

QUALIFICATION FILE

Winding Machine Operator (Electronics Component)

☒ 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:

Electronics Sector Skills Council of India (ESSCI)

155, 2nd Floor, ESC House

Okhla Industrial Area - Phase 3,

New Delhi – 110020

Tel: 011 – 8447738501

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	8
Annexure: Evidence of Level	8
Annexure: Tools and Equipment (Lab Set-Up)	10
Annexure: Industry Validations Summary	12
Annexure: Training Details	14
Annexure: Blended Learning	15
Annexure: Detailed Assessment Criteria	16
Annexure: Assessment Strategy	21
Annexure: Acronym and Glossary	23

Section 1: Basic Details

1.	Qualification Name	Winding Machine Operator (Electronics Component)													
2.	Sector/s	Electronics													
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i> - QG-04-EH-02832-2023-V1.1-ESSC & V3.0	Qualification Name of existing/previous version: Winding Operator												
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>	NA													
5.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval)</i>	QG-04-EH-04208-2025-V4-ESSC	6. NCrF/NSQF Level: 4												
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	Certificate													
8.	Brief Description of the Qualification	The Winding Machine Operator (Electronics Component) winds the metal-alloy wire or metalized film onto a core by using an automated or semi-automated winding machine in the process of manufacturing of capacitors and resistors. The individual sample also checks the resistance or capacitance of the winding.													
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12th grade or Equivalent in Science</td> <td>NA</td> </tr> <tr> <td>2</td> <td>10th grade or equivalent</td> <td>3 years relevant experience</td> </tr> <tr> <td>3</td> <td>Certificate-NSQF (Level-3.5 in relevant domain)</td> <td>1.5 years of relevant experience</td> </tr> </tbody> </table> # Relevant Exp. in Semiconductor & Components b. Age: NA		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	12th grade or Equivalent in Science	NA	2	10th grade or equivalent	3 years relevant experience	3	Certificate-NSQF (Level-3.5 in relevant domain)	1.5 years of relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)													
1	12th grade or Equivalent in Science	NA													
2	10th grade or equivalent	3 years relevant experience													
3	Certificate-NSQF (Level-3.5 in relevant domain)	1.5 years of relevant experience													
10.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	16	11. Common Cost Norm Category (I/II/III) <i>(wherever applicable): I</i>												

12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	NA																						
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"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>00:00</td> <td>180:00</td> <td>120:00</td> <td>00:00</td> <td>480:00</td> </tr> <tr> <td>Online</td> <td>180:00</td> <td>00:00</td> <td>00:00</td> <td>00:00</td> <td></td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	00:00	180:00	120:00	00:00	480:00	Online	180:00	00:00	00:00	00:00	
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	00:00	180:00	120:00	00:00	480:00																			
Online	180:00	00:00	00:00	00:00																				
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/8151.9900																						
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Die Attach and Wire Bonding Supervisor																						
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	NA																						
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	No gender sensitization																						
20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	☒ Yes ☐ No Employability Skills (DGT/VSQ/N0101)																						
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: Saleem Ahmed Email: ceo@essc-india.org Contact No.: 011 – 8447738501 Website: https://www.essc-india.org/																						
23.	Final Approval Date by NSQC: 08.05.2025	24. Validity Duration: 3 Years			25. Next Review Date: 08.05.2028																			

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 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 (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	Perform Winding Operations for Resistors and Capacitors	ELE/N0168 & V1.0	Core	4	7.5	75	90	60	0	225	40	60	0	0	100	40
2	Quality Assurance, Maintenance and Safety in Winding Operations	ELE/N0169 & V1.0	Core	4	7.5	75	90	60	0	225	40	60	0	0	100	40
3	Employability Skills (30 hours)	DGT/VSQ/N0101 & V1.0	Non-core	2	1	30	0	0	0	30	20	30	0	0	50	20
Duration (in Hours) / Total Marks					16	180	180	120	0	480	100	150	0	0	250	100

Elective NOS/s:

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.																
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

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.																
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.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma/ITI (Electronics/Mechanical/Electrical) with 2 years industrial and 1 year training experience in winding operator. Or Certified in relevant CITS Trade
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma/ITI (Electronics/Mechanical/Electrical) with 3 years industrial and 2 years training experience in winding operator. Or Certified in relevant CITS Trade
3.	Tools and Equipment Required for Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma/ITI (Electronics/Mechanical/Electrical) with 3 years industrial and 2 years training experience in winding operations. Or Certified in relevant CITS Trade
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma/ITI (Electronics/Mechanical/Electrical) with 4 years industrial and 2 years training experience in winding operations. Or Certified in relevant CITS Trade
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma/ITI (Electronics/Mechanical/Electrical) with 4 years industrial and 2 years training experience in winding operations. Or Certified in relevant CITS Trade
4.	Assessment Mode (Specify the assessment mode)	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 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): Yes
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 22
5.	Estimated nos. of persons to be trained and employed: 1000
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 <i>(Mandatory)</i>	Attached
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	Attached
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	Attached
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Attached
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	Filled
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	Filled
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	Attached
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	Attached
9.	Supporting Document: Career Progression <i>(Mandatory - Public view)</i>	Attached
10.	Supporting Document: Occupational Map <i>(Mandatory)</i>	Attached
11.	Supporting Document: Assessment SOP <i>(Mandatory)</i>	
12.	Any other document you wish to submit:	

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	Demands a wide range of specialised technical skill, clarity of knowledge and practice in a broad range of activity involving standard and non-standard practices. Perform winding the metal-alloy wire or	A Winding Machine Operator (Electronics Component) is responsible for winding the metal-alloy wire or metalized film onto a core by using an automated or semi-automated winding machine.	4

	metalized film onto a core. ● Follow all guidelines and instructions. ● Adhere to industry work practices to achieve productivity and quality standards.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	Factual and theoretical knowledge in broad contexts within a field of work or study. ● Knowledge of winding requirements, winding process and working of various components. ● Know the instructions and guidelines to achieve productivity and quality standards	A Winding Machine Operator (Electronics Component) should know the winding process and the guidelines to achieve productivity and quality standards. Hence Level 4	4
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study. ● Communicate with customer, team and supervisor to understand the work requirement ● Maintain inventory ● Complete the documentation of job and service records	A Winding Machine Operator (Electronics Component) should be able to use basic tools in the correct way to wind the film on core. He/she works after getting work requirements from supervisor or other team members. Hence Level 4	4
Broad Learning Outcomes/Core Skill	● Winding procedures ● Working of various components ● Guidelines and instructions for winding	A Winding Machine Operator (Electronics Component) needs to know the winding procedures, working of various components. The Operator should keep the workplace clean and managed Hence Level 4	4
Responsibility	Responsibility of completing the work assigned and reporting the same as per standards. ● Understand the job role and follow the organizational policy ● Record and report about the work status ● Follow safety regulations at work place ● Work along with colleagues and supervisors.	A Winding Machine Operator (Electronics Component) should record the issues and report about the same to the supervisor and also update the status of the work as per organizations policy. Hence Level 4	4

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specifications	Quantity for specified Batch size
1	Sample winding chart	Nos	6
2	Ball Peen Hammer	Nos	6
3	Needle Nose Plier	Nos	6
4	Diode	Nos	6
5	Transformer	Nos	6
6	Transistor	Nos	6
7	Capacitor	Nos	6
8	Resistor	Nos	6
9	Inductor	Nos	6
10	Thermistor	Nos	6
11	ICs	Nos	6
12	Screws	Nos	30
13	Nuts	Nos	30
14	Lineman's Plier	Nos	6
15	Tape Measure	Nos	6
16	Combination Square	Nos	6
17	Chipping Hammer	Nos	6
18	Connectors	Nos	30
19	Flat Cross-Cut Bastard File	Nos	6
20	Ohmmeter	Nos	6
21	Connecting Wires	Pair	30
22	Drill Machine	Nos	6
23	Round Cross-cut Bastard File	Nos	6
24	Digital Multi-meter	Nos	6
25	Screw Driver Set	Nos	30
26	Pliers	Nos	6
27	Wire Cutter	Nos	6
28	ESD Gloves	Pair	30
29	Insulation Tape	Nos	6
30	Lead Solder	Nos	6
31	Wrench	Nos	6

32	Soldering Flux	Nos	6
33	Soldering Iron	Nos	6
34	Hacksaw	Nos	6
35	Winding Machine	Nos	6
36	Fire extinguisher	Nos	2
37	Leather Safety Gloves	Pair	30
38	Leather aprons	Nos	30
39	Safety Glasses with side Shields	Nos	30
40	Safety Shoes	Pair	30
41	First-aid kit	Nos	6
42	Rubber Gloves	Pair	30
42	Warning Signs & Tapes	Nos	2
44	Wire Brush	Nos	30
45	Cleaning Agents	Nos	30
46	Cleaning Cloth	Nos	30
47	Waste Container	Nos	6
48	Dust pan and Brush set	Nos	30
49	Liquid Soap	Nos	6
50	Hand Towel	Nos	6

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker

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	Bright Power Semiconductor	Manoj				manoj@weste.com	
2	Just About Power	Deepak Gupta			9958204111	deepak@justaboutpower.com	
3	EMC Testing and Compliance LLP	Amit Duggal				info@emclab.co.in	
4	XJS Electronics Private Limited	Juned Khan	Sales Engineer		9719598463	juned@szxjsled.com	
5	Bergen Associates Pvt. Ltd.	Soubam Sunil	Manager		9311780832	s.soubam@bergengroupindia.com	
6	Artificial Intelligence Technologies	Rohit Kumar Sharma	Designation: Manager – Product Development		9927564461	rohit.sharma@aituniversal.com	
7	Conduent	Prince Jain	Senior Business Analyst		8439385780	prince.jain@conduent.com	
8	Ephicacy Lifescience Analytics	Rahul Kumar Kaushik	Senior Software Engineer		8859885973	Rahul.Kaushik@ephicacy.com	
9	Indian Institute of Science	Seema Jaiswal	Technology Manager		7250211023	seemajaiswal@iisc.ac.in	
10	Indo-German Tool Room, MSME Technology Center	Vineet Kumar	In-charge-Training		9977701933		
11	IIAE Educational Society	Barinder Singh	President		9781816001	ivyindiaprojects@gmail.com	
12	Nexgen	Saurabh Purwar	Director		9457306691	fbvidgo@gmail.com	
13	Rastriya Khushali Sansthan	Ramkaran Sinsinwar	President		6350658040	Rkstajsar1998@gmail.com	

14	Sankalp Education and Development Society	Jafruddin Khan	SPOC		8104049522	Khanjafruddin123@gmail.com	
15	Sharda Pvt. ITI	Gajraj Singh	Principal		9828626024	Shardaskillcenter@gmail.com	
16	SHIV SHAKTI TECKNIKI EVAM SAMANAYA SHIKSHAN SANSTHAN	Jitendra Kumar Garg	President		9782912782	jintendra.garg303@gmail.com	
17	Shri Prasad Sharma Shikshan Sansthan Myana	Dr. Suresh	Secretary/Manager		8433476571	Itiamargarh2007@gmail.com	
18	Sri Venkateswara College of Engineering	Dr C Chandrasekhar	Head R &D & Professor in ECE		9177217190	dr.chandrasekhar.c@svcolleges.edu.in	
19	Siemens Limited	Manoj Belgaonkar	Head – Regulations, Standards and QM		98206 82825	manoj.belgaonkar@siemens.com	
20	Nagravision India Pvt. Ltd.	Avinash Yadav	Manager-System Administrator		9808326626	avinash.yadav@nagra.com	
21	YADUVANSHI PRIVATE ITI	YADVENDRA	Principal		8432882688	yaduvanshicollege2008@gmail.com	
22	Yuvashakti Foundation	Mr. Motiram Pawar	Director		9922426404	ysfskills@gmail.com	

Annexure: Training Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training # Total		Estimated Training # Women		Estimated Training # PwD	
2025-26	250		NA		NA	
2026-27	250		NA		NA	
2027-28	500		NA		NA	

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
3.0	2022-23	78	63	57	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.0	2023-24	77	63	55	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.0	2024-25	795	662	598	NA	NA	NA	NA	NA	NA	NA	NA	NA

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. PMKVY
- 2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

1. 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	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	30:70
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	• Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content	30:70
3	☒ Showing Practical Demonstrations to the learners	• Video Content • E-Resource library • AR/ VR/ XR	30:70
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	• Training tools (tools list attached) • Video Play • Presentations	30:70
5	☒ Tutorials/ Assignments/ Drill/ Practice	• Online Question Bank • Mobile Quick test app • MCQ based tests	30:70
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	• Assessment engine for Essays • Up-loadable file examinations • Mock test sessions	30:70
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	• Online tests • Offline assessments	30:70

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
ELE/N0168: Perform Winding Operations for Resistors and Capacitors	Identify the Work Requirement	12	20		
	PC1. Read and interpret the job sheet, work instructions, and SOPs to determine specifications such as product type, quantity, and program schedule.	3	5		
	PC2. Collect required materials like film or wire and cores from the store following organizational procedures.	3	5		
	PC3. Verify the availability and functionality of tools, machines, and safety equipment.	3	5		
	PC4. Inspect materials for any defects or inconsistencies before use.	3	5		
	Perform the Winding Process:	28	40		
	PC5. Check the resistivity and quality of film or wire before use.	3	5		
	PC6. Fix wire terminals on the core and load the core on the shaft for manual or semi-automated systems.	3	5		
	PC7. Operate manual or semi-automated systems using updated control software and high-speed spindles by hand and pedal for precise winding.	3	5		
	PC8. Set up automated winding machines, load cores and film, and adjust rollers (pinch roller, traverse cutter, mill roller, guide rollers, tension roller) for wrinkle-free winding.	3	5		
	PC9. Configure advanced programmable winding machines with precision tools and digital interfaces, including winding cycle, resistance or capacitance, and material properties.	4	5		
	PC10. Operate the machine following the winding chart and ensure stable performance without wobbling.	4	5		
	PC11. Monitor and maintain ambient temperature, humidity, and contamination-free environments.	4	5		

	PC12. Ensure adherence to machine stop times and maintenance intervals as per manufacturer guidelines.	4	5		
	NOS Total	40	60	-	0
ELE/N0169: Quality Assurance, Maintenance, and Safety in Winding Operations	Checking Value of Winding:	10	18		
	PC1. Take samples of wound capacitors or resistors from each machine as per organizational guidelines.	1	3		
	PC2. Label and document the samples for traceability and future reference.	1	3		
	PC3. Record a lot of details of samples in the prescribed format or digital system.	2	3		
	PC4. Use capacitance or ohmmeters to measure and compare sample values against specifications.	2	3		
	PC5. Document variances and escalate issues to the supervisor.	2	3		
	PC6. Use digital multimeters, continuity testers, and advanced cable analyzers to check for capacitor shorts and measure resistivity.	2	3		
	Undertake Preventive Maintenance of Winding Machine:	12	18		
	PC7. Perform regular cleaning of machines, equipment, and work areas as per manufacturer guidelines.	2	3		
	PC8. Inspect and calibrate tension controls, core settings, and sensors.	2	3		
	PC9. Synchronize rollers and adjust machine parameters to ensure smooth operation.	2	3		
	PC10. Identify and replace worn-out parts to prevent unexpected downtime.	2	3		
	PC11. Use predictive maintenance tools like vibration analyzers and thermal cameras to detect potential faults.	2	3		
	PC12. Maintain detailed logs of maintenance activities in digital systems.	2	3		
	Achieve Productivity and Quality Standards:	8	12		
	PC13. Verify that windings meet specified ranges to avoid rejections.	2	3		
	PC14. Ensure timely delivery of symmetrical and defect-free windings to the next production stage.	2	3		

	PC15. Maintain records of outcomes, rejections, and corrective actions in compliance with organizational standards.	2	3		
	PC16. Implement continuous improvement practices to enhance productivity and quality.	2	3		
	Workplace Safety and Waste Management	10	12		
	PC17: Identify workplace hazards such as moving parts, electrical risks, or chemical fumes and follow safety signs and procedures.	2	2		
	PC18: Use appropriate personal protective equipment (PPE) like gloves, anti-static bands, and safety shoes; handle tools and components safely.	2	2		
	PC19: Identify fire hazards, use suitable fire extinguishers (Class A/B/C), and respond to fire emergencies with evacuation and rescue actions.	2	2		
	PC20: Administer first aid for injuries like burns, cuts, and shocks; follow emergency response protocols including evacuation and reporting.	2	3		
	PC21: Segregate recyclable, non-recyclable, and hazardous waste; dispose of materials like metals and plastics properly and maintain a clean workspace.	2	3		
	NOS Total	40	60	-	0
DGT/VSQ/N0101 - Employability Skills (30 hours)	Introduction to Employability Skills	1	1	-	-
	PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
	Constitutional values – Citizenship	1	1	-	-
	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
	Becoming a Professional in the 21st Century	1	3	-	-
	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.				
Basic English Skills	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
Diversity & Inclusion	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
Financial & Legal Literacy	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
Essential Digital Skills	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
Customer Service	2	2	-	-

	PC16. identify different types of customers	-	-	-	-
	PC17. identify customer needs and address them appropriately	-	-	-	-
	PC18. follow appropriate hygiene and grooming standards	-	-	-	-
	Getting ready for apprenticeship & jobs	1	3	-	-
	PC19. create a basic biodata	-	-	-	-
	PC20. search for suitable jobs and apply	-	-	-	-
	PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
	NOS Total	20	30	-	-
Grand Total		100	150	-	0

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 SDMS/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:
 - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
 - Check the duration of the training.
 - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
 - 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.
 - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
 - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
 - Check the availability of the Lab Equipment for the particular Job Role.
3. Assessment Quality Assurance levels / Framework:
 - Question papers created by the Subject Matter Experts (SME)
 - Question papers created by the SME verified by the other subject Matter Experts
 - Questions are mapped with NOS and PC
 - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
 - Assessor must be ToA certified & trainer must be ToT Certified
 - Assessment agency must follow the assessment guidelines to conduct the assessment
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
 - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
 - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
5. Method of verification or validation:

- Surprise visit to the assessment location
 - Random audit of the batch
 - Random audit of any candidate
6. Method for assessment documentation, archiving, and access
- Hard copies of the documents are stored
 - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
 - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

On the Job:

1. Each module (which covers the job profile of Winding Machine Operator (Electronics Component)) will be assessed separately.
2. The candidate must score 50% 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 performing Soft Skills effectively:
 - Videos of Trainees during OJT
 - Answer Sheets of Question Banks
 - Assessing the Log Book entries of Trainees at Employer location
 - Employer Performance Feedback.
4. Assessment of each Module will ensure that the candidate is able to:
 - Understand the importance of understanding production requirements.
 - Understand the practical aspect of the process used on the Assembly line.
 - Basic health and safety practice.

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 defines 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