

QUALIFICATION FILE

Electronics Machine Maintenance Technician - Shop Floor

- ☒ 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	8
Section 6: Annexure & Supporting Documents Check List	8
Annexure: Evidence of Level	9
Annexure: Tools and Equipment (Lab Set-Up)	10
Annexure: Industry Validations Summary	11
Annexure: Training Details	13
Annexure: Detailed Assessment Criteria	16
Annexure: Assessment Strategy	20
Annexure: Acronym and Glossary	22

Section 1: Basic Details

1.	Qualification Name	Electronics Machine Maintenance Technician -Shop Floor														
2.	Sector/s	Electronics														
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved)- 2022/EHW/ESSC/05386 & V 3		Qualification Name of existing/previous version: Electronics Machine Maintenance Executive												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA														
5.	National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval)	QG-04-EH-044932025-V2-ESSCI	6. NCrF/NSQF Level: 4													
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate														
8.	Brief Description of the Qualification	The individual at work is carries out scheduled maintenance of machines used on shop floor using manufacturers manual and as per training given by manufacturer in order to have zero unscheduled downtime.														
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</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 in relevant domain)</td> <td>3 years of relevant experience</td> </tr> </tbody> </table> # Relevant Experience in Consumer Electronics & IT Hardware			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	12 th grade or equivalent	NA	2	10 th grade or equivalent	3 years relevant experience	3	Certificate-NSQF (Level-3 in relevant domain)	3 years of relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)														
1	12 th grade or equivalent	NA														
2	10 th grade or equivalent	3 years relevant experience														
3	Certificate-NSQF (Level-3 in relevant domain)	3 years of relevant experience														
		b. Age: NA														
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	17	11. Common Cost Norm Category (I/II/III) (wherever applicable): 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>210:00</td> <td>120:00</td> <td>00:00</td> <td rowspan="2">510</td> </tr> <tr> <td>Online</td> <td>180:00</td> <td>00:00</td> <td>00:00</td> <td>00:00</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	210:00	120:00	00:00	510	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	210:00	120:00	00:00	510																		
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-2015/8212.0400																					
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Maintenance Supervisor																					
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi																					
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:																					
18.	Is the Job Role Amenable to Persons with Disability	☐ Yes ☒ No If "Yes", specify applicable type of Disability:																					
19.	How Participation of Women will be Encouraged	No gender sensitization																					
20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	☒ Yes ☐ No (Employability Skills (30 hours)																					
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: 07.10.2025	24. Validity Duration: 3 Years			25. Next Review Date: 07.10.2028																		

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended **Proj.**-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/N SQF 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	Equipment Maintenance Planning & Preparation	ELE/N7911 & V1.0	Core	4	9	90	120	60	0	270	40	60	0	0	100	40
2	Execution of Maintenance Activities & Quality Assurance	ELE/N7910 & V1.0	Core	4	7	60	90	60	0	210	40	60	0	0	100	40
3	Employability Skills (30 hours)	DGT/VSQ/N0101 & V1.0	Non-core	4	1	30	0	0	0	30	20	30	0	0	50	20
Duration (in Hours) / Total Marks					17	180	210	120	0	510	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.																

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)
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) with 2 years industrial and 1 year training experience in the field of Maintenance. 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) with 3 years industrial and 2 year training experience in the field of Maintenance. 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) with 3 years industrial and 2 year training experience in the field of Maintenance. Or Certified in relevant CITS Trade
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma/ ITI (Electronics) with 3 years industrial and 2 year training experience in the field of Maintenance. 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) with 4 years industrial and 3 year training experience in the field of Maintenance. 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: 15
5.	Estimated nos. of persons to be trained and employed: 4000
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes If “No”, why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Attached
2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Attached
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached
4.	Annexure: Assessment Strategy (Mandatory)	Attached
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is “Blended Learning”)	Filled
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	Filled
7.	Annexure: Acronym and Glossary (Optional)	Attached
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Attached

9.	Supporting Document: Career Progression (Mandatory - Public view)	Attached
10.	Supporting Document: Occupational Map (Mandatory)	Attached
11.	Supporting Document: Assessment SOP (Mandatory)	
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 specialized technical skill, clarity of knowledge and practice in broad range of activity involving standard and non-standard practices. · Perform maintenance activities. · Perform troubleshooting and repairing of machines. · Follow all guidelines and instructions. · Adhere to industry work practices to achieve productivity and quality standards · Check the working of the equipment.	An Electronics Machine Maintenance Technician -Shop Floor is responsible for scheduled maintenance of machines used on shop floor using manufacturers manual and as per training given by manufacturer in order to have zero unscheduled downtime.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	Factual and theoretical knowledge in broad contexts within a field of work or study. ☐ Knowledge of maintenance requirements, maintenance activities, working of various type of machines. ☐ Know the instructions and guidelines to achieve productivity and quality standards	An Electronics Machine Maintenance Technician -Shop Floor should know the maintenance activities, troubleshooting and repairing of machines and the guidelines to achieve productivity and quality standards. Hence Level 4	3
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.	An Electronics Machine Maintenance Technician -Shop Floor should be able to use basic tools in correct way to perform maintenance of the equipment. He/she works	3

	· Communicate with customer, team and supervisor to understand the work requirement · Identify the errors in orders · Maintain inventory · Complete the documentation of maintenance and service records	after getting work requirements from supervisor or other team members. Hence Level 4	
Broad Learning Outcomes/Core Skill	· Maintenance procedures · Working, testing and repairing of various machines · Guidelines and instructions for repairing	An Electronics Machine Maintenance Technician -Shop Floor needs to know the maintenance procedures, working of various machines, testing and repairing of the same. The technician should keep the workplace clean and managed Hence Level 4	3
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	An Electronics Machine Maintenance Technician -Shop Floor should record the issues and report about the same to 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	Quantity for specified	Specifications
1	Cathode Ray Oscilloscope	3	Standard
2	Digital Storage Oscilloscope	3	Standard
3	Different IC Testing kits	3	Standard
4	Rectifier Circuit or Logic gate kit	3	Standard
5	Diode capacitor various a IgCe74xx series IC	3	Standard
6	PC with software installed Multisim Proteus CAD	3	Standard
7	PCB breadboard General Purpose PCB	3	Standard
8	Kits with fault generated	3	Standard
9	Function generator probes	3	Standard

10	Battery charger dish component Antenna	3	Standard
11	Resistance box all range (ohms)	3	Standard
12	Multi meter(digital)	3	Standard
13	Milli voltmeter (0 - 5mv)	3	Standard
14	Regulated DC Power Supply	3	Standard
15	LCR Q meter	3	Standard
16	Soldering iron tools Pliers	3	Standard
17	Diagonal Pliers	3	Standard
18	Various machine like laser machine power press and router UPS	3	Standard
19	Light Emitting Diode	3	Standard
20	Soldering Gun metal flux Sensor	3	Standard

Classroom Aids

The aids required to conduct sessions in the classroom are:

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

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	Artificial Intelligence Technologies	Rohit Kumar Sharma	Manager – Product Development	A-21, sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi	9927564461	rohit.sharma@aituniversitysal.com	
2	Bergen Associates Pvt Ltd.	Soubam Sunil	Manager	305-306, Magnum House-I, Commercial Complex,	9311780832	s.soubam@bergengroupindia.com	

				Karampura, New Delhi – 110015			
3	Conduent- https://www.conduent.com	Prince Jain	Senior Business Analyst	7 to 9th Floor & 6 to 9th Floor, Building No.5 & 6, Plot No 20&21, Candor Tech Space, IT/ITES SEZ., Noida, Uttar Pradesh 201304	8439385780	prince.jain@conduent.com	
4	Ephicity Lifescience Analytics	Rahul Kumar Kaushik	Senior Software Engineer	2nd Main Rd, Sarvobhogam Nagar, Arekere, Bengaluru, Karnataka 560076	8859885973	Rahul.Kaushik@ephicity.com	
5	Rastriya Khushali Sansthan	Ramkaran Sinsinwar	President	VOP Tajsar Fatehpur Rajasthan	6350658040	Rkstajsar1998@gmail.com	
6	IIAE Educational Society	Barinder Singh	President		9829745313	ivyindiaprojects@gmail.com	
7	Nagravision India Pvt. Ltd.	Avinash Yadav	Manager- System Administrator	RMZ Centennial, Tower C unit 301 and 302, Mahadevpura Post ITPL Road, Bangalore	9808326626	avinash.yadav@nagra.com	
8	Nexgen Exhibitions Pvt. Ltd.	Saurabh Purwar	Director	1201/1206 Pragati Tower, 26 Rajendra Place, New Delhi-110008, India	9457306691	fbvidgo@gmail.com	
9	Siemens Limited	Manoj Belgaonkar	Head – Regulations, Standards and QM	R&D Centre, Thane Belapur Road, Airoli, Navi Mumbai 400708	9820682825	manoj.belgaonkar@siemens.com	
10	Tata Consultancy Services	Sheepra Kaushik	Consultant – Product Development	Kensington B Wing, Hiranandani SEZ, Powai, Mumbai 400076	8433595090	sheepra.sharma@tcs.com	

11	Evergreen Education Trust	Faizanbazaz	Director	217, Pehari Colony Jammu 180005	7006341193	eetturst@gmail.com	
12	SHIV SHAKTI TECKNIKI EVAM SAMANAYA SHIKSHAN SANSTHAN	Jitendra Kumar Garg	President	B 32 MAHESH NAGAR JAIPUR RAJASTHAN-302015	9782912782	jitendra.garg303@gmail.com	
13	YADUVANSHI PRIVATE ITI	YADVENDRA	PRINCIPAL	TC229199 - YADUVANSHI PVT ITI, HASAMPUR The-NEEMKATHANA DIST-SIKAR RAJASTHAN PIN CODE NO - 332718	8432882688	yaduvanshicollege2008@gmail.com	
14	Nagdeo Education Welfare Society	Vijay Nagdeo	General Manager	Ward No. 11 Junnardeo Dist. Chhindwara M.P. 480551	9425461093	Vijaynagdeo02@gmail.com	
15	Sri Venkateswara College of Engineering	Dr C Chandrasekhar	Head R & D & Professor in ECE	Karakmbadi Road, Tirupati 517507	9177217190	dr.chandrasekhar.c@svcolleges.edu.in	

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	1500	NA	NA
2026-27	1000	NA	NA
2027-28	1500	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	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.0	2023-24	3	3	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.0	2024-25	25377	18249	17104	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. Hindi
2. 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	30:70

		● Curated Digital content	
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/N7911: Equipment Maintenance Planning & Preparation	Understanding Equipment Manuals and Manufacturing Processes	10	20	-	-
	PC1 Discuss and performs scheduled maintenance of shop floor machines using the manufacturer's manual and training guidelines to ensure zero unscheduled downtime and optimal equipment performance	2	4	-	-
	PC2. . Study equipment and machine manuals thoroughly to understand operational guidelines and maintenance requirements.	2	4	-	-
	PC3. Develop and document maintenance cycles for each piece of equipment by recording maintenance schedules. And ensure that drawings and technical information accurately reflect the current status of equipment.	2	4	-	-
	PC4. Analyze process cycles to confirm that equipment operates according to specified parameters.	2	4	-	-
	PC5. Collaborate with production teams to schedule maintenance activities, aiming to minimize breakdowns, leakages, and failures.	2	4	-	-
	Preparing for Maintenance Activities	30	40	-	-
	PC6. Plan and schedule maintenance tasks for machines and equipment, considering operational demands.	3	4	-	-
	PC7. Organize installation or relocation activities in accordance with equipment manuals.	3	4	-	-
	PC8. Develop strategies for preventive or predictive maintenance to enhance equipment reliability.	3	4	-	-
	PC9. Coordinate with supervisors to finalize maintenance plans and schedules.	3	4	-	-
	PC10. Review predictive maintenance software, sensors, and digital maintenance schedules to monitor and carry out preventive tasks efficiently.	3	4		
	PC11. Assess inventory levels and anticipate the need for equipment, parts, and supplies.	3	4	-	-
	PC12. Verify the receipt and quality of ordered inventory items.	3	4	-	-
	PC13. Prepare standard or specialized toolkits for maintenance tasks.	3	4	-	-
	PC14. Ensure the availability of consumables and replacement parts required for maintenance.	3	4	-	-

	PC15. Confirm that operators have completed routine checklist activities for equipment upkeep.	3	4	-	-
	NOS Total	40	60	-	-
ELE/N7910: Execution of Maintenance Activities & Quality Assurance	Performing Maintenance Activities	30	48	-	-
	PC1. Execute scheduled maintenance and unscheduled repairs following manufacturers' instructions.	2	3	-	-
	PC2. Address daily equipment breakdowns promptly to minimize downtime.	2	3	-	-
	PC3. Optimize machinery operations to ensure peak performance.	2	3	-	-
	PC4. Inspect internal components, such as wiring and motherboards, to verify proper functionality.	2	3	-	-
	PC5. Discuss any unusual equipment issues with operators to identify potential problems.	2	3	-	-
	PC6. Monitor for defective materials and equipment malfunctions during operations.	2	3	-	-
	PC7. Maintain regular cleaning and sanitation of all equipment and facilities.	2	3	-	-
	PC8. Safely stop machines to remove finished workpieces or to change tooling and setups as required.	2	3	-	-
	PC9. Ensure workpieces are properly lubricated and cooled during machine operation.	2	4	-	-
	PC10. Replace scheduled spare parts during maintenance activities as per the maintenance plan.	2	4	-	-
	PC11. Update maintenance records and change due-date stickers on machines upon completion of tasks.	2	4	-	-
	PC12. Improve, debug, and optimize equipment setups and changeovers to enhance efficiency.	2	4	-	-
	PC13. Maintain online documentation for daily maintenance activities.	3	4	-	-
	PC14. Document all maintenance activities, including regular upkeep, replacements, preventive measures, breakdown logs, repairs, testing, and machine history.	3	4	-	-
	Achieving Productivity and Quality Standards	10	12	-	-
	PC15. Ensure 100% completion of scheduled maintenance procedures.	3	4	-	-
	PC16. Meet target specifications within established schedules.	3	4	-	-
	PC17. Maintain a dust-free environment in compliance with company policies.	4	4	-	-

	NOS Total	40	60	-	-
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:

Each module (which covers the job profile of Electrical Technician) will be assessed separately.

1. The candidate must score 50% in each module to successfully complete the OJT.
2. 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
 - Answer Sheets of Question Banks
 - Assessing the Log Book entries of Trainees at Employer location
 - Employer Performance Feedback.
3. Assessment of each Module will ensure that the candidate is able to:
 - Understand the basic principles of AC, DC and electronic circuits.
 - Work effectively at the workplace
 - 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 define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf