

QUALIFICATION FILE

Assembly Line Operator (Electronics Modules)

☒ 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: 3

Submitted By:

Electronics Sector Skills Council of India (ESSCI)

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New Delhi – 110020

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Section 1: Basic Details

1.	Qualification Name	Assembly Line Operator (Electronics Modules)														
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)- QG-03-EH-02736-2023-V1.1-ESSC& V 3		Qualification Name of existing/previous version: Assembly Line Operator												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA														
5.	National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval)	QG-03-EH-044872025-V2-ESSCI	6. NCrF/NSQF Level: 3													
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 responsible for assembling the different modules in the IT hardware to complete the product. The individual receives different electronic and electromechanical modules, fits and assembles them together. The operator may assemble multiple modules and/or products by following operating procedures for different models.														
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>10th grade or equivalent</td> <td>NA</td> </tr> <tr> <td>2</td> <td>8th grade</td> <td>3 years of relevant experience</td> </tr> <tr> <td>3</td> <td>Certificate of NSQF level 2.5</td> <td>1.5 years of relevant experience</td> </tr> </tbody> </table> # Relevant Experience in Electronics Manufacturing Services			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	10 th grade or equivalent	NA	2	8 th grade	3 years of relevant experience	3	Certificate of NSQF level 2.5	1.5 years of relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)														
1	10 th grade or equivalent	NA														
2	8 th grade	3 years of relevant experience														
3	Certificate of NSQF level 2.5	1.5 years of relevant experience														
		b. Age: NA														
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	13	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>90:00</td> <td>00:00</td> <td rowspan="2">390</td> </tr> <tr> <td>Online</td> <td>90:00</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	90:00	00:00	390	Online	90:00	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	90:00	00:00	390																		
Online	90:00	00:00	00:00	00:00																			
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/7422.1901																					
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Sr. Operator Assembly Line																					
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/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 Kitting of modules for assembling	ELE/N4301 & V2.0	Core	3	5	30	90	30	0	150	40	60	0	0	100	40
2.	Assemble modules to complete equipment	ELE/N4302 & V2.0	Core	3	7	30	120	60	0	210	40	60	0	0	100	40
3.	Employability Skills (30 hours)	DGT/VSQ/N0101 & V1.0	Non-core	3	1	30	0	0	0	30	20	30	0	0	50	20
Duration (in Hours) / Total Marks					13	90	210	90	0	390	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: 50 % (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 Electronics assembly line. 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 Electronics assembly line. 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
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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 Electronics assembly line. 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 Electronics assembly line. 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 Electronics assembly line. 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: 26

5.	Estimated nos. of persons to be trained and employed: 25000
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>	<i>Attached</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Attached</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Attached</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Attached</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is “Blended Learning”)</i>	<i>Filled</i>
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	<i>Filled</i>
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	<i>Attached</i>
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	<i>Attached</i>
9.	Supporting Document: Career Progression <i>(Mandatory - Public view)</i>	<i>Attached</i>
10.	Supporting Document: Occupational Map <i>(Mandatory)</i>	<i>Attached</i>
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 specialized technical skill, clarity of knowledge and practice in a broad range of activity involving standard and non-standard practices. · Perform the assembling processes. · Perform testing of components of the assembly. · Follow all guidelines and instructions. · Adhere to industry work practices to achieve productivity and quality standards. · Check the working of the appliances.	An Assembly Line Operator (Electronics Modules) is responsible for assembling the different modules in the IT hardware to complete the product. The individual receives different electronic and electromechanical modules, fits and assembles them together. The operator may assemble multiple modules and/or products by following operating procedures for different models.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	Factual and theoretical knowledge in broad contexts within a field of work or study. · Knowledge of assembly requirements, assembly process, working of various components. · Know the instructions and guidelines to achieve productivity and quality standards	standards. Also able to test the components of the assembly. Hence Level 3	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. · Communicate with customer, team and supervisor to understand the work requirement · Identify the errors in orders · Maintain inventory	An Assembly Line Operator (Electronics Modules) should be able to use basic tools in the correct way to assemble and test the components. He/she works after getting work requirements from supervisor or other team members. Hence Level 3	3

	Complete the documentation of maintenance and service records		
Broad Learning Outcomes/Core Skill	- Assembly procedures - Working and testing of various components - Guidelines and instructions for repairing	An Assembly Line Operator (Electronics Modules) needs to know the assembling procedures, working of various components and testing the same. The technician should keep the workplace clean and managed Hence Level 3	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 - 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 Assembly Line Operator (Electronics Modules) 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 3	3

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Equipment Name	Quantity for specified Batch size	Other Specifications
1	Soldering Iron With Stand	5	25 to 35 Watt

2	Soldering Station	3	25 to 35-Watt temperature Controlled
3	Soldering Wire	0.5	
4	PCB holder (Adjustable)	10	25 to 35 Watt
5	Solder Bits(different tip shapes)	5	
6	Desoldering Pump	15	With replaceable nozzle
7	Desoldering Wick	15	Copper Netting Wire(Consumable)
8	Hot Air Gun / Blower	5	with different size nozzles
9	Allen Key Set	5	Set
10	Hex Key	8	
11	Wire Cutter	10	14 - 24 AWG (Suitable for cutting 14-24 awg Wire)
12	Wire Stripper	10	16-22 AWG (Suitable for stripping 16-22 AWG Wire)
13	Point Cutter	10	
14	Blade Cutter	10	
15	Scissors	2	
16	Vacume Pickup Tool	4	
17	Adjustable Wire and Cable Stripper	8	
18	Connecting Wires	5	different current capacity, 0.5,1.0 sqmm, single strand, multi strand (Unit type-metre)
19	Jumper Wire	5	(Unit type-metre)
20	Tweezer straight	25	Needle type, Dental quality
21	Tweezer Curved	25	Yoke type, Dental quality
22	Multimeter	8	Digital, (3 ½ digit) Voltage 1000v, DC, AC, Current 10 Amp
23	Portable power meter	1	MECO PG08t or equivalent
24	Precision Screw Driver Set	5	
25	Screwdriver set	8	Taparia
26	Electric Screw Driver	4	
27	Pliers	20	Taparia
28	Nose Plier	15	
29	Drill Machine - Small	1	Bocsh
30	Hammer (Small Two Types)	4	

31	FLUX	5	RT flux Paste (Consumable) (100 Grm)
32	Connecting Wires	30	Single strand & Multi Strand, 0.5,1.0,1.5sqmm, assorted.
33	Component Forming Machine	1	CM - 01, 02, with set of tools
34	File set	4	Flat, round, half round, needle files
35	Different PCB's	100	Single Side, Double Side, General Purpose Board
36	Breadboard	5	65 mm * 170 mm
37	Different Electronic Through Hole Component	1000	Resistor, capacitor, diode, Transistor, IC etc
38	Cleaning Sponge/Soft cotton	30	
39	LCR Meter	4	
40	Digital Oscilloscope	1	100MHz, Two channel, general purpose, with probes.
41	Power supply	2	0-30.V,3 Amp.(Variable type)
42	Mains isolation Transformer	1	240VAC input, 240VAC output, ,500VA with shielding between primary and secondary for earthing
43	Smoke Absorber	8	
44	LED Magnifying Glass with stand	5	Illuminated, with built-in additional magnifier
45	ESD Tester	2	Low Fail - 675 K, Low Pass - 825 K, High Pass - 32 M Ohm, High Fail - 40 Mega Ohm
46	ESD Safety Equipment	20	Apron, glove, Cap, shoe, wrist band,
47	ESD Safety Equipment	20	ESD Mat
48	ESD Safety Equipment	20	PCB holder & Tray
49	IPA liquid cleaner.	1	commercial grade
50	cleaning brush	20	ASSORTED SIZE & ESD
51	Different Mechanicals (For any type of Products like Mobile, Inverter, Set top Box, CCTV, Router Switch, Charger, Battery Bank, Projector, LED Products etc)	50	Second Hand Samples
52	Glue Guns	5	
53	White Board / Black Board Marker, Chalk Duster	3	Standard
54	Notepads, Pens, Pencils, Blank Sheets	30	Additional stationery like stapler, erasers, pencil sharpeners should be available in the institute, For PowerPoint presentations
55	Computer or Laptop attached to LCD Projector	1	
56	Manual Guide	1	Standard min no. of equipment - 1 each
57	Telephone Line	10	Standard
58	Telephone Set	10	Standard
59	Fire Extinguishers	1	Standard

60	First Aid Box	1	Standard
61	Audio Visual Aids	30	Standard
62	Table Chair	30	Standard
63	Work Instructions (Product Assembly)	30	Standard

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
- 7.

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	Nagdeo Education Welfare Society	Vijay Nagdeo	General Manager	Ward No. 11 Junnardeo Dist. Chhindwara M.P. 480551	9425461093	Vijaynagdeo02@gmail.com	
2	Access Edutech Pvt. Ltd.	Sanjay Kumar Mishra	Director	96, Vrindavan Nagar Ayodhya Bypass Road Bhopal	7000650224	sanjaymishra@accessedutech.com	
3	Shiv shakti techniki evam samanaya shikshan sansthan	Jitendra Kumar Garg	President	B 32 Mahesh nagar jaipur rajasthan- 302015	9782912782	jitendra.garg303@gmail.com	

4	YADUVANSHI PRIVATE ITI	YADVENDRA	PRINCIPAL	TC229199 - Yaduvanshi pvt iti, hasampur the- neemkathana dist- sika rajasthan pin code no -332718	843288268 8	yaduvanshicollege2008@gmail.com	
5	Ephicity Lifescience Analytics	Rahul Kumar Kaushik	Senior Software Engineer	2nd Main Rd, Sarvobhogam Nagar, Arekere, Bengaluru, Karnataka 560076	885988597 3	Rahul.Kaushik@ephicity.com	
6	Nagravision India Pvt. Ltd.	Avinash Yadav	Manager- System Administrato r	RMZ Centennial, Tower C unit 301 and 302, Mahadevapura Post ITPL Road, Bangalore	980832662 6	avinash.yadav@nagra.com	
7	Sri Venkateswara College of Engineering	Dr C Chandrasekhar	Head R &D & Professor in ECE	Karakmbadi Road,Tirupati 517507	917721719 0	dr.chandrasekhar.c@svcolleges.edu.in	
8	Sunita Technology	Sunita	Owner	New Delhi 110020			
9	Rastriya Khushali Sansthan	Ramkaran Sinsinwar	President	VOP Tajsar Fatehpur Rajasthan	635065804 0	Rkstajsar1998@gmail.com	
10	Sri Rajaram Shikshan Sansthan	Rajendra Parsad	Principle		880869696 8	rajendraitijnp@gmail.com	
11	Nexgen Exhibitions Pvt. Ltd.	Saurabh Purwar	Director	1201/1206 Pragati Tower, 26 Rajendra Place, New Delhi- 110008, India	945730669 1	fbvidgo@gmail.com	

12	Siemens Limited	Manoj Belgaonkar	Head – Regulations, Standards and QM	R&D Centre, Thane Belapur Road, Airoli, Navi Mumbai 400708	9820682825	manoj.belgaonkar@siemens.com	
13	Tata Consultancy Services	Sheepra Kaushik	Consultant – Product Development	Kensington B Wing, Hiranandani SEZ, Powai, Mumbai 400076	8433595090	sheepra.sharma@tcs.com	
14	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	
15	Artificial Intelligence Technologies	Rohit Kumar Sharma	Manager – Product Development	A-21, sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi	9927564461	rohit.sharma@aituniversal.com	
16	Shri Prasad Sharma Shikshan Sansthan Myana	Suresh		Gautam Budha Nagar UP	8433476571		
17	Rastriya Khushali Sansthan	Ramkaran Sinsinwar	President	VOP Tajsar Fatehpur Rajasthan	6350658040	Rkstajsar1998@gmail.com	
18	Evergreen Education Trust	Faizanbazaz	Director	217, Pehari Colony Jammu 180005	7006341193	eetturst@gmail.com	
19	Cambium Networks	Mohit Kalra	Trainer		9916993953		
20	Bergen Associates Pvt Ltd.	Soubam Sunil	Manager	305-306, Magnum House-I, Commercial	9311780832	s.soubam@bergengroupindia.com	

				Complex, Karampura, New Delhi – 110015			
21	Sankalp Education and development socity	Jafruddin Khan	SPOC		810404952 2		
22	Ramyash Pvt ITI	Ramyash	Principel	Jamalpur	945473829 8	Yashvantyadav964@gmail.com	
23	B M Upadhyay Shiksha Samiti	K K Upadhyay	SPOC	Agra	914915868 4	Kk7500081234@gmail.com	
24	Cisco System Pvt. Ltd	Anurag Joshi	Director		932220506 0	anuragjoshi@cisco.com	
25	Apollointo ways	Prakesh	CEO	B 28 Sector 65 Noida	945730669 1	fbvidgo@gmail.com	
26	Shri Solasar Balaji Shikshan	Nand Kishor Gurjar	SPOC	Rajasthan	935873446 6	shribalajiitisujangarh@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	7500	NA	NA
2026-27	7500	NA	NA
2027-28	10000	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	14	12	1	NA	NA	NA	NA	NA	NA	NA	NA	NA

3.0	2023-24	497	378	365	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.0	2024-25	2616	1862	1110	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
2. Hindi

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/N4301: Perform Kitting of modules for assembling	Introduction and Understanding work requirement	-	4	-	-
	PC1. Describe the role and responsibilities of an Assembly Line Operator – IT Hardware; explain the process of receiving, fitting, and assembling electronic and electromechanical modules into complete products by following standard operating procedures for various models.	-	2	-	-
	PC2. the daily targets on number of assemblies to be made and product and model for which the day work is assigned to	-	1	-	-
	PC3. the components and modules according to the bill of materials (BOM)	-	1	-	-
	Receiving the components and modules	7	9	-	-
	PC4. receive the electrical and electronic components	1	1	-	-
	PC5. receive the connectors, wires, cables and modules	1	1	-	-
	PC6. receive other accessories such as labels, cabinet, machine traveller sheet, etc., used in assembling process	1	1	-	-
	PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards	1	1	-	-
	PC8. document the number of components and modules received from the stores and take sign off from stores department	1	1	-	-
	PC9. enter the inventory details in the internal process system as per company requirement example: SAP (ERP system)	1	1	-	-
	PC10. accurately read the bill of materials for the product	-	2	-	-
	PC11. maintain accurate documentation on the module and components received	1	1	-	-
	Assembling the component	3	8	-	-
	PC12. fix appropriately the components in the right slots without any error	1	2	-	-
	PC13. handle the components appropriately without any damage	-	2	-	-
	PC14. use and handle specific precision tools to mount the components / module without physical damage	1	2	-	-
	PC15. document all the components fixed in the standard procedure	1	2	-	-
	Kitting the components and modules	12	15	-	-

PC16. understand all the modules required for assembling such as metal case for boxing, power supply, mother boards, other PCBs, displays, drivers, power supply, controllers, trays, fusers	1	2	-	-
PC17. segregate the components, modules, box and accessories	1	2	-	-
PC18. put them in different bins for assembling of an entire unit	1	2	-	-
PC19. understand any specific instruction that need to be followed for assembling as per operating manual and circuit diagram or kitting sheet	1	1	-	-
PC20. check for any possible mix up between different kitting requirements	1	1	-	-
PC21. understand the handling procedure of different components and modules	1	1	-	-
PC22. take anti-static precautions before work and wear ESD wrist straps or aprons	1	1	-	-
PC23. ensure that the number of modules or accessories are appropriately stocked	1	1	-	-
PC24. record all the components and modules in the machine traveller sheet for tracking	1	1	-	-
PC25. correctly identify all the modules and place them appropriately	1	1	-	-
PC26. understand and arrange accurate number of modules and accessories required for one product	1	1	-	-
PC27. avoid any mismatch and wrong count of modules during kitting	1	1	-	-
Assembling components	13	14	-	-
PC28. fix the processor appropriately on the sockets	1	1	-	-
PC29. fix the RAM on in the sockets in motherboard	1	1	-	-
PC30. fix other necessary modules such as video cards in their respective slots on the motherboard	1	1	-	-
PC31. mount the cooling fan above the processor as per standard operating procedure (use thermal paste if required)	1	1	-	-
PC32. assemble print head, components such as wire house, armature, bobbin	1	2	-	-
PC33. stick necessary labels in appropriate places such as stickers of OEM, Manufacturer brand, product labels and product identification serial number labels	1	1	-	-
PC34. use specified precision tools for assembling the components in the module	1	1	-	-
PC35. document the process on machine traveller sheet after completion of each work for inspection	1	1	-	-
PC36. enter the completed work in company's internal system	1	1	-	-

	PC37. effectively use appropriate tools to address specific issues	1	1	-	-
	PC38. follow standard safety procedures in handling hazardous tools	1	1	-	-
	PC39. maintain the tools appropriately to reduce damage or repair	1	1	-	-
	PC40. maintain zero-material defect during material handling by following standard operating procedure	1	1	-	-
	Interacting with superior	5	10	-	-
	PC41. understand the work requirement from superior, periodically	-	1	-	-
	PC42. report to superior on the work completed	1	1	-	-
	PC43. seek assistance from superior on specific module assembling and handling	1	1	-	-
	PC44. escalate the issues and problems that cannot be handled	1	1	-	-
	PC45. document the work completed on the company ERP software for tracking and future references	1	1	-	-
	PC46. achieve 100% on time completion of kitting as per productivity and assembling target	1	1	-	-
	PC47. carry out daily schedule as per instructions	-	2	-	-
	PC48. find technical solutions on specific issues	-	1	-	-
	PC49. report work status and prepare required documentation as per company standards	-	1	-	-
	NOS Total	40	60	-	-
ELE/N4302: Assemble modules to complete equipment	Understanding work requirement	2	2		
	PC1. understand the daily targets on number of assemblies to be made	1	1		
	PC2. understand the product and model for which the days work is assigned to	1	1		
	Receiving modules to be assembled	7	7		
	PC3. ensure all the modules required for assembling is available in the kit	1	1		
	PC4. read the machine traveller sheet and ensure that the components in mother board are fixed	1	1		
	PC5. understand any specific instructions for handling modules or on assembling the equipment	1	1		
	PC6. take anti static precautions before work and wear ESD wrist straps or aprons	1	1		

	PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards	1	1		
	PC8. understand the time requirement to assemble different modules in an assembly line	1	1		
	PC9. Use digital inventory systems and automated storage solutions to accurately kit components for assembly enter the details in the internal process system as per company requirement example: SAP(ERP system)	1	1		
	Assembling of modules	12	26		
	PC10. follow the sequence for assembling for example: In CPU assembling for desktop, motherboard, SMPS, Hard disk, Drivers, Wire connectors are assembled sequentially	1	2		
	PC11. follow the standard assembling procedure for specific models of equipment	1	2		
	PC12. ensure the module mounting, fitting, screws, wire connection are firm and is proper to meet the fitness requirement	1	2		
	PC13. mount LED display and PCB wherever required in the casing	1	2		
	PC14. place stickers and labels wherever applicable as per the product specification	1	2		
	PC15. ensure that all labels are appropriately placed and none is left	1	2		
	PC16. document after assembling of each Module by mentioning the work done in the machine traveller sheet	1	2		
	PC17. use the using electric tools, smart workstations for assemble the equipment	1	2		
	PC18. assemble the components within the specified time in the moving assembly	1	2		
	PC19. assemble all the modules firmly without damage	1	2		
	PC20. ensure the wire connections are appropriate and not wrongly connected	1	2		
	PC21. ensure that assembling is proper and no fall or movement of modules	1	2		
	PC22. ensure no module and accessories are missed out in assembling		2		
	Completing box assembly	11	17		
	PC23. ensure all the inner modules (inside the casing) are assembled appropriately		2		
	PC24. fit the frame or casing forming the outer cover for the equipment (usually made of steel, aluminium, plastic)		2		
	PC25. fix them using screws and ensure firm closure of the case	1	1		

	PC26. place labels and stickers of OEM and the manufacturer in the specified places in outer casing	1	1		
	PC27. check for any loose bolts or improper assembling	1	1		
	PC28. complete the assembling and document them in machine traveller sheet	1	1		
	PC29. pass the equipment to next section after ensuring the assembly is proper	1	1		
	PC30. assemble the box as specified within the specified time	1	1		
	PC31. ensure all labels are appropriately placed and none are missed out	1	1		
	PC32. check for complete assembly of all modules		2		
	PC33. use tools as per standard operating procedure and avoid damage	1	1		
	PC34. prevent any accidents while handling hazardous tools	1	1		
	PC35. use appropriate tools for specific rework activity and achieve the results	1	1		
	PC36. maintain zero-material defect During material handling by following standard operating procedure	1	1		
	Interacting with superior	5	5		
	PC37. understand the work requirement from superior, periodically	1	1		
	PC38. report to superior on the work completed	1	1		
	PC39. seek assistance from superior on specific module assembling and handling	1	1		
	PC40. escalate the issues and problems that cannot be handled	1	1		
	PC41. document the work completed on the company ERP software for tracking and future references	1	1		
	Achieving productivity and quality standards	3	3		
	PC42. achieve 100% on the daily target of number of assembled product	1	1		
	PC43. meet the target of quality as per Service Level Agreement (SLA) and avoid rework	1	1		
	PC44. rework within the turnaround time (TAT)and deliver them	1	1		
	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, Behaviour 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 Assembly Line Operator (Electronics Modules)) 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 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 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