



## QUALIFICATION FILE

### Installation and Repair Assistant (Consumer Electronics)

**Short-Term Training (STT)**  **Long-Term Training (LT)**  **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:**

National Institute of Electronics and Information Technology (NIELIT)

NIELIT Bhawan, Plot No. 3, PSP Pocket, Sector-8, Dwarka, New Delhi-110077

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**Section 1: Basic Details**

1. <b>Qualification Name</b>	Installation and Repair Assistant (Consumer Electronics)													
2. <b>Sector/s</b>	Electronics and Hardware													
3. <b>Type of Qualification:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	<b>NQR Code &amp; version of existing/previous qualification:</b> (change to previous, once approved)	<b>Qualification Name of existing/previous version:</b> Diploma in Installation & Repair of Consumer Electronics Products												
4. a. OEM Name b. Qualification Name (Wherever applicable)	-----													
5. <b>National Qualification Register (NQR) Code &amp; Version</b>	QG-03-EH-00991-2023-V2-NIELIT	6. <b>NCrF/NSQF Level: 3</b>												
7. <b>Award (Certificate/Diploma/Advance Diploma/ Any Other</b>	Certificate													
8. <b>Brief Description of the Qualification</b>	The learners will be able to understand Electronic and Electrical Components, operating Skills, Principles of Operation of Consumer Electronic Products, and their types. Installation of Consumer Electronics Products and their Maintenance. Learners will acquire crucial skills and knowledge encompassing the conceptualization of electronic components and devices, Principle of Operation, Installation, and Troubleshooting of LCD-LED TV and Monitor, Cable TV and DTH Services, CCTV Camera and Home Theatre Systems, Washing Machine and Hair Dryer, Induction Stove, and Microwave Oven.													
9. <b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>	<p><b>a. Entry Qualification &amp; Relevant Experience:</b></p> <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 Class Pass</td> <td>NA</td> </tr> <tr> <td>2.</td> <td>8th Class Pass</td> <td>2 years of Experience in the Electronics/ Electrical/ Allied Sector</td> </tr> <tr> <td>3.</td> <td>8th Class Pass and pursuing continuous schooling in regular school with vocational</td> <td>NA</td> </tr> </tbody> </table>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	10th Class Pass	NA	2.	8th Class Pass	2 years of Experience in the Electronics/ Electrical/ Allied Sector	3.	8th Class Pass and pursuing continuous schooling in regular school with vocational	NA
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)												
1.	10th Class Pass	NA												
2.	8th Class Pass	2 years of Experience in the Electronics/ Electrical/ Allied Sector												
3.	8th Class Pass and pursuing continuous schooling in regular school with vocational	NA												

			subject														
		4.	8th with 2 years of NTC		—												
<p><b>b. Age: 16 Years</b></p>																	
10.	<b>Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</b>	11 Credits		<b>11. Common Cost Norm Category (I/II/III) (wherever applicable):</b> Category II													
12.	<b>Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</b>	NA															
13.	<b>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per the requirement of the qualification)</b>	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Training Delivery Modes</th> <th style="text-align: center; padding: 5px;">Theory (Hours)</th> <th style="text-align: center; padding: 5px;">Practical (Hours)</th> <th style="text-align: center; padding: 5px;">Project/ OJT Mandatory (Hours)</th> <th style="text-align: center; padding: 5px;">ES</th> <th style="text-align: center; padding: 5px;">Total (Hours )</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">Classroom (offline)</td> <td style="text-align: center; padding: 5px;">90</td> <td style="text-align: center; padding: 5px;">180</td> <td style="text-align: center; padding: 5px;">30</td> <td style="text-align: center; padding: 5px;">30</td> <td style="text-align: center; padding: 5px;">330</td> </tr> </tbody> </table>				Training Delivery Modes	Theory (Hours)	Practical (Hours)	Project/ OJT Mandatory (Hours)	ES	Total (Hours )	Classroom (offline)	90	180	30	30	330
Training Delivery Modes	Theory (Hours)	Practical (Hours)	Project/ OJT Mandatory (Hours)	ES	Total (Hours )												
Classroom (offline)	90	180	30	30	330												
14.	<b>Aligned to NCO/ISCO Code/s (if no code is available mention the same)</b>	NCO Code 3114.0100 Electronics Technician															
15.	<b>Progression path after attaining the qualification (Please show Professional and Academic progression)</b>	<b>Academic:</b> After completion of this course, students can go for other advanced courses. <b>Professional:</b> Technician->Service Engineer ->Service Manager ->Self Entrepreneur															
16.	<b>Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>	<b>Only English.</b>															
17.	<b>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> URLs of similar Qualifications:															
18.	<b>Is the Job Role Amenable to Persons with Disability</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No															

		<b>If "Yes", specify the applicable type of Disability:</b>
		<ul style="list-style-type: none"> <li>a. <i>Loco motor Disability</i> <ul style="list-style-type: none"> <li>i. <i>Leprosy Cured Person</i></li> <li>ii. <i>Dwarfism</i></li> <li>iii. <i>Muscular Dystrophy</i></li> <li>iv. <i>Acid Attack Victims</i></li> </ul> </li> </ul>
19.	<b>How Participation of Women will be Encouraged</b>	Through funding from the Government under various schemes and projects.
20.	<b>Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
21.	<b>Is Qualification Suitable to be Offered in Schools/Colleges</b>	<b>Schools</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Colleges</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
22.	<b>Name and Contact Details of Submitting / Awarding Body SPOC</b> <i>(In the case of CS or MS, provide details of both Lead AB &amp; Supporting ABs)</i>	From NIELIT: Name: Sushil Chandra Agrawal (Principal Technical Officer) Email: scagrawal@nielit.gov.in Contact No: 8317093881 Website: <a href="https://www.nielit.gov.in">https://www.nielit.gov.in</a>
23.	<b>Final Approval Date by NSQC: 29/09/2023</b>	<b>24. Validity Duration: 3 years</b> <b>25. Next Review Date: 29/09/2026</b>

**Section 2: Module Summary****NOS/s of Qualifications:-**

1. LCD-LED TV and Monitor.
2. Cable TV and DTH Services.
3. CCTV Camera and Home Theatre Systems.
4. Washing Machine and Hair Dryer.
5. Induction Stove and Microwave Oven.

**Mandatory NOS/s of Qualifications:-**

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

S. No	NOS/Module Name	NOS/Modul e Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)			Assessment Marks				
						Th.	Pr.	Total	Th.	Pr.	Proj	Total	The weightage (%) (if applicable)
1.	<b>NOS1: LCD-LED TV and Monitor</b>	NOS Code: NIE/ELE/N0801 NOS Version- 1.0	Core	3	3	30	60	90	40	15		55	16
2.	<b>NOS2: Cable TV and DTH</b>	NOS Code: NIE/ELE/N0	Core	3	1.5	15	30	45	20	15		35	10

	<b>Services</b>	802 NOS Version- 1.0											
3.	<b>NOS3: CCTV Camera and Home Theatre System.</b>	NOS Code: NIE/ELE/N0 806 NOS Version- 1.0	Core	3	1.5	15	30	45	40	20		60	18
4.	<b>NOS4: Washing Machine and Hair Dryer</b>	NOS Code: NIE/ELE/N0 804 NOS Version- 2.0	Core	3	1.5	15	30	45	50	20		70	20
5.	<b>NOS5: Induction Stove and Microwave Oven.</b>	NOS Code: NIE/ELE/N0 805 NOS Version- 1.0	Core	3	1.5	15	30	45	50	20		70	20
<b>Sub Total</b>					<b>9</b>	<b>90</b>	<b>180</b>	<b>270</b>	<b>200</b>	<b>90</b>		<b>290</b>	<b>84</b>
6.	<b>NOS6: Employability Skills</b>	NOS Code: DGT/VSQ/N 0101 NOS Version- 1.0	Non-Core	3	1	0	0	30	20	10	0	30*	08

7	OJT/Project	OJT/Project	Non-Core	3	1			30			30	30	08
<b>Grant Total</b>				<b>11</b>	<b>90</b>	<b>180</b>	<b>330</b>	<b>350</b>				<b>100</b>	

Assessment Components	NOS Included	Duration (in mins)	Marks
Theory 1: LCD-LED TV and Monitor, Cable TV and DTH Services, CCTV Camera and Home Theatre Systems Paper-1	NOS 1, NOS 2, NOS 3	90	100
Theory 2: Washing Machine and Hair Dryer, Induction Stove and Microwave Oven Paper-2	NOS 4, NOS 5	90	100
Practical	NOS 1, NOS 2, NOS 3, NOS 4, NOS 5	180	90
Employability Skills	NOS6		30
Project/OJT	Project/OJT	-	30
<b>Total Marks</b>			<b>350</b>

\*\*\*Assessment strategy shall be as per NIELIT Norms prevailing at times.

**Minimum Pass Percentage – The pass percentage is 50% in each assessment component (as mentioned in the above table) with the aggregate pass percentage be 50%**

### Section 3: Training Related

1.	<b>Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	B. Tech in Electronics/ Electronics & Communication/ Electrical/ Electrical and Electronics/Instrumentation/ Electronics & Instrumentation / Instrumentation & Control/ allied branches with 1 year experience and specialization on Consumer Electronics.
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	B. Tech in Electronics/ Electronics & Communication/ Electrical/ Electrical and Electronics/Instrumentation/ Electronics & Instrumentation / Instrumentation & Control / allied branches and 3 Years of Experience in teaching
3.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Details available in Annexure-II
4.	<b>In Case of a Revised Qualification, Details of Any Upskilling Required for Trainer</b>	NA

### Section 4: Assessment Related

1.	<b>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	As per the examination SOP of NIELIT with a minimum qualification of B. Tech in Electrical Engineering/ Electronics and Communication/ allied branches and 1 year experience in services of electronics equipment.
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	<p>The assessor carries out theory online assessments through the remote proctoring methodology. Theory examination would be conducted online and the paper comprises MCQ. Conduct of assessment is through trained proctors. Once the test begins, remote proctors have full access to the candidate's video feeds and computer screens. Proctors authenticate the candidate based on registration details, pre-test image captured and I-card in possession of the candidate. Proctors can chat with candidates or give warnings to candidates. Proctors can also take screenshots, terminate a specific user's test session, or re-authenticate candidates based on video feeds.</p> <p>The Qualification required for proctor is B.Tech or Equivalent as per NCrF with experience in relevant industry.</p>

3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	External Examiners/ Observers (Subject matter experts) are deployed including NIELIT scientific officers who are subject experts for evaluation of Practical examination/ internal assessment / Project/ Presentation/ assignment and Major Project (if applicable). Qualification is B.Tech 1 year industry experience and specialization on Consumer Electronics.
4.	<b>Assessment Mode (Specify the assessment mode)</b>	Online for Theory Online/ Offline/ Blended for other assessment components depending on the region where the assessment is conducted
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Details to be provided in Annexure-II )

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

1.	<b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b> Yes
2.	<b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> Yes
3.	<b>Government /Industry initiatives/ requirement (Yes/No):</b> Yes
4.	<b>The number of Industry validation provided:</b> 9
5.	<b>Estimated nos. of persons to be trained and employed:</b> 1000 persons per year shall be trained.
6.	<b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> NIELIT is recognized as AB and AA under Government Category. NIELIT is an HRD arm of MeitY, therefore, the Line Ministry Concurrence is not required.

#### Section 6: Annexure & Supporting Documents Check List

1.	<b>Annexure:</b> NCrF/NSQF level justification based on NCrF level/NSQF descriptors (Mandatory)	<b>Yes,</b>  <b>Available at Annexure-I: Evidence of Level</b>
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2.	<b>Annexure:</b> List of tools and equipment relevant for qualification (Mandatory, except in case of the online course)	<b>Yes,</b>  <b>Available at Annexure-II: Tools and Equipment</b>
3.	<b>Annexure:</b> Industry Validation (Mandatory)	<b>Yes,</b>  <b>Available at Annexure-III: Industry Validation Summary</b>
4.	<b>Annexure: Training &amp; Employment Projection(Mandatory)</b>	<b>Yes,</b>  <b>Available at Annexure-IV: Training &amp; Employment Details</b>
5.	<b>Annexure:</b> Blended Learning (Mandatory, in case the selected Mode of delivery is "Blended Learning")	<b>Yes,</b>  <b>Available at Annexure-V: Blended Learning (NA)</b>
6.	<b>Annexure:</b> Detailed Assessment Criteria (Mandatory)	<b>Yes,</b>  <b>Available at Annexure-VI: Detailed Assessment Criteria</b>
7.	<b>Annexure:</b> Assessment Strategy (Mandatory)	<b>Yes,</b>  <b>Available at Annexure-VII: Detailed Assessment Strategy</b>

8.	<b>Annexure:</b> Multiple Entry-Exit Details ( <i>Mandatory, in case qualification, has multiple Entry-Exit</i> )	<b>NA</b>
9.	<b>Annexure:</b> Career Progression ( <i>Mandatory - Public view</i> )	<b>Yes,</b>  <b>Available at Annexure-VIII: Career Progression</b>
10.	<b>Supporting Document:</b> Occupational Map  ( <i>Mandatory</i> )	<b>Yes,</b>  <b>Available at Annexure-E: Occupational Map</b>
11.	<b>Annexure:</b> Acronym and Glossary ( <i>Optional</i> )	<b>Yes,</b>  <b>Annexure-X: Acronym and Glossary</b>
12.	<b>Supporting Document:</b> Model Curriculum ( <i>Mandatory – Public view</i> )	<b>Yes,</b>  <b>Available at Annexure-A: Model Curriculum</b>
13.	<b>Supporting Document:</b> Assessment SOP ( <i>Mandatory</i> )	<b>Yes,</b>  <b>Available at Annexure-C: Examination Sop</b>

14.	<b>Any other document you wish to submit:</b>	<b>NA</b>
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**Annexure I: Evidence of Level**

<b>NCrF/NSQF Level Descriptors</b>	<b>Key requirements of the job role/ outcome of the qualification</b>	<b>How the job role/ outcomes relate to the NCrF/NSQF level descriptor</b>	<b>NCrF/NSQF Level</b>
Professional Theoretical Knowledge/Process	<ol style="list-style-type: none"> <li>1. The individual will have in depth knowledge and understanding of Electronic and Electrical Components and their operating Skills, Principle of Operation of Consumer Electronic Products.</li> <li>2. The individual will be able to do the installation work of consumer electronics products.</li> <li>3. The individual will be able to rectify the faults in electronics products.</li> </ol>	Possesses specialized operational knowledge and understanding of the work.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ol style="list-style-type: none"> <li>1. The individual on the job needs to know and understand Knowledge of spare management and repair &amp; return process for faulty components.</li> <li>2. Functionality and features/working of Consumer Electronics Products.</li> <li>3. Procedure to dismantle and assemble Consumer Electronics Products</li> <li>4. Range of tools and testing equipment (multi meters, frequency generators etc.) available and their functionality</li> </ol>	The job holder will have the detailed knowledge of working of Consumer Electronics products.	3

	5. Standard fault-finding (troubleshooting) techniques.		
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	<ol style="list-style-type: none"> <li>1. Introduction to Employability Skills</li> <li>2. Career Development &amp; Goal Setting</li> <li>3. Basic English Skills</li> <li>4. Communication Skills</li> <li>5. Essential Digital Skills</li> <li>6. Customer Service</li> <li>7. Entrepreneurship</li> <li>8. Diversity &amp; Inclusion</li> <li>9. Getting Ready for Apprenticeship &amp; Jobs</li> </ol>	Can explain Entrepreneurial Mindset and describe the importance of it in the context of opportunity creation for future jobs.	3
Broad Learning Outcomes/Core Skill	<p>The individual on the job needs to know and understand how to read and understand technical manuals, work orders and reports. Read and understand Consumer Electronics Product safety instructions, fill up record sheets clearly, concisely and accurately as per company procedures</p> <p>Clearly communicate relevant information to supervisors</p> <p>Respond appropriately to queries</p> <p>Prioritize and execute tasks in a high-pressure environment.</p>	Language to communicate written or oral, with required clarity.,	3
Responsibility	<p>After successful completion of this course, participant will be acquainted with the necessary Hardware, Installation, Repair, Maintenance and Troubleshooting of Consumer Electronics Products.</p>	<p>Takes complete responsibility for delivery and quality of own work and output as also the subordinates.</p> <p>Shares responsibility for the group tasks.</p>	3

**Annexure-II: Tools and Equipment (Lab Set-Up)****List of Tools and Equipment**

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Classroom	1 (30 Sq.m)	30
2	Student Chair	30	30
3	Student Table	30	30
4	1. Trainer Kits in respect of all Consumer Electronics Products. Screw Driver Set. 2. Tweezers, Different Types of Tweezers, Nose Pliers, Wire Cutter etc. 3. Hot air gun 4. Liquid solder pest, Magnifying Lamp, and Soldering Iron. 5. Digital Millimeter		15 set

**Classroom Aids**

The aids required to conduct sessions in the classroom are:

1. LCD Projector
2. WhiteBoard

**Annexure-III: Industry Validations Summary**

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID
1.	BALDA AUTOMOBILES Lohardaga Jharkhand.	Ramkumar Mahto	Proprietor	New Road Mission Chowk Lohardaga Jharkhand-835302	9304366670	<a href="mailto:baldaautomobiles979849@gmail.com">baldaautomobiles979849@gmail.com</a>
2	Be Professional Services Private Limited	Shankar Kumar Rana	Director	Sri. H.G.Nagabhushan, No.37/2, 2nd cross Devasandra, K R Pura, Bangalore, Karnataka, 560036	6206090751	<a href="mailto:snamsinghhr@gmail.com">snamsinghhr@gmail.com</a>
3	CEIR MOBILITY PRIVATE LIMITED Latur Maharashtra	Akash Porwal	Co-Founder and Director	Row House No-13, Tulsidham Phase 3 Latur Maharashtra-413512	7354568827	<a href="mailto:akash@ceirmobility.com">akash@ceirmobility.com</a>
4	Sun Bright Manpower Solution	Asif Ansari	Recruiter Hr	Po.+Ps.- Narsapura, District- Kolar, State- Karnataka, 563133	8102665772	<a href="mailto:Asifansari.Khas@gmail.com">Asifansari.Khas@gmail.com</a>
5	Industrial Training Centre	Amit Kumar	Principal	REDMA T.O.P-2 2NO Town Daltonganj (Mediningar) Jharkhand-822101	7488307842	<a href="mailto:Itoredma748842@gmail.com">Itoredma748842@gmail.com</a>
6	NIRMAN SERVICES PVT. LTD	Bishwajit Paul	Authorized Signatory	2A, Second Floor, Vatika Apartment, Line Tank Road, Chadri, Ranchi-834001	9304148400	<a href="mailto:bishwajit.cerative07@gmail.com">bishwajit.cerative07@gmail.com</a>
7	M/S Placement-cum-Security	Bamang Taniang	Proprietor	Near Tirap Festival Ground Senki Park Itanagar-791111(AP)	7630818943	<a href="mailto:btariarg@gmail.com">btariarg@gmail.com</a>

	Agency Itanagar					
8	Surekha IT Services	Madhusudhan Kao.M	Managing Director	302 Sharon Residency Vengalrao Nagar Hyderabad-50008	9177758134	<a href="mailto:madhu@surkhaitservices.com">madhu@surkhaitservices.com</a>
9	United Computer Burdwan-3	Subhasis Choudhury	Chief Executive	Chotonilpu (Pirtala), P.O. Sripally, Burdwan-713103	9641820965	<a href="mailto:Unitedcomputer97@rediffmail.com">Unitedcomputer97@rediffmail.com</a>
10	National Electronic	Ravi Kant	Proprietor	Shiva Colony, Basti, UP-272002	7393094892	<a href="mailto:bastilgservice@gmail.com">bastilgservice@gmail.com</a>
11	Uma Institute of Management & Technology	Rakendu Bhushan Shukla	Managing Director	In Fornt of Stadium, Arazibag, Azamgarh, Uttar Pradersh-276001	9415835524	<a href="mailto:uimtazamgarh@gmail.com">uimtazamgarh@gmail.com</a>

#### Annexure-IV: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2023	500	50	100	20	10	2

2024	1000	100	200	100	10	2
2025	1000	100	200	100	10	2

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

#### Annexure-V: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools: NA

#### Annexure-VI: 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
<b>NOS1: LCD-LED TV and Monitor</b>  NOS Code: NIE/ELE/N0801	1. Familiarization with Electronic Components 2. Familiarization with Test and Measuring Instruments. 3. Familiarization with Electronic Circuits. 4. Usage of LCD TVs/Monitors in Consumer Electronics. 5. Principle, Working and technologies used in LCD TVs/Monitors. 6. Maintenance and Troubleshooting of LCD TVs/Monitors. 7. Usage of LED TVs/Monitors in Consumer Electronics. 8. Principal, Working and Technologies used in LED TVs/Monitors. 9. Maintenance and Troubleshooting of LED TVs/Monitors. 10. Difference between LCD TVs/Monitors and LED. TVs/Monitors. 11. Preparation of fault tree for Maintenance and Troubleshooting of LCD TVs/Monitors	40	15

	12. Preparation of fault tree for Maintenance and Troubleshooting of LED TVs/Monitors 13. Identify the tools required for trouble shooting of LCDs-LEDs TVs/Monitor		
<b>NOS2: Cable TV and DTH Services</b>  NOS Code: NIE/ELE/N0802	1. Working and Operation of Cable TV and DTH. 2. Installation of DTH 3. Maintenance and Troubleshooting of Cable TV and DTH.	20	15
<b>NOS3: CCTV Camera and Home Theatre System.</b>  NOS Code: NIE/ELE/N0806	1. Introduction to CCTV Systems. 2. Location Assessment for installation of Camera. 3. Types and Applications of different types of Cameras. 4. Installation of CCTV Systems. 5. Introduction to Video storage systems (DVR and NVR) 6. Maintenance and Troubleshooting of CCTV systems. 7. Working and Installation of Home Theatre Systems.	40	20
<b>NOS4: Washing Machine and Hair Dryer</b>  NOS Code: NIE/ELE/N0804	1. Working of different types of Washing Machines. 2. Installation of Washing Machine 3. Working of Hair Dryer 4. Maintenance and Troubleshooting of Washing Machine. 5. Maintenance and Troubleshooting of Hair Dryer.	50	20
<b>NOS5: Induction Stove and Microwave Oven.</b>  NOS Code: NIE/ELE/N0805	1. Working Principle of Induction Stove 2. Working Principle of Microwave Oven 3. Installation of Microwave oven 4. Safety Measures used in Microwave oven. 5. Maintenance and Troubleshooting of Microwave oven	50	20

<b>NOS6: Employability Skills</b>  NOS Code: DGT/VSQ/N0101	1. Acquiring Communication Skills 2. Managing career, staff and professional relationships 3. Preparing for interview. 4. Ways to identify business opportunities. 5. Types of customers and their needs	20	10
Sub Total (A)		220	100
Project/OJT (B)	Project/OJT		30
<b>Total (A +B)</b>			<b>350</b>

#### **Annexure-VII: Assessment Strategy**

Assessment of the qualification evaluates candidates to ascertain that they can integrate knowledge, skills and values for carrying out relevant tasks as per the defined learning outcomes and assessment criteria.

The underlying principle of assessment is fairness and transparency. The evidence of the outcomes and assessment criteria. competence acquired by the candidate can be obtained by conducting Theory, Practical assessment, Internal assessment. The emphasis is on the practical demonstration of skills & knowledge gained by the candidate through the training. Each OUTCOME is assessed & marked separately. A candidate is required to pass all OUTCOMES individually based on the passing criteria.

#### **About Examination Pattern:**

1. The question papers for the theory and practical exams are set by the Examination wing (assessor) of NIELIT HQS.
2. The assessor assigns roll number.

3. The assessor carries out theory online assessments through remote proctoring methodology. Theory examination would be conducted online and the paper comprise of MCQ. Conduct of assessment are through trained proctors. Once the test begins, remote proctors have full access to candidate's video feeds and computer screens. Proctors authenticate the candidate based on registration details, pre-test image captured and I- card in possession of the candidate. Proctors can chat with candidates or give warnings to candidates. Proctors can also take screenshots, terminate a specific user's test session, or re-authenticate candidates based on video feeds.
4. An External Examiner/ Observer may be deployed including NIELIT officials for evaluation of Practical examination/ internal would be evaluated preferably by external/ subject expert including NIELIT officials.
5. Pass percentage would be 50% marks in each component.
6. Candidates may apply for re-examination within the validity of registration (only in the assessment component in which the candidate failed).
7. For re-examination prescribed examination fee is required to be paid by the candidate only for the assessment component in which the candidate wants to reappear.
8. There would be no exemption for any paper/module for candidates having similar qualifications or skills.
9. The examination will be conducted in English language only.

Quality assurance activities: A pool of questions is created by a subject matter expert and moderated by other SME. Test rules are set beforehand. Random set of questions which are according to syllabus appears which may differ from candidate to candidate. Confidentiality and impartiality are maintained during all the examination and evaluation processes.

***Annexure-VIII: Career Progression:***

**Academic:** After completion of this course, students can go for other advance courses in the relevant area

**Professional:** Technician ->Service Engineer->Service Manager->Self Entrepreneur

**Annexure-X: Acronym and Glossary****Acronym**

<b>Acronym</b>	<b>Description</b>
<b>AA</b>	Assessment Agency
<b>AB</b>	Awarding Body
<b>ISCO</b>	International Standard Classification of Occupations
<b>NCO</b>	National Classification of Occupations
<b>NCrF</b>	National Credit Framework
<b>NOS</b>	National Occupational Standard(s)
<b>NQR</b>	National Qualification Register
<b>NSQF</b>	National Skills Qualifications Framework
<b>OJT</b>	On the Job Training

**Glossary**

<b>Term</b>	<b>Description</b>
<b>National Occupational Standards (NOS)</b>	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long-Term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>