

## QUALIFICATION FILE

### Repair and Maintenance Assistant “Smart Phones”

☒ 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:

National Institute of Electronics and Information Technology (NIELIT)  
NIELIT Bhawan,  
Plot No. 3, PSP Pocket,  
Sector-8, Dwarka, New Delhi-110077

Table of Contents

Section 1: Basic Details	3
Section 2: Module Summary	5
<i>Annexure I: Evidence of Level</i>	<i>10</i>
<i>Annexure-IV: Training &amp; Employment Details</i>	<i>14</i>
<i>Annexure-V: Blended Learning</i>	<i>15</i>
<i>Annexure-VI: Detailed Assessment Criteria</i>	<i>15</i>
<i>Annexure-VII: Assessment Strategy</i>	<i>18</i>
<i>Annexure-VIII: Career Progression:</i>	<i>19</i>
<i>Annexure-IX: Occupational Map</i>	<i>20</i>
<i>Annexure-X: Acronym and Glossary</i>	<i>20</i>

## Section 1: Basic Details

1.	Qualification Name	Repair and Maintenance Assistant "Smartphones"													
2.	Sector/s	Electronics and Hardware													
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: NA	Qualification Name of existing/previous version: NA												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	—													
5.	National Qualification Register (NQR) Code & Version	QG-03-EH-02595-2024-V1-NIELIT	6. NCrF/NSQF Level: 3												
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other)	Certificate													
8.	Brief Description of the Qualification	The Smartphone Repair and Troubleshooting program equips participants with comprehensive knowledge and skills essential for diagnosing, repairing, and troubleshooting hardware and software issues in smartphones. Participants will delve into the fundamentals of basic electronics and mobile phone technology, gaining an in-depth understanding of various hardware and software components crucial for smartphone functionality. The program focuses on practical techniques for hardware repair, including component replacement, soldering, and reworking, as well as troubleshooting software issues ranging from operating system errors to app-related problems.													
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	<b>a. Entry Qualification &amp; Relevant Experience:</b> <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>10 or Equivalent</td> <td>-</td> </tr> <tr> <td>2.</td> <td>8th grade pass</td> <td>3 year relevant experience</td> </tr> <tr> <td>3</td> <td>Previous relevant Qualification of NSQF Level 2</td> <td>1.5 year relevant experience</td> </tr> </tbody> </table>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	10 or Equivalent	-	2.	8th grade pass	3 year relevant experience	3	Previous relevant Qualification of NSQF Level 2	1.5 year relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)													
1.	10 or Equivalent	-													
2.	8th grade pass	3 year relevant experience													
3	Previous relevant Qualification of NSQF Level 2	1.5 year relevant experience													

		<b>b. Age: 17 Years</b>															
<b>10. Credits Assigned to this Qualification, Subject to Assessment</b> (as per National Credit Framework (NCrF))	11 Credits	<b>11. Common Cost Norm Category (I/II/III)</b> (wherever applicable): Category II															
<b>12. Any Licensing requirements for Undertaking Training on This Qualification</b> (wherever applicable)	NA																
<b>13. Training Duration by Modes of Training Delivery</b> (Specify <b>Total Duration</b> as per selected training delivery modes and as per the requirement of the qualification)	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended																
	<table border="1"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT/ Project Mandatory (Hours)</th><th>ES</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (Offline)</td><td>90</td><td>180</td><td>30</td><td>30</td><td>330</td></tr> </tbody> </table>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT/ Project Mandatory (Hours)	ES	Total (Hours)	Classroom (Offline)	90	180	30	30	330
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT/ Project Mandatory (Hours)	ES	Total (Hours)												
Classroom (Offline)	90	180	30	30	330												
<b>14. Aligned to NCO/ISCO Code/s</b> (if no code is available mention the same)	NCO-2015/ 7422.2301 Smartphone Repair Technicians																
<b>15. Progression path after attaining the qualification</b> (Please show Professional and Academic progression)	<b>Professional:</b> Technician->Service Engineer																
<b>16. Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>	Qualification file available in English & Hindi Language.																
<b>17. 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:																
<b>18. 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>  a. Loco motor Disability i. Leprosy Cured Person ii. Dwarfism iii. Muscular Dystrophy iv. Acid Attack Victims																

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</b> <i>(Specify the NOS/Module which covers it)</i>	<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>	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <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>	Name: Saket Saurabh Email: srv.saket@nielit.gov.in Contact No: 011-25308300 Website: https://www.nielit.gov.in
23.	<b>Final Approval Date by NSQC: 30/05/2024</b>	24. Validity Duration: 3 years 25. Next Review Date: 30/05/2027

## Section 2: Module Summary

### Mandatory NOS/s of Qualifications:-

1. Foundations of Mobile Phones Technology.
2. Smartphone Hardware Repair.
3. Software Repair.
4. Advanced Repair and Business Skills.
5. Employability Skills
6. OJT/Project

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

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			
						Theory	Practical	Total	Theory	Practical	Total	weightage (%) (if applicable)
1.	Foundations of Mobile Phones Technology	NOS Code: NIE/ELE/N0810 Version: 1.0	Core	3	2	20	40	60	50	23	73	20.85

2.	<b>Smartphone Hardware Repair</b>	<b>NOS Code:</b> NIE/ELE/N0811 Version: 1.0	Core	3	4	40	80	120	80	35	115	32.85
3.	<b>Software Repair</b>	<b>NOS Code:</b> NIE/ELE/N0812 Version: 1.0	Core	3	2	20	40	60	50	22	72	20.57
4.	<b>Advanced Repair and Business Skills</b>	<b>NOS Code:</b> NIE/ELE/N0813 Version: 1.0	Core	3	1	10	20	30	20	10	30	8.57
<b>Sub Total</b>					9	90	180	270	200	90	290	82.84
5.	<b>Employability Skills</b>	<b>NOS Code:</b> DGT/VSQ/N0101 Version: 1.0	Core	3	1	-	-	30	-	-	30	8.58
6.	<b>OJT/Project</b>		Non-Core	3	1	-	-	30	-	-	30	8.58
<b>Grant Total</b>					11	90	180	330	-	-	350	100

\*\*\*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%**

Assessment Components	NOS Included	Duration (in min)	Marks
Theory 1: Fundamentals of Mobile Phone Technology and Comprehensive Software Repair- Paper-I	NOS 1, NOS 3,	90	100
Theory 2: Advanced Smartphone Hardware Repair and Business Management Skills - Paper-2	NOS 2, NOS 4	90	100

Practical 1: Smartphone Repair and Maintenance	NOS 1, NOS 2, NOS 3, NOS 4	180	90
Employability Skills	NOS 5	-	30
Project/OJT	NOS 1, NOS 2, NOS 3, NOS 4	-	30
<b>Total Marks</b>			<b>350</b>

### 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 Electrical Engineering/ Electronics and Communication/CS/IT and allied branches with 1 year experience and Specialization on Repair and Maintenance of Electronics equipment
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	B.Tech in Electrical Engineering/ Electronics and Communication/CS/IT and allied branches and with 2 year experience and Specialization on Repair and Maintenance of Electronics equipment 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>	B. Tech or Equivalent as per NCrf.
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	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.
3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)	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 Repair and Maintenance of Electronics equipment.
4.	<b>Assessment Mode</b> (Specify the assessment mode)	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> 11
5.	<b>Estimated nos. of persons to be trained and employed:</b> 500 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, Available at Annexure-I: Evidence of Level</b>
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification (Mandatory, except in case of the online course)	<b>Yes, 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:</b> Training & Employment Projection(Mandatory)	<b>Yes,</b> <b>Available at Annexure-IV: Training &amp; Employment Details</b>
5.	<b>Annexure:</b> Blended Learning ( <i>Mandatory, in case the selected Mode of delivery is "Blended Learning"</i> )	<b>Yes,</b> <b>Available at Annexure-V: Blended Learning (NA)</b>
6.	<b>Annexure:</b> Detailed Assessment Criteria ( <i>Mandatory</i> )	<b>Yes,</b> <b>Available at Annexure-VI: Detailed Assessment Criteria</b>
7.	<b>Annexure:</b> Assessment Strategy ( <i>Mandatory</i> )	<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 (Mandatory)	<b>Yes,</b> <b>Available at Annexure-IX: Occupational Map</b>
11.	<b>Annexure:</b> Acronym and Glossary (Optional)	<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>

**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>
<b>Professional Theoretical Knowledge/Process</b>	<ol style="list-style-type: none"> <li>1. Understanding of fundamental electrical concepts such as voltage, current, and resistance.</li> <li>2. Knowledge of internal components of mobile phones such as battery, display, motherboard, camera, and sensors.</li> <li>3. Understanding of basic tools and equipment used in mobile phone repair.</li> <li>4. Understanding of basic functionalities and system management of Android and iOS.</li> <li>5. Ability to identify and remove malware and viruses from mobile devices and understanding of secure practices for app installation and updates.</li> </ol>	Possesses specialized operational knowledge and understanding of the work.	3
<b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>	<ol style="list-style-type: none"> <li>1. Proficiency in identifying common hardware problems in smartphones such as charging issues, display problems, water damage, and software glitches.</li> <li>2. Understanding of basic phone circuits and the ability to analyze and troubleshoot circuit-related issues.</li> <li>3. Ability to manage system configurations and perform basic troubleshooting tasks.</li> </ol>	The job holder will have the detailed knowledge of working of Smart Phone repair.	3
<b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b>	<ol style="list-style-type: none"> <li>1. Understanding fundamental concepts of electronics lays the groundwork for entrepreneurial ventures in mobile phone repair businesses, enabling entrepreneurs to make informed decisions about equipment purchases and repairs.</li> </ol>	Can explain Entrepreneurial Mindset and describe the importance of it in the context of opportunity curation for future jobs	3

	<ol style="list-style-type: none"> <li>Knowledge of electronic components is crucial for entrepreneurs in sourcing and managing inventory effectively.</li> <li>Understanding phone anatomy helps entrepreneurs in designing efficient workflow processes for repair operations.</li> </ol>		
<b>Broad Learning Outcomes/Core Skill</b>	<ol style="list-style-type: none"> <li>Ability to comprehend fundamental concepts such as electricity, circuits, voltage, current, and resistance.</li> <li>Proficiency in identifying and working with electronic components like capacitors, resistors, and transistors.</li> <li>Proficiency in identifying and describing internal components of mobile phones. Competence in handling basic tools used in repair and maintenance.</li> <li>Competence in using diagnostic tools and visual inspection for troubleshooting.</li> </ol>	Students are able to diagnose and identify faults in Smart Phone devices.	3
<b>Responsibility</b>	<ol style="list-style-type: none"> <li>Understanding the foundational concepts of electricity, circuits, and components instills a sense of responsibility in technicians, ensuring they handle delicate electronic devices with care during repair processes, thereby guaranteeing safety and accuracy in repairs.</li> <li>Developing proficiency in troubleshooting common problems fosters responsibility in diagnosing issues accurately and providing effective solutions, minimizing repair errors and customer dissatisfaction.</li> </ol>	Takes complete responsibility for delivery and quality of own work and output as also the subordinates	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. Mobile phone repair toolkit 2. Screw Driver Set. 3. Tweezers, Different Types of Tweezers, Nose Pliers, Wire Cutter etc. 4. Hot air gun or hairdryer 5. Multimeter 6. Soldering iron and solder 7. ESD -safe mat and wrist strap 8. Magnifying lamp or microscope 9. SIM card ejector tool 10. USB cable testers, battery testers		15 set

**Classroom Aids**

The aids required to conduct sessions in the classroom are:

1. LCD Projector
2. White Board

**Annexure-III: Industry Validations Summary**

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

<b>S. N o</b>	<b>Organization Name</b>	<b>Representative Name</b>	<b>Designation</b>	<b>Contact Address</b>	<b>Contact Phone No</b>	<b>E-mail ID</b>
1	Aajivika Global Skill Private Limited	Mukesh Kumar Verma	Director	Head Office: Beside Vishal Trade, dasmile chowk, Khunti Road, Ranchi (jharkhand)-835221 Branch Office: Laxmi Complex Near BNS DAV Block Road Sirsia, Giridih-835301	95079522882	aajivikaglobal@gmail.com
2	<b>AISECT Ltd.</b>	Teena Panthi	Assistant Manager	1-1-387, 3rd Floor, Flat no. 403/404, GNR Heights, Above SBI, Bakaram Road, Musheerabad, Hyderabad - 500020	7879982075	teena.panthi@aisect.org
3	B. G. INFOTECH	Centre Head	Amal Das	Kakdh, Mecheda, Purba Medinipur	9434996748	bginfotech2007@gmail.com
4	Elite Computers And Communications Pvt. Ltd.	Sr. Sales Executive	Hrishikesh Sarma	Sohum Residency, 1st Floor, R.G. Baruah Road, Near Sundarpur Bus-Stop, Above Jeep Show Room, Guwahati-781005, Assam.	9854054283	info@eccpl.co.in
5	Sidhi Vinayak Academy	Neha Verma	Director	Shiv Narayan Kunj, B Block, Shivaji Nagar, Hethu, Ranchi, JH-834002	8789837772	info.sidhiacadmey@gmail.com
6	Tech Booster Education Pvt. Ltd	Monoj Dutta	Director	H/N-209, 2nd Floor, Opp. to Ambikagiri Nagar Path, Jonali, Zoo Road, Guwahati-24	7002098953	monoj@techbooster.co.in
7	Infoway IT Solutions	Director	Prakash Chandra Tiwari	UD Complex, Miao Singpho Village, Miao and Distt: Changlang (A.P)-792122	8414859601	Infowayitsolutionsmiao@gmail.com

8	Prasanthi Polytechnic	D. Prasad	Principal	Duppituru (MII), Atchutapuram (Md), Vlsakhapatnam (Dist), Andhra Pradesh - 531011.	9849952573	prasadreddy.1279@gmail.com
9	JAN SAMRIDHI DUMKA	Gobinda Nath Majhi	-	Regd. Office-Near Gyan School, Dudhani, Dumka, Jharkhand-814101 Regional Office: Mahesh Munda Road, Near Sido Kanhu Model School, Nutandih, Nala, Dist.-Jamtara-815355		
10	SUREKHA IT SERVICES	Anjani K	Manager	8-3-191/84/302, Sharan Residency, Vengalrao Nagar, Hyderabad-500038, Telangana	8125134134	info@surekhaitservices.com
11	SPNN Business Services Pvt. Ltd	Debashish Dhar	HR	Door no: 531/144, 3rd floor, Ring Road, Agara, HSR layout, Bangalore, Karnataka-560102.	9953120626	debasish@avsar.co

#### 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
2024	500	50	100	20	10	2
2025	1000	100	200	100	10	2
2026	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>NOS 1: Foundations of Mobile Phones Technology</b>  <b>NOS Code: NIE/ELE/N0810</b>	<ol style="list-style-type: none"> <li>1. Understand fundamental concepts of electricity, circuits, voltage, current, and resistance.</li> <li>2. Identify and describe components such as capacitors, resistors, and transistors and their roles in electronic circuits.</li> <li>3. Trace the historical development of mobile phones from their inception to the present day.</li> <li>4. Differentiate between various generations of mobile technology (2G, 3G, 4G, 5G) and their key features and advancements.</li> <li>5. Differentiate between feature phones and smartphones, understanding their functionalities and capabilities.</li> <li>6. Compare and contrast Android and iOS operating systems, including interfaces, app ecosystems, and device compatibility.</li> <li>7. Identify and describe internal components of a mobile phone, including the battery, display, motherboard, camera, and sensors.</li> <li>8. Understand the role and function of each internal component within the overall operation of the device.</li> <li>9. Recognize basic tools used in mobile phone repair and their applications.</li> </ol>	20	40

	<p>10. Understand the importance of Electrostatic Discharge (ESD) protection in preventing damage to electronic components.</p> <p>11. Demonstrate safe handling of tools and equipment used in mobile phone repair.</p> <p>12. Establish and maintain a safe work environment conducive to effective and efficient repair processes.</p>		
<p><b>NOS 2: Smartphone Hardware Repair</b></p> <p><b>NOS Code: NIE/ELE/N0811</b></p>	<ol style="list-style-type: none"> <li>1. Gain proficiency in identifying common problems encountered in smartphones, including issues related to charging, display, water damage, and software glitches.</li> <li>2. Learn how to effectively utilize diagnostic tools and perform visual inspections to diagnose smartphone issues accurately.</li> <li>3. Master safe techniques for disassembling and assembling smartphones, ensuring the careful handling of components to prevent damage.</li> <li>4. Understand the nuances of disassembly processes for different smartphone models, enabling efficient repair procedures regardless of the device type.</li> <li>5. Acquire the skills required to replace common smartphone components such as displays, batteries, charging ports, microphones, and speakers.</li> <li>6. Learn soldering and desoldering techniques necessary for component replacement, ensuring proper connection and functionality of replaced parts.</li> <li>7. Develop a foundational understanding of smartphone circuits and their functions, facilitating efficient troubleshooting and repair processes.</li> <li>8. Learn to identify faulty components within smartphone circuits using multimeters and other diagnostic tools, enabling accurate diagnosis and targeted repairs.</li> </ol>	40	80
<p><b>NOS 3: Software Repair</b></p> <p><b>NOS Code: NIE/ELE/N0812</b></p>	<ol style="list-style-type: none"> <li>1. Develop a understanding of the basics of Android and iOS operating systems, including their architecture, user interfaces, and core functionalities.</li> <li>2. Gain knowledge in system management aspects such as system settings, app management, and file systems, enabling effective navigation and customization of mobile device settings.</li> </ol>	20	40



	<ol style="list-style-type: none"> <li>3. Acquire proficiency in advanced techniques like flashing ROMs and rooting Android phones, understanding the risks and benefits associated with these procedures.</li> <li>4. Gain insights into the implications of flashing custom ROMs and rooting, including potential impacts on device stability, performance, and warranty status.</li> <li>5. Develop practical skills in data recovery techniques for retrieving lost or inaccessible data from damaged or formatted phones.</li> <li>6. Learn to utilize data recovery software effectively, understanding its features and functionalities to maximize success rates in data retrieval.</li> <li>7. Gain awareness and proficiency in identifying and removing malware and viruses from mobile devices, safeguarding against security threats and protecting user data.</li> <li>8. Understand and implement secure practices for installing apps and system updates, minimizing the risk of malware infections and ensuring the integrity and security of mobile devices.</li> </ol>		
<b>NOS 4: Advanced Repair and Business Skills</b>  <b>NOS Code: NIE/ELE/N0813</b>	<ol style="list-style-type: none"> <li>1. Acquire adept problem-solving abilities to effectively tackle intricate hardware and software issues in mobile devices. Develop proficiency in diagnosing and rectifying complex hardware faults and software glitches. Enhance expertise in employing systematic approaches to troubleshooting, ensuring accurate identification and resolution of phone problems.</li> <li>2. Enhance proficiency in analyzing circuit layouts and component connections, aiding in precise troubleshooting and repair.</li> <li>3. Develop a comprehensive understanding of electronic components' functions within circuits, enhancing diagnostic accuracy and efficiency.</li> <li>4. Acquire essential knowledge and skills for establishing and operating a successful repair shop. Develop effective marketing strategies to attract and retain customers, bolstering business growth and profitability. Learn customer service techniques to ensure satisfaction and loyalty, fostering positive relationships with clientele.</li> <li>5. Gain expertise in financial management practices to sustainably manage business finances and ensure profitability.</li> <li>6. Develop inventory control skills to optimize stock levels, minimize waste, and</li> </ol>	10	20

	<p>ensure timely availability of parts.</p> <p>7. Understand the importance of accurate financial records and budgeting for long-term business sustainability.</p> <p>8. Recognize the significance of upholding professional ethics, including honesty, integrity, and confidentiality, in the mobile repair industry.</p> <p>9. Learn ethical practices to ensure fair and transparent business conduct, fostering trust and credibility with customers and stakeholders.</p> <p>10. Understand the importance of safeguarding customer data privacy and adhering to legal and ethical standards in business operations.</p>		
<b>NOS 5: Employability Skills</b> <b>NOS Code: DGT/VSQ/N0101</b>		10	20
<b>Project/OJT</b>	Project/OJT		30
<b>Total (A +B)</b>		<b>330</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

**Annexure-IX: Occupational Map**

Enclosed with this QF separately

**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
<b>S.M.A.R.T</b>	Specific Measurable Achievable Relevant Time-bound

**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>