----------|---|---|
|  | in the presence of a customer representative   | 2         | 1         | - | - |
|  | ensure that cable gland mounting , cable end terminations and labelling are properly done  | 2         | 1         | - | - |
|  | check the cleanliness of customer system and ensure that the work area is free from any packing material or debris etc.  | 2         | 1         | - | - |
|  | prepare a report of integration work performed in a format specified by the commissioning engineer   | 2         | 1         | - | - |
|  | rectify any identified errors and retest to verify correct operation, if the fault persists, report to the engineer and seek guidance                            | 2         | 1         | - | - |
|  | check that the required tools are available to carry out the commissioning process   | 1         | 2         | - | - |
|  | prepare the user acceptance test performance sheet in the format agreed upon by the engineer and customer  | 1         | 2         | - | - |
|  | apply the control inputs from the panel or from the customer system and record resultant readings and control outputs in the specified observation sheet         | 1         | 2         | - | - |
|  | <i>Achieve productivity, quality and safety standards as per company norms</i>   | 3         | 6         | - | - |
|  | achieve set productivity targets consistently  | 1         | 2         | - | - |
|  | maintain record of damaged components as received, damaged during installation and damaged during testing  | 1         | 2         | - | - |
|  | ensure compliance with health and safety guidelines and rules  | 1         | 2         | - | - |
|  | <b>NOS Total</b>   | <b>40</b> | <b>60</b> | - | - |
|  | Demonstrate operation, components of an industrial automation system (PLC), and wired and wireless devices in the laboratory.                                    | 8         | 4         | 2 |   |
|  | Demonstrate the working and wiring of earthing pits, UPS, Batteries, and Power distribution components of an industrial automation system (PLC) in a laboratory. | 4         | 8         |   | 2 |

|   |   |           |           |           |           |
|---|---|-----------|-----------|-----------|-----------|
| IAS/N0219 Adoption of Industry 4.0                        | Explain PLC systems' operation, programming, and I/O interface with field sensors and actuators.  | 8         | 4         | 2         | 2         |
|   | Verify and rectify sensor and actuator signal communication faults in the PLC system.   | 4         | 8         |           | 2         |
|   | Overhauling and maintenance of solenoid valves and cylinders, along with air pressure regulators and filters.   | 4         | 4         | 2         | 2         |
|   | Testing and calibration of compressor pressure switches, Gauges, and Valves.  | 4         | 4         | 2         | 2         |
|   | .Testing and calibration of industrial switches, such as pressure, temperature, and level switches.   | 4         | 4         |           |           |
|   | Test and rectify faults in the Proximity Sensors' operation, installation, and wiring   | 4         | 4         | 2         |           |
|   | <b>Total</b>  | <b>40</b> | <b>40</b> | <b>10</b> | <b>10</b> |
| <b>DGT/VSQ/N0102:<br/>Employability Skills (60 Hours)</b> | <i>Introduction to Employability Skills</i>   | 1         | 1         | -         | -         |
|   | identify employability skills required for jobs in various industries   | -         | -         | -         | -         |
|   | identify and explore learning and employability portals   | -         | -         | -         | -         |
|   | <i>Constitutional values – Citizenship</i>  | 1         | 1         | -         | -         |
|   | recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.  | 4         | 4         |           | 1         |
|   | follow environmentally sustainable practices  | 1         |           |           | 1         |
|   | <i>Becoming a Professional in the 21st Century</i>  | 6         | 10        |           | 1         |
|   | recognize the significance of 21st Century Skills for employment  | 2         | 6         |           | 1         |
|   | practice the 21st Century Skills such as Self- Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life | 2         |           |           |           |
| <i>Basic English Skills</i>                               | 2   | 4         |           |           |           |

|  |    |    |  |   |
|--|----|----|--|---|
| use basic English for everyday conversation in different contexts, in person and over the telephone      | 8  | 18 |  | 1 |
| read and understand routine information, notes, instructions, mails, letters etc. written in English     | 2  | 6  |  |   |
| write short messages, notes, letters, e-mails etc. in English  |    | 6  |  | 1 |
| <i>Career Development &amp; Goal Setting</i>   | 2  |    |  |   |
| understand the difference between job and career   | 4  | 6  |  |   |
| prepare a career development plan with short- and long-term goals, based on aptitude                     | 11 | 14 |  | 3 |
| <i>Communication Skills</i>  | 2  | 4  |  |   |
| follow verbal and non-verbal communication etiquette and active listening techniques in various settings | 2  |    |  | 1 |
| work collaboratively with others in a team   | 2  | 6  |  | 1 |
| <i>Diversity &amp; Inclusion</i>   | 1  |    |  | 1 |
| communicate and behave appropriately with all genders and PwD  | 2  | 4  |  |   |
| escalate any issues related to sexual harassment at workplace according to POSH Act                      | 2  |    |  |   |
| <i>Financial and Legal Literacy</i>  | 13 | 12 |  | 5 |
| select financial institutions, products and services as per requirement                                  | 2  | 2  |  | 1 |
| carry out offline and online financial transactions, safely and securely                                 | 2  | 4  |  |   |
| identify common components of salary and compute income, expenses, taxes, investments etc                | 4  | 2  |  | 1 |
| identify relevant rights and laws and use legal aids to fight against legal exploitation                 | 1  | 1  |  |   |
| <i>Essential Digital Skills</i>  | 1  | 1  |  | 1 |
| operate digital devices and carry out basic internet operations securely and safely                      | 1  | 1  |  | 1 |
| use e- mail and social media platforms and virtual collaboration tools to work effectively               | 2  | 1  |  | 1 |

|   |            |            |           |           |
|---|------------|------------|-----------|-----------|
| use basic features of word processor, spreadsheets, and presentations   | 6          | 8          |           | 1         |
| <i>Entrepreneurship</i>   | 2          | 3          |           | 1         |
| identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research                                       | 2          | 1          |           |           |
| develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion  | 2          | 4          |           |           |
| identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity   | 4          | 5          |           | 1         |
| <i>Customer Service</i>   | 2          | 1          |           | 1         |
| identify different types of customers   | 1          | 3          |           |           |
| identify and respond to customer requests and needs in a professional manner.   | 1          | 1          |           |           |
| follow appropriate hygiene and grooming standards   | 4          | 5          |           | 1         |
| <i>Getting ready for apprenticeship &amp; Jobs</i>  | 1          | 1          |           | 1         |
| create a professional Curriculum vitae (Résumé)   | 1          | 2          |           |           |
| search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively | 1          | 1          |           |           |
| apply to identified job openings using offline /online methods as per requirement   | 1          | 1          |           |           |
| answer questions politely, with clarity and confidence, during recruitment and selection  | 2          | 2          |           | 1         |
| identify apprenticeship opportunities and register for it as per guidelines and requirements  | 1          | 1          |           |           |
| <b>NOS Total</b>  | <b>20</b>  | <b>30</b>  | <b>-</b>  | <b>-</b>  |
| <b>Total Marks</b>  | <b>100</b> | <b>130</b> | <b>10</b> | <b>10</b> |

## Section 6: Annexure & Supporting Documents Check List

*Specify Annexure Name / Supporting document file name*

|     |   |                   |
|-----|---|-------------------|
| 1.  | <b>Annexure:</b> NCrF/NSQF level justification based on NCrF level/NSQF descriptors <i>(Mandatory)</i>                      | <i>Annexure 1</i> |
| 2.  | <b>Annexure:</b> List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i> | <i>Annexure 2</i> |
| 3.  | <b>Annexure:</b> Detailed Assessment Criteria <i>(Mandatory)</i>  | <i>Annexure 3</i> |
| 4.  | <b>Annexure:</b> Assessment Strategy <i>(Mandatory)</i>   | <i>Annexure 4</i> |
| 5.  | <b>Annexure:</b> Blended Learning <i>(Mandatory, in case selected Mode of delivery is “Blended Learning”)</i>               |                   |
| 6.  | <b>Annexure:</b> Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>              |                   |
| 7.  | <b>Annexure:</b> Acronym and Glossary <i>(Optional)</i>   | <i>Annexure 5</i> |
| 8.  | <b>Supporting Document:</b> Model Curriculum <i>(Mandatory – Public view)</i>   | <i>Annexure 6</i> |
| 9.  | <b>Supporting Document:</b> Career Progression <i>(Mandatory - Public view)</i>   | <i>Annexure 7</i> |
| 10. | <b>Supporting Document:</b> Occupational Map <i>(Mandatory)</i>   | <i>Annexure 8</i> |
| 11. | <b>Supporting Document:</b> Assessment SOP <i>(Mandatory)</i>   | <i>Annexure 9</i> |
| 12. | <b>Any other document you wish to submit:</b>   |                   |

## 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 |
|---|--|--|-----------------|
| <b>Professional Theoretical Knowledge /Process</b>  | The Industrial Automation Technician is responsible for installation of control panels, integrating it with customers system and assisting the engineer in commissioning and powering up at customer site.   | Theoretical and practical skills of the individual are applied to work in predictable and familiar context. The evolving nature of the business and technology environment demands dealing with new scenarios and adapting solutions in the context of the target industry quickly which makes the process adaptive and non-routine.   | 4               |
| <b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>                 | Knowledge facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.  | The individual applies knowledge learnt through formal education to accomplish the defined objectives and continuously updates his/her knowledge and acquires new relevant information through multiple channels and assimilates these.  | 4               |
| <b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b> | Decision Making, Plan and Organize, Customer Centricity, Problem Solving, Analytical Thinking, Critical Thinking   | The individual is called upon to understand the business context, the technology environment, the defined vision/mission/goals of the company and implement the defined solutions. Industrial Automation Technician required extensive interaction with all stakeholders – including customer, vendors and own organization. He/she needs to do out-of-the-box thinking, do critical analysis and apply information. | 4               |
| <b>Broad Learning Outcomes/Core Skill</b>   | Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. | Deep skills in understanding concepts, problems and documents of varied nature, assimilating and communicating globally across the organization boundaries to achieve desired results. Collaboration is a key need.  | 4               |

|                       |   |   |   |
|-----------------------|---|---|---|
| <b>Responsibility</b> | Completely responsible for the output. Effective team work and safety of self and colleagues. Responsible for self-learning goals | The individual understands the responsibilities of the role and fully owns it. He/she continuously learns on the job and, taking guidance where needed and guiding the team and coaching to achieve the outcomes. | 4 |
|-----------------------|---|---|---|

NSQC Approved

## Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size:

| S. No. | Tool / Equipment Name         | Specification           | Quantity for specified Batch size |
|--------|-------------------------------|-------------------------|-----------------------------------|
| 1      | cable glands                  | As per the requirements | 1                                 |
| 2      | ferrules                      | As per the requirements | 1                                 |
| 3      | cable tray                    | As per the requirements | 3                                 |
| 4      | sockets                       | As per the requirements | 1                                 |
| 5      | terminals                     | As per the requirements | 1                                 |
| 6      | cables                        | As per the requirements | 15                                |
| 7      | wires                         | As per the requirements | 1                                 |
| 8      | Earth pit and its components  | As per the requirements | 2                                 |
| 9      | conductivity meter            | As per the requirements | 10                                |
| 10     | electrical switchgear         | As per the requirements | 1                                 |
| 11     | electrical safety accessories | As per the requirements | 1                                 |
| 12     | AutoCAD Software              | As per the requirements | 1                                 |
| 13     | Tool Set                      | As per the requirements | 1                                 |
| 14     | Cables                        | As per the requirements | 15                                |
| 15     | Devices                       | As per the requirements | 1                                 |
| 16     | Controllers                   | As per the requirements | 1                                 |

## Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Automation lab with case studies scenario
2. Gamified Teaching/Learning platform supported by Virtual Lab
3. Classroom with Computer system, projector, blackboard, Marker etc.

## 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<br>(if available) |
|-------|-------------------|---------------------|-----------------|--------------------------|------------------|-----------|------------------------------------|
| 1     | AKGEC             | Prof. Som Ashutosh  | General Manager | AKGEC SKILLS FOUNDATION, |                  | AKGEC     | Prof. Som Ashutosh                 |

|    |                              |                     |  |   |                        |                                     |  |
|----|------------------------------|---------------------|--|---|------------------------|-------------------------------------|--|
|    |                              |                     |  | AKG Engineering College Campus, 27th  |                        |                                     |  |
| 2  | BLUE STAR                    | Jagdish Sharma      | H.R                                    | Tamil nadu Smart and Advanced Manufacturing Centre, C block, Tidel Park, Taramani, Chennai                              | 9650074838             | jagdishsharma@bluestarindia.com     |  |
| 3  | Broadline                    | Natesh C            | Manager R&D                            |   | 044 28333083           | nateshc@broadline.co.in             |  |
| 4  | Eagle star ventures          | Kamal Babu Singh    | Director                               |   | 9326453055 /8758910185 | kamababusingh@gmail.com             |  |
| 5  | EPLAN                        | Mukund Kulkarni     | Head Education                         | EPLAN Software Pvt Ltd 5th Floor, Brigade Triumph, Dasarahalli Main Road, Sector B Hebbal Kempapura, Bengaluru -560092. | 9004002823             | Kulkarni.m@eplan.in                 |  |
| 6  | G D Goenka                   | Mr. Vipul Pandey    | AGM                                    |   | 9149057199             | Vipul.pandey@gdgu.org               |  |
| 7  | INDOTECH Industry Validation |                     |  |   |                        |                                     |  |
| 8  | Philips Machine Tools        | Puneet Kumar Saini  | Sales Engineer                         |   | 8851525264             | puneet.k@philipscorp.com            |  |
| 9  | Janatics_                    | R Ramesh            | Executive Director                     |   | 91 9629032777          | didactic@janatics.co.in             |  |
| 10 | J Lab_                       | Ravi Jain           | Director                               |   |                        |                                     |  |
| 11 | JPRL                         | Tushar Agarwal      | Operations Manager                     |   | 8299303473             | operations@jpri.in                  |  |
| 12 | JSS                          | Khushbu Jain        | Proprietor                             |   | 0171-2642492           | sales@jaincolab.com                 |  |
| 13 | Kore_                        | Chaitanya. R. Doshi | Director                               |   | 8884822483             | chaitanya.r.doshi@gmail.com         |  |
| 14 | MBI                          | Aruna Achal         | General Manager                        | Gurugram   Chandigarh   |                        | enquiry@mindbrinno.com              |  |
| 15 | Mevachi                      | Divya Khurana       | Head Business & Strategy               |   | 9718166848             | info@mevachi.com                    |  |
| 16 | Micromatic                   | KUNDAN KUMAR        | Asst. Manager - Learning & Development |   | 8744919163             | Kundan.kumar@micromaticgrinding.com |  |
| 17 | S.K.Engg Works_              |                     |  |   |                        |                                     |  |
| 18 | Scilab                       | Navneet Jain        | Director                               |   |                        |                                     |  |
| 19 | Servilink                    | Pratik Patel        | Business Development Manager           |   | 70690 49716            | servitech.ssl@servilinksystems.com  |  |

|    |                               |                  |          |  |             |                    |
|----|-------------------------------|------------------|----------|--|-------------|--------------------|
| 20 | TANSAM                        | Sukhpreet Singh  | CEO      |  | 04469255700 |                    |
| 21 | VARMAIC Industrial Validation | Mr. Dinesh Varma | Director |  | 9235663734  | mail.dv@varmaic.in |

## Annexure: Training & Employment Details

### Training and Employment Projections:

| Year    | Estimated Training of Total Candidates | Estimated training # of Women | Estimated training # of People with Disability |
|---------|--|-------------------------------|--|
| 2025-26 | 250                                    | 25                            |  |
| 2026-27 | 750                                    | 75                            |  |
| 2027-28 | 500                                    | 50                            |  |

*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 |
|                       |      |                  |          |           |        |         |          |           |        |                        |          |           |        |

*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: NOT APPLICABLE FOR NEW QUALIFICATION.

- 1.
- 2.

### Content availability for previous versions of qualifications: NOT APPLICABLE FOR NEW QUALIFICATION.

Participant Handbook  Facilitator Guide  Digital Content  Qualification Handbook  Any Other:

Languages in which Content is available:

## Annexure: Blended Learning

**Blended Learning Estimated Ratio & Recommended Tools:**

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

| S. No. | Select the Components of the Qualification  | List Recommended Tools – for all Selected Components                       | Offline : Online Ratio |
|--------|---|--|------------------------|
| 1      | <input type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge                    | Curriculum defined and submitted   | 100:00                 |
| 2      | <input type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners | Curriculum defined and submitted   | 100:00                 |
| 3      | <input type="checkbox"/> Showing Practical Demonstrations to the learners                                     | Curriculum defined and submitted   | 100:00                 |
| 4      | <input type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training         | Curriculum defined and submitted   | 100:00                 |
| 5      | <input type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice  | Curriculum defined and submitted including OJT                             | 100:00                 |
| 6      | <input type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations                           | Defined assessment criteria, Blueprint and Question Bank will be developed | 70:30                  |
| 7      | <input type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training          | OJT at work location   | 100:00                 |

### Annexure: Assessment Strategy

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

*Mention the detailed assessment strategy in the provided template.*

#### 1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

#### 2. Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

#### 3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME
- Questions are mapped to the specified assessment criteria
- Assessor must be ToA certified & trainer must be ToT Certified

#### 4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding

#### 5. Method of verification or validation:

- Surprise visit to the assessment location

#### 6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored

#### On the Job:

1. Each module (which covers the job profile of Automotive Service Assistant Technician) will be assessed separately.
2. The candidate must score 60% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
  - Videos of Trainees during OJT

4. Assessment of each Module will ensure that the candidate is able to:
- Effective engagement with the customers
  - Understand the working of various tools and equipment

### 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  |
|--|--|
| <b>National Occupational Standards (NOS)</b> | 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.   |
| <b>Qualification</b>                         | 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   |
| <b>Qualification File</b>                    | 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. |
| <b>Sector</b>                                | A grouping of professional activities on the basis of their main economic function, product, service or technology.  |
| <b>Long Term Training</b>                    | Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>                          |