

NSQF QUALIFICATION FILE

Approved in 13th NSQC Meeting – NCVET – 25th November, 2021

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Automotive Skills Development Council
Leela Building, 153 GF, Okhla Phase III,
Okhla Industrial Area, New Delhi,
Delhi 110020

NCVET Code

2021/AUT/ASDC/04645

Name and contact details of individual dealing with the submission

Name: Arindam Lahiri

Position in the organisation: CEO

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List of documents submitted in support of the Qualifications File

1. Qualification Pack:- ASC/Q6809
2. Documents related to QP Development (Refer to folder "Common Files")
 - (i) RFP for QP Development
 - (ii) Supporting Document from GC meetings
 - (iii) Labour Market Survey
 - (iv) About the sector
 - (v) Occupational Map
 - (vi) List of Companies participating in QP Development Process
 - (vii) QRC Summary Sheet
 - (viii) Model Curriculum

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1	Qualification Title – Electric Vehicle Maintenance Technician	
2	Qualification Code, if any - ASC/Q6809	
3	NCO code and occupation - NCO-2015/3113.0102	
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term) - This is a Qualification Pack (QP), corresponding to Level – 4 and includes Four (4) NOSs. Targeted learners: The role entails setting up and operating a variety of tools to perform maintenance of electric vehicle. Main purpose of the qualification – is to get unemployed people into work and also to up-skilling of Skilled technicians already in employment and to enable them to take up this role. This is a short-term qualification.	
5	Body/bodies which will award the qualification	ASDC
6	Body which will accredit providers to offer courses leading to the qualification	ASDC (recommended)
7	Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)	ASDC Norms
8	Occupation(s) to which the qualification gives access	Plant and Equipment Maintenance
9	Job description of the occupation	The individual performs maintenance of the electric vehicle (EV).
10	Licensing requirements	NA
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	NA
12	Level of the qualification in the NSQF	Level 4
13	Anticipated volume of training/learning required to complete the qualification	400 Hrs
14	Indicative list of training tools required to deliver this qualification	Please refer annexure
15	Entry requirements and/or recommendations and minimum age	12th Class with 2 Years of relevant experience OR ITI (Electrical/Electronics/Instrumentation/Mechanical) OR Certificate-NSQF (Automotive Maintenance Assistant Level 3) with 2 Years of relevant experience, 18 years
16	Progression from the qualification (Please show Professional and academic progression)	Automotive Maintenance Lead Technician Automotive Maintenance Master Technician

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	Automotive Automation Specialist	
17	Arrangements for the Recognition of Prior learning (RPL)	NA
18	International comparability (where known (research evidence to be provided))	NA
19	Date of planned review of qualification	25 th November 2024

2	Formal structure of the qualification		
	Mandatory components		
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours)	Level
(i)	Includes 4 NOSs - 1. ASC/N9803: Organize work and resources (Manufacturing) 2. ASC/N9802: Interact effectively with colleagues, customers and others 3. ASC/N9805: Interpret engineering drawing 4. ASC/N6816: Perform maintenance of electric vehicle (EV)	48 32 32 288	4
	Sub Total (A)	400 Hrs	4
	Optional components		
	Title of component and identification code/NOSs/ Learning outcomes	Estimated size (learning hours)	Level
	No optional components		
	Sub Total (B)		
	Total (A+B)	400 Hrs	4

SECTION 1

ASSESSMENT

21	Body/Bodies which will carry out assessment: <ol style="list-style-type: none"> 1. Ace Assessment Pvt. Ltd. 2. Prima Competencies Pvt. Ltd. 3. Trendsetters Skill Assessors Pvt. Ltd 4. GreenArrows Safety Management (P) Ltd. 5. Eduvantage 6. VR Skill & HR Solutions 7. SPIWD 8. Knowlarity Solutions Pvt. Ltd. 9. KAMT India
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	<p>10. TCS 11. India Skills Pvt. Ltd. 12. TATA Motors</p>
22	<p>How will RPL assessment be managed and who will carry it out? The assessment body or employer assessors shall be responsible for RPL assessment.</p> <p>In RPL, the candidate has acquired the skills and knowledge while working and requires assessment and certification only. RPL is the acknowledgement of skills and knowledge obtained through:</p> <ul style="list-style-type: none">• formal training• work experience• life experiences <p>The focus of RPL is the competence gained from these experiences; not how, when or where the learning occurred.</p> <p>Process or steps in RPL assessments</p> <ol style="list-style-type: none">1. Offering RPL to potential candidates2. Providing information to the candidate3. Evidence collation4. Pre-screening & orientation5. Self-assessment6. Assessment and making the decision7. Feedback to the candidate8. Documentation of outcomes9. certification
23	<p>Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.</p> <p><u>Quality Assurance - Assessment & Certification</u> ASDC Certificate is Auto industry's own certificate and the certificate is expected to carry an assurance of quality. Therefore, the certified candidate should be able to demonstrate all round skills as expected by industry standard ie ASDC NOS/QP.</p> <p>In order to achieve this objective ASDC needed to have an approach that is process driven whereby the outcomes meet the quality objectives and also display consistency.</p> <p>Certification is the outcome of Assessment Process. The Process in turn is derived from an overall strategy.</p> <p><u>ASDC Assessment Strategy</u> ASDC Assessment Strategy has two components:</p> <ol style="list-style-type: none">1 Broad Guidelines provided by NSDC QRC (<i>Qualifications Registration Committee</i>)2 ASDC's own <i>sector specific</i> overarching strategy, covering all job roles.<ul style="list-style-type: none">- Any specific assessment approach relating to a particular job role.

1 Broad Guidelines provided by NSDC QRC (Qualifications Registration Committee):

- a. Assessment to be conducted by SSC as per competency output defined in the NOS/QP and the assessment criteria provided in the NOS/QP
- b. Assessment to be carried out by a third party Assessment Body duly affiliated to the SSC.
- c. Practical and face to face Viva evaluations, where applicable, to be carried out only by the SSC approved assessor deployed by the Assessing Body deputed by SSC for the given assessment.
- d. Cut off marks for certification could be in the vicinity of 70% level but individual SSC to refine & modify this criteria to suit the sectorial needs.
- e. Assessing Body to declare results with due concurrence of the SSC.

2 ASDC's own sector specific strategy covering all job roles :

- 2.1 ASDC assessments will be comprehensive and cover all aspects of acquired knowledge, practical skills and also basic ability to communicate. Accordingly, evaluation process would include:
 - i. Theory/Knowledge test
 - ii. Practical demonstration test
 - iii. Face to Face Viva
- 2.2 Theory/Knowledge assessment will be carried out on line through a link provided for each assessment that generates a random paper from a bank of questions available at the back end.
 - Exception to an online test in favour of Paper Test would be subject to non-availability of requisite broad band and/or hardware.
 - On line test would be conducted in the presence of an ASDC assessor till web enabled proctoring is deployed.
- 2.3 ASDC assessor would be conducting Practical and Viva as per the criteria provided in the NOS/QP.
- 2.4 ASDC assessor would be carrying out Practical assessment for job roles such as in sales by way of role playing method.
- 2.5 ASDC cut offs for accepting a candidate for certification:

Automotive industry has already attained a level of globalization and is on the way to becoming even more integrated into the global supply chains with a big focus by

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- OEMs on sourcing from India. This translates to expectation of high quality skills. In fact, the global integration process would start putting demands on skill quality standards to be in line with transnational standards.
- 2.6 Also there is an ever increasing quality demands placed by domestic customers.
- 2.7 Further, the structuring of our industry is such that the different organizations spread across the OEM, Tier1, 2 manufacturing spectrum are expected to follow common quality standards. Similarly, OEMs and their Dealerships and Service Workshops also require to follow common quality standards. This implies that employees need to follow technical discipline, team work and quality processes.
- 2.8 ASDC aims to build a quality brand for its certification that clearly meets our industry's expectations.
- 2.9 The other important consideration is the Level notification by NSQF (National Skills Qualifications Framework) which provides a structure of skills ladder to be followed in the country. This ladder describes the entire skills space to be covered in 10 levels from Level 1 (for mostly menial jobs) and upto Level 10(for mostly strategy level jobs)
- 2.10 Keeping above points in mind ASDC evolved an acceptance criteria as follows:
- Broadly, overall cut offs to be :

Level 1	60%
Level 2	65%
Level 3	70%
Level 4-10	75%
 - Specific Theory/Practical/Viva cut offs to be as per detailed matrix for each QP.
- 2.11 In line with international practice there is a provision for moderation of marks to account for borderline cases. This process also covers differential moderation possibility across Theory/ Practical/ Viva.
- 2.12 Moderation could also be necessitated owing to variation between assessors and strictness in marking. This moderation to be carried out by concerned Assessing Body in consultation with ASDC.
- 2.13 In addition to recording markings of the candidate evaluation, the Assessor will also be recording general observations for every batch as per ASDC format. This record will be useful in carrying out (2.11-2.12) above.
- Any specific assessment approach relating to a particular job role:

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- ASDC could consider *only* online test for some job roles such as in Design Engineering /Quality
- ASDC assessment process would also provision a suitable re-evaluation mechanism which would offer a fair chance to the TP/candidates for Obtaining an accurate outcome.
- ASDC assessment process would also provision re assessment of a batch in case the TP has enough reason to opt for this on payment of the due assessment fee.

Assessment Process

- ASDC Training Partner will intimate ASDC for readiness of a batch for assessment preferably 15 days before the intended assessment.
- Within 3 working days ASDC will finalize an Assessing Partner for carrying out the assessment
- Assessing Partner will deploy one or more ASDC approved assessor For carrying out the assessment.
- Theory/Knowledge test of the approximate duration of 30-60 minutes will be conducted online for which the online link will be generated by the ASDC Technology Partner and shared with Assessment Partner.
- Online test will be conducted in the presence of ASDC assessor.(ASDC is encouraging development of technology enabled proctoring and when this is ready, the online test could be conducted without requiring human proctoring)
- Exception to an online test in favour of Paper Test would be subject to non-availability of requisite broad band and/or hardware device. Moreover, this could be allowed only after ascertain genuinity of request.
- ASDC assessor would be conducting Practical and Viva as per the criteria provided in the NOS/QP.
- ASDC Assessment Partner will ensure that the assessor to be deployed has complete understanding of the ASDC Assessment Process and the QP/NOS relevant to the assessment.
- Assessor would be reaching the venue well in time and review and on the ground verify the batch information already provided by TP.
- Assessor will then proceed to conduct the assessment as per ASDC Format starting with the attendance.
- Assessor would be capturing Viva and Practical marks on a device that has ASDC assessment link. Technology systems deployed in ASDC assessment process have provision for instantly capturing assessor evaluations in only the standard NOS/QP aligned format.
- In addition to recording markings of the evaluation, the Assessor will also be recording general observations for every batch as per

ASDC format as appended below. This record will be useful in carrying out result review process.

Result Processing

- ASDC Assessment Partner responsible for Technology Platform will convert the assessment data captured by Assessor on the device into result matrix and share the same with ASDC
- ASDC Assessment cell will view the results for compliance to process and / or need for moderation in consultation with the Assessing Partner to arrive at final result for the batch as per ASDC acceptance Criteria.
- Assessing Partner will publish finalized results on data base for viewing of the Training Partner
- ASDC would issue a certificate after due verifications of candidate authenticity by way of a unique identification number such as Aadhaar.
- Certificates will be shared preferably in digital form with Training Partners
- Training Partners would be authorized to distribute certificate to candidates after printing them on a standard sheet as per ASDC template.

Re-evaluation of batch result

- Results once published will be treated as final. However, as per ASDC Assessment Strategy, there is need for provisioning a re-evaluation of results if desired by a TP essentially to cover a case where the TPs internal assessments are at large variance with the results.
- Re-evaluation will be done batch wise.
- ASDC Assessment cell will carry out re-evaluation in two steps:
 - o Check for totalling error, if any
 - o Use statistical tools where required to establish a pattern and extent of borderline cases.
 - o Refer to the Assessor feedback form for the given batch
 - o Use a weightage reference table to establish priority of type of assessment e.g. Theory or Practical or Viva
 - o Where required, share the findings with Assessment Partner for review and concurrence.
 - o Establish a modified range of acceptance based on above
 - o In case of need for moderation based on assessor level variation, to consult the Assessing Partner/Assessor and facilitate moderated values.
 - o Re do the results based on above process

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- Share the revised results with TP

Quality Assurance & Audit

While the Assessment Process based on a well-defined strategy as above, does have an in built quality assurance, ASDC also has a plan that augments assurance.

This entails a Quality Audit process as defined below :

There will be a 2 tier Audit of the assessment process:

Tier 1 Audit

- 1 ASDC Assessor will be required to submit a report for each assessment carried out. This report will be as per ASDC format as described in the Assessment Process. The format of the report aims to capture details of the Training Delivery process, soft & hard infrastructure, Training of Trainer, industry connect and overall approach to training delivery vis a vis expectations of ASDC QP/NOS.
- 2 Each Assessment Partner is required to carry out and submit Tier 1 audit reports as per a plan and frequency agreed with ASDC.
- 3 ASDC will continuously review the Tier 1 audit reports for any alarming observation or trend.
- 4 ASDC will develop and execute a suitable action plan to redress the situation as deemed necessary for a given case.

Tier 2 Audit

- 1 ASDC to carry out a Tier 2 level Audit as per a plan being developed.
 - a. Tier 2 audit will be carried out by a third party contracted by ASDC for the purpose.
 - b. Tier 2 audit will provide adequate coverage for variables such as Assessing Partner, Assessor, TP and geographical variations.
- 2 ASDC Assessment cell to review audit findings at least once every month or on sos basis.
- 3 Based on review findings as in 2 above, ASDC to decide on a suitable corrective action plan and execute the same.

ASDC to record directional needs for refinement of Assessment process specially for incorporation of Technology that could enhance reliability and speed of assessments.

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – i.e. Learning Outcomes to be assessed, assessment criteria and the means of assessment.

24. Assessment evidences Title of Component:

Criteria for Assessment of Trainees

Job Role : Electric Vehicle Maintenance Technician

Qualification Pack ASC/Q6809

Sector Skill Council Automotive

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

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Compulsory NOS

ASC/Q9803

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain safe and secure working environment</i>	11	5	-	7
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	2	1	-	2
PC2. follow safe working practices while dealing with hazards to ensure safety of self and others	2	-	-	1
PC3. carry out routine check of the machine for identifying potential hazards	2	1	-	1
PC4. use appropriate protective clothing/equipment for specific tasks and work	2	1	-	1
PC5. follow safety hazards and preventive techniques during fire drill	2	1	-	1
PC6. report any identified breaches in health, safety and security policies and procedures to the designated person	1	1	-	1
<i>Health and hygiene</i>	7	5	-	2
PC7. ensure workstation and equipment are regularly clean and sanitized	2	2	-	1
PC8. clean hands with soap, alcohol-based sanitizer regularly	1	1	-	1
PC9. avoid contact with ill people and self-isolate in a similar situation	1	-	-	-
PC10. wear and dispose PPEs regularly and appropriately	1	-	-	-
PC11. report advanced hygiene and sanitation issues to appropriate authority	1	1	-	-
PC12. follow stress and anxiety management techniques	1	1	-	-
<i>Perform work as per quality standards</i>	5	3	-	2

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PC13. ensure that work is accomplished as per the requirements within the specified timeline	2	2	-	1
PC14. ensure team goals are given preference over individual goals	3	1	-	1
<i>Effective waste management practices</i>	15	10	-	4
PC15. follow the fundamentals of 5S for waste management	3	2	-	1
PC16. segregate waste into different categories	2	1	-	-
PC17. follow processes specified for disposal of hazardous waste	2	2	-	1
PC18. identify recyclable, non-recyclable and hazardous waste	4	2	-	1
PC19. dispose non-recyclable, recyclable and reusable waste appropriately at identified location	4	3	-	1
<i>Material/energy conservation practices</i>	12	7	-	5
PC20. identify ways to optimize usage of material in various tasks/activities/processes	2	1	-	1
PC21. check for spills/leakages in various tasks/activities/ processes	2	1	-	1
PC22. plug spills/leakages and escalate to appropriate authority if unable to rectify	2	1	-	-
PC23. check if the equipment/machine is functioning normally before commencing work and rectify wherever required	2	2	-	1
PC24. report malfunctioning (fumes/ sparks/ emission/ vibration/noise) and lapse in maintenance of equipment	2	1	-	1
PC25. ensure electrical equipment and appliances are properly connected and turned off when not in use	2	1	-	1
NOS Total	50	30	-	20

ASC/Q9802

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicate effectively with colleagues, customers and others</i>	36	11	-	14
PC1. maintain clear communication with colleagues, customers and others, wherever needed, through all means i.e. face-to-face, telephonic or written	8	-	-	4
PC2. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity	8	-	-	-
PC3. work in a way that shows respect for colleagues and others	7	4	-	3
PC4. follow the organisation's policies and procedures while working in a team	7	4	-	3
PC5. respect personal space of colleagues and customers	6	3	-	4
<i>Interact with supervisor or superior</i>	14	19	-	6
PC6. identify work requirements by receiving instructions from reporting supervisor	7	4	-	-
PC7. escalate problems to supervisors that cannot be handled including repairs and maintenance of machine	-	5	-	3
PC8. report the completed work	7	5	-	-
PC9. rectify errors as per feedback	-	5	-	3
NOS Total	50	30	-	20

ASC/Q9805

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interpret information from various views, projection, 2D and 3D shapes</i>	21	11	-	10

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PC1. interpret engineering drawing's uniqueness, dimensions and important features in 2D and 3D shapes	5	3	-	2
PC2. identify the difference between 2D and 3D shapes	4	2	-	2
PC3. explain difference between first angle projection and third angle projection in mechanical engineering drawing	4	-	-	2
PC4. interpret all the 3 axes (x, y and z axis) and geometrical shapes (cones, cylinder, sphere, cuboid, etc) on to a 2D and 3D projection	5	3	-	2
PC5. identify details of the machine component which are not clearly visible by interpreting section views	3	3	-	2
<i>Identify drawing standards and symbols</i>	23	15	-	8
PC6. interpret Geometric Dimensioning and Tolerancing (GD&T) symbols in the drawings	6	4	-	2
PC7. interpret symbols of Radius, controlled radius, spherical radius, diameter, spherical diameter, square, counterbore, spotface, depth, countersink, "by", maximum dimension, minimum dimension, reference, dimension origin etc.	6	4	-	2
PC8. identify the sequence of operations which enables the selection and prioritization of the datums	5	3	-	2
PC9. read and interpret information from Tolerance Zone boundaries for part features in terms of shape and size	6	4	-	2
<i>Modification and storage of drawing</i>	6	4	-	2
PC10. observe any modification, changes required in the drawing and communicate the same to the concerned team in the organization	3	2	-	1
PC11. store the drawings in an easily accessible place, avoiding damage from moisture, chemicals and fire	3	2	-	1
NOS Total	50	30	-	20

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ASC/Q6816

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan for the maintenance activities</i>	6	8	-	7
PC1. identify the EV, its manufacturer's specifications and functioning from the user manual and vehicle drawings	2	2	-	1
PC2. read maintenance checklist and coordinate with the superior for confirming the maintenance tasks	2	2	-	2
PC3. read the maintenance schedule of EV and plan the time and schedule for conducting the maintenance	2	2	-	2
PC4. identify and arrange the tools, consumables and spare parts required during the task	-	2	-	2
<i>Carrying out maintenance of the EV</i>	9	20	-	9
PC5. follow safety practices during maintenance activities as per organisational SOP	-	2	-	2
PC6. perform basic health check-up of vehicle for defined performance parameters such as battery status, sensor calibration, actuators status, other electronic circuitry response etc. as specified in the maintenance checklist	-	2	-	2
PC7. dismantle the vehicle components and replace/ change the electrical and electronic system spare parts and consumables of the vehicle as per the schedule	-	2	-	1
PC8. check the internal conditions of vehicle parts i.e. bearings, shafts, battery systems, motors, wiring harness and connectors, Electronic Control Unit (ECU), automatic lock system and other similar part etc. to test its working status and expected conditions	2	2	-	2

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PC9. conduct breakdown maintenance and check the systems of the vehicle to find out root cause of the problems like any leakage, short circuit in parts, breakage of wires and clamps, unusual contact of electrical wires with other parts etc. in the vehicle and discuss the same with senior if required	-	2	-	-
PC10. use electronic meters like Multimeter, Digital Storage Oscilloscope (DSO) and other software tools to identify any bugs in the vehicle system	-	2	-	-
PC11. record the readings of important parameters e.g. battery, other high voltage sections etc. with help of specialists/experts, as necessary	2	2	-	2
PC12. take immediate/permanent corrective actions after discussing with senior and clean, change or repair the vehicle components as per requirement	2	2	-	-
PC13. use recommended consumables, tools and equipment are utilized for service and repair of the EV as per Standard Operating Procedures (SOP)	2	2	-	-
PC14. dispose off waste materials such as failed parts/aggregates, as per organisation's policies	1	2	-	-
<i>Conducting trials and documentation</i>	15	22	-	4
PC15. assemble back all the components of the vehicle as per the drawing and prepare it for conducting the trials	1	2	-	-
PC16. fasten the components/subassemblies together by using specified screws, nuts and bolts	-	2	-	-
PC17. conduct trials of the vehicle and verify that specified parameters are attained with no abnormalities	2	2	-	-
PC18. change the maintenance due/status sticker on the vehicle	2	2	-	2
PC19. give suggestions to seniors for appropriate action based on findings in the breakdown maintenance actions to ensure that such breakdown will not repeat	2	2	-	-

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PC20. record all repairs carried out, time taken and unplanned tasks encountered during the maintenance activities	6	6	-	-
PC21. ensure that all maintenance points are adequately considered and report the superiors (manufacturing and maintenance department) about maintenance activity done on the vehicle	2	6	-	2
NOS Total	30	50	-	20

Means of assessment 1

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria.

The assessment papers for theory and practical are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Packs.

Tests are administered and marks for theory paper and practical's demonstrating the selling techniques, handling of jewellery and retail sales counter. All the components and the performance criteria are covered during the test.

Means of assessment 2

The assessments for theory is carried out in Offline mode (TAB) and the practical assessments is carried out with the availability of the equipment at the TC, as predefined for the job role.

Pass/Fail

The minimum total marks to be achieved for being competent are 70% in total.

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Title/Name of qualification/component: Electric Vehicle Maintenance Technician		QP Code: ASC/Q6809	
Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	The individual on the job needs to carry out operations during the preventive and breakdown maintenance of Electric Vehicle (EV) and documenting the operations carried out.	The individual on the job is responsible for own work and learning. Work in maintenance job environment.	4
Professional knowledge	The individual on the job needs to have factual knowledge of: <ul style="list-style-type: none"> • Different methods of EV maintenance. • Different types of tools used in the EV maintenance process and their identification. • How to read maintenance schedules and checklists. • Knowledge of EV and its components . • Corrective actions for common faults and failures in EV. • Documentation required regarding repair, maintenance and service performed. 	Factual knowledge of maintenance methods and operations of different tools and equipment required.	4
Professional skill	Recall and demonstrate practical skill to routine and repetitive applications: <ul style="list-style-type: none"> • Maintenance activities. • Troubleshooting and repairing of EV. 	Recall and demonstrate practical skill, routine and repetitive in wide range of application, using appropriate rule and tool, using quality concepts.	4

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	<ul style="list-style-type: none">Recognise a workplace problem or a potential problem and take action.		
Core skill	<p>The user individual on the job needs to have written and oral communication skills like:</p> <ul style="list-style-type: none">To draw basic level drawings and charts.Read and interpret symbols given on EV and work area.Read maintenance schedules and checklists.	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	4
Responsibility	<p>The individual on the job needs to know their own responsibility of conducting the maintenance activities. Alongside this, interact with the maintenance team and material management team.</p>	The individual on the job is responsible for own work and fully responsible for other's work and learning.	4

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SECTION 3 EVIDENCE OF NEED

26. What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?

Need of the qualification?

ASDC carried out comprehensive skill gap study and collected feedback from industry with respect to roles for which qualification packs development are required. The occupational map was finalised accordingly. The need of this particular qualification was revalidated during the comprehensive interaction with Industry in the process of seeking their input for QP/NOS development.

Industry relevance?

Yes, NSDC QRC process has been adhered to. This includes minimum 30 validations for the QP from employers in the sector. This has been across small, medium and large companies.

ASDC undertaken validation from the industry players and also industry endorsement from 60 end user industry which are mix of 16 large (lease sized over 200 hectares) companies, 11 medium lease (more than 50 and less than 200 hectare) companies and 10 small leases (less than 50 hectare) companies.

List of industries involved in the Validation process for the QP

S No.	Large scale industries	Medium scale industries	Small scale industries
1	Hero Moto Corp	Rico Auto Industries Ltd.	Alicon Castalloy Ltd.
2	Sansera Engineering Pvt. Ltd.	Dynamic India Equipments	Shiv Engineering Industries
3			Bharadwaj Engineering Services
4			
5			
6			
7			
8			
9			

Uses of Qualifications and industry uptake

Skill GAP analysis carried out by a reputed research agency provided a broad estimate of demand. The report can be referred in the Common Files. ASDC is taking initiative to develop a labour market information database that would peg the demand more accurately- job role wise as well as based on geographical spread. Key enabler segments for the core segments of the Automotive Industry include Auto Insurance, Financiers, Mechanics, and Auto Dealers etc.

Based on the current growth profile in the Indian auto Industry, it is expected that an additional 2~2.5 million employment opportunities per annum will be created in the

NSQF QUALIFICATION FILE

Approved in 13th NSQC Meeting – NCVET – 25th November, 2021

Indian auto industry over the next decade. The details below provide the manpower requirement at various levels:

- Skill Level 1 – 4, people, Demand for such manpower is expected to be around 15 – 18 lakh per annum.
- Skill Level 5 -6 people working as supervisors on the shop floor. Demand for such manpower is expected to be around 4 lakh per annum.
- Skill Level 5- 7 people includes primarily engineers (B.E., M. Tech., MS), working in managerial grade, and demand for such manpower is expected to be around 1 lakh per annum.

Skill Level 6-10 people are executives, including engineers and doctorates, and demand for such manpower is expected to be around 0.5 lakh per annum.

27. Recommendation from the concerned Line Ministry of the Government/Regulatory Body

Data to be provided by ASDC

28. What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

- NSDC list of Approved and Under-Development QPs were checked prior to commissioning the work.
- NSDC QRC team also confirmed the same.
- Qualifications Registration Committee's (QRC) diligence process ensures no duplication

29. What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

- ASDC Review committee will review all QP/NOS at regular periodicity or as per NSDC guidelines.
- Review will be based on –
 - a) Revalidation of minimum requisites to perform in a Job role from pan India industry partners.
 - b) Any change in technology and process relevant to the particular QP and Job roles.

Please attach most relevant and recent documents giving further information about any of the topics above.

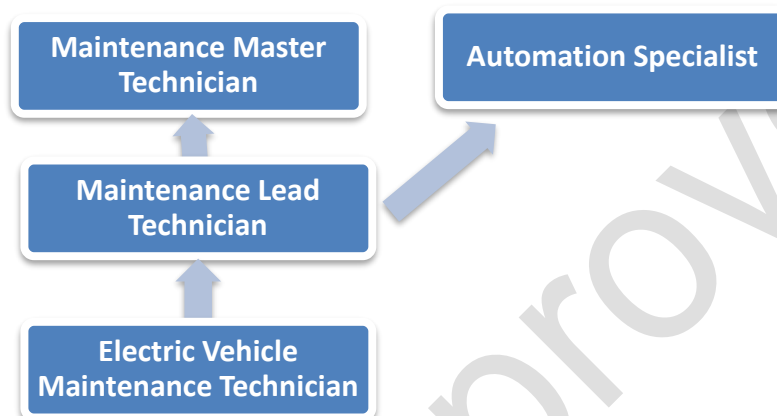
Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

30

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Show the career map here to reflect the clear progression

Occupational and career maps indicating horizontal and vertical mobility have been created and are being used.



Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.