<29th NSQC Meeting & Dated: 3 May, 2023>

QUALIFICATION FILE-<ELECTRIC VEHICLE MAINTENANCE TECHNICIAN>

<NQR Code>







# **QUALIFICATION FILE**

**Electric Vehicle Maintenance Technician** 

☑ 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: 3.5

Submitted By:

Automotive Skills Development Council

E-113, Okhla Industrial Estate

Phase- III,

New Delhi-110020

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## Section 1: Basic Details

1.	Qualification Name	Electric	: Vehicle	e Maintenance Technician					
2.	Sector/s	Automo	otive						
3.	Type of Qualification: ⊠ New □ Revised □ Has	NQR C	ode & ve	ersion of	Qualif	fication Name of existing/previous			
	Electives/Options	existing/previous qualification: (change version:							
		to previ	to previous, once approved)						
4.	a. OEM Name b. Qualification Name (Wherever applicable)	b. Elec	tric Veh	icle Maintenance Technic	ian				
5.	National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval)				6.	NCrF/NSQF Level: 3.5			
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate							
8.	Brief Description of the Qualification	The individual performs maintenance of the electric vehicle (EV).							
9.	Eligibility Criteria for Entry for	a. Entry Qualification & Relevant Experience:							
	Student/Trainee/Learner/Employee		S. No.	Academic/Skill Qualifica (with Specialization - applicable)	ation · if	Required Experience (with Specialization - if applicable)			
			1	11th Class pass					
			2	10th Class Pass with purs continuous schooling	uing				
			3	8th Class pass		3 years of relevant experience			
			4	8th Class pass with 2 year NTC	rs of	1 year of relevant experience			
			5	Certificate-NSQF (utomot Maintenance Technician- Electrical/Automotive Maintenance Technician- Mechanical)	ive	2 years of relevant experience			
		b. Age: 18 years							
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	14     11. Common Cost Norm Category (I/II/I       14     (wherever applicable): I							

12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA						
13.	Training Duration by Modes of Training Delivery (Specify	⊠Offline □Online [	Blended					
	Total Duration as per selected training delivery modes and	Training Delivery	Theory	Practical	OJT	OJT	Total	
	as per requirement of the qualification)	Modes	(Hours)	(Hours)	Mandatory	Recommended	(Hours)	
					(Hours)	(Hours)		
		Classroom (offline)	154:00	236:00	30:00		420	
		Online						
		(Refer Blended Learnin	g Annexure :	for details)				
14.	Aligned to NCO/ISCO Code/s (if no code is available	NCO-2015/3113.0102						
	mention the same)							
15.	show Professional and Academic progression)	To be Developed						
16.	Other Indian languages in which the Qualification &	NA						
	Model Curriculum are being submitted							
17.	Is similar Qualification(s) available on NQR-if yes,	□ Yes ⊠ No URLs of similar Qualifications:						
	justification for this qualification							
18.	Is the Job Role Amenable to Persons with Disability	🗆 Yes 🖾 No						
		If "Yes", specify appli	cable type c	of Disability:				
19.	How Participation of Women will be Encouraged	No gender sensitization	1					
20.	Are Greening/ Environment Sustainability Aspects	🖾 Yes 🗆 No						
	<b>Covered</b> (Specify the NOS/Module which covers it)							
21.	Is Qualification Suitable to be Offered in	Schools 🛛 Yes 🗆 N	o College	s⊠Yes 🛛	No			
	Schools/Colleges		-					
22.	Name and Contact Details of Submitting / Awarding Body	Name: Mr. Arindam La	ahiri					
	SPOC	Email: ceo@asdc.org	J.in	Con	tact No.: 011-	42599800		
	(In case of CS or MS, provide details of both Lead AB &	Website: https://www.asdc.org.in/						
	Supporting ABs)		-					
23.	Final Approval Date by NSQC: 03/05/2023	24. Validity Duration:	3 Years	25.	Next Review	Date: 03/05/2026		

Section 2: Module Summary

### NOS/s of Qualifications

(In exceptional cases these could be described as components)

#### Mandatory NOS/s:

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

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

S.	NOS/Module Name	NOS/Module	Core/	NCrF/NSQF	Credits	Training Duration (Hours)						Assessment Marks				
No		Code & Version (if applicable)	Non- Core	Level	as per NCrF	Th.	Pr.	OJT- Man.	OJT- Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Organize work and resources (Manufacturing)	ASC/N9803, V1.0	Non- Core	3	2	25	35			60	50	30	00	20	100	10
2.	Employability Skills (60 Hours)	DGT/VSQ/N0102, V1.0	Non- core	5	2	24	36			60	20	30	00	00	50	5
3.	Interpret engineering drawing	ASC/N9805, V1.0	Non- Core	4	1	15	15			30	50	30	00	20	100	10
4.	Perform maintenance of electric vehicle (EV)	ASC/N6816, V2.0	Core	4	9	90	150	30		270	30	50	00	20	100	75
Dura	ation (in Hours) / Total	Marks			14	154	236	30		420	150	140	00	60	350	100

#### Elective NOS/s:

S.	NOS/Module Name	NOS/Module	Core/	NCrF/NSQF	Credits	Training Duration (Hours)				urs)	Assessment Marks					
No		Code &	Non-	Level	as per	Th.	Pr.	OJT-	OJT-	Total	Th.	Pr.	Proj.	Viva	Total	Weightage
		Version (if	Core		NCrF			Man.	Rec.							<b>(%)</b> (if
		applicable)														applicable)
1.																
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

S.	NOS/Module Name	NOS/Module	Core/	NCrF/NSQF	Credits	edits Training Duration (Hours)			urs)	Assessment Marks						
No		Code &	Non-	Level	as per	Th.	Pr.	OJT-	OJT-	Total	Th.	Pr.	Proj.	Viva	Total	Weightage
		Version (if	Core		NCrF			Man.	Rec.							<b>(%)</b> (if
		applicable)														applicable)
1.																
2.																
Durat	ion (in Hours) / Total Mark	s														

### Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

Minimum Pass Percentage – Aggregate at qualification level: <u>70</u>% (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Pass Percentage – NOS/Module-wise: \_\_\_\_% (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

		Section 5. Training Related
1.	Trainer's Qualification and experience in the	ITI (Fitter/Electrical/Mechanic Auto Electronical & Electronics/ Electronic Mechanic) with 5 years of industry and 1 year of training experience in Maintenance
	guidelines)	Or
		ITI (Fitter/Electrical/Mechanic Auto Electronical & Electronics/ Electronic Mechanic) with 6 years of industry experience in Maintenance
		Or
		Diploma (Electrical/Electronics) with 3 years of industry and 1 year of training experience in Maintenance
		Or
		Diploma (Electrical/Electronics) with 4 years of industry experience in Maintenance
		Or
		Certificate NSQF- Level 6 (Automotive Maintenance Master Technician) with 3 years of industry and 1 year of training experience in Maintenance
2.	Master Trainer's Qualification and experience	B.Tech (Mechanical/Electrical/Automobile) with 3 years of industry and 1 year of training experience in
	in the relevant sector (in years) (as per NCVET	Mechanical/Electrical/Automobile
	guidelines)	

#### Section 3: Training Related

<NQR Code>

3.	Tools and Equipment Required for Training	⊠Yes	□No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any		
	Upskilling Required for Trainer		

	Section 4: Assessment Related									
1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET	ITI (Fitter/Electrical/Mechanic Auto Electronical & Electronics/ Electronic Mechanic) with 6 years of industry and 1 year of training experience in Maintenance								
	guidelines)	Or								
		ITI (Fitter/Electrical/Mechanic Auto Electronical & Electronics/ Electronic Mechanic) with 7 years of industry experience in Maintenance								
		Or								
		Diploma (Electrical/Electronics) with 4 years of industry and 1 year of training experience in Maintenance								
		Or								
		Diploma (Electrical/Electronics) with 5 years of industry experience in Maintenance								
		Or								
		Certificate NSQF- Level 6 (Automotive Maintenance Master Technician) with 4 years of industry and 1 year of training experience in Maintenance								
2.	Proctor's Qualification and experience in	NA								
	relevant sector (in years) (as per NCVET									
	guidelines)									
3.	Lead Assessor's/Proctor's Qualification and	NA								
	experience in relevant sector (in years) (as per									
	NCVET guidelines)									
4.	Assessment Mode (Specify the assessment mode)	Blended								
5.	Tools and Equipment Required for Assessment	Same as for training Ses No (details to be provided in Annexure-if it is different for Assessment)								

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided:
5.	Estimated nos. of persons to be trained and employed: 500
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: In progress
	If "No", why:

## Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrF/NSQF level justification based on NCrF	Attached
	level/NSQF descriptors (Mandatory)	
2.	Annexure: List of tools and equipment relevant for qualification	Attached
	(Mandatory, except in case of online course)	
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached
4.	Annexure: Assessment Strategy (Mandatory)	Attached
5.	Annexure: Blended Learning (Mandatory, in case selected Mode	Filled
	of delivery is "Blended Learning")	
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case	Filled
	qualification has multiple Entry-Exit)	
7.	Annexure: Acronym and Glossary (Optional)	
8.	Supporting Document: Model Curriculum (Mandatory – Public	Attached
	view)	
9.	Supporting Document: Career Progression (Mandatory - Public	Attached
	view)	
10.	Supporting Document: Occupational Map (Mandatory)	Attached
11.	Supporting Document: Assessment SOP (Mandatory)	Attached
12.	Any other document you wish to submit:	

# Annexure: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the	How the job role/ outcomes relate to the	NCrF/NSQF Level
	qualification	NCrF/NSQF level descriptor	
Professional Theoretical Knowledge/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.	3.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ul> <li>The individual on the job needs to have factual knowledge of:</li> <li>Different methods of EV maintenance.</li> <li>Different types of tools used in the EV maintenance process and their identification.</li> <li>How to read maintenance schedules and checklists.</li> <li>Knowledge of EV and its components.</li> <li>Corrective actions for common faults and failures in EV.</li> <li>Documentation required regarding repair, maintenance and service performed.</li> </ul>	Factual knowledge of maintenance methods and operations of different tools and equipment required.	3.5
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	<ul> <li>Recall and demonstrate practical skill to routine and repetitive applications:</li> <li>Maintenance activities.</li> <li>Troubleshooting and repairing of EV.</li> <li>Recognise a workplace problem or a potential problem and take action.</li> </ul>	Recall and demonstrate practical skill, routine and repetitive in wide range of application, using appropriate rule and tool, using quality concepts.	3.5
Broad Learning Outcomes/Core Skill	<ul> <li>The user individual on the job needs to have written and oral communication skills like:</li> <li>To draw basic level drawings and charts.</li> <li>Read and interpret symbols given on EV and work area.</li> <li>Read maintenance schedules and checklists.</li> </ul>	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	3.5
Responsibility	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.	The individual on the job is responsible for own work and fully responsible for other's work and learning.	3.5

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment Batch Size: <u>30</u>

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Basic Tool box		1
2	Pneumatic tools		1
3	Open Ended Spanners 6 mm to 24 mm		1
4	Ring Spanner 6 mm. to 24 mm		1
5	Screw drivers - Flat ended & Cross Ended	(6mm-24mm)	1
6	Pliers - Straight & Nose ended	(6mm-24mm)	1
7	Air compressor		1
8	Bins/racks		1
9	Trolley		4
10	Equipment stands		1
11	Stands for different Aggregates		1
12	Filler gauges		1
13	Height gauge		1
14	Dial gauge O/d & Bore		1
15	Vernier Caliper		1
16	Pullers: Ball joint separators, bearing		
	pullers, gear puller tools, slide hammers		
	etc.		1
17	Torque Wrenches - 60 Kgf - 120 Kgf,		
	120Kgf - 18- Kgf, 180 Kgf - 240 Kgf, 240 -		
	320 Kgf, 320 - 450 Kgf, 450- 600 Kgf.		1
18	Personal Protection Equipment: Gloves,		
	Safety Shoes, goggles, ear plugs etc.		30
19	Workshop Safety: Fire extinguishers, First		
	aid kit		1
20	Consumable: cotton waste, Dusters etc.		1
21	Teaching Aids: Charts, CBTs, Videos		
	Assembly Process Flow Charts - for		
	Different Aggregates		1
22	Other tools: hand tools, power tools,		
	Special purpose Tools for different		
	Aggregates.		1
23	Ball peen hammer	Iviany Size (Quantity can vary)	1
24			1
25	Multimeter		1
26			1
27	Battery charger	10 Each	1
28	DC motors		3

29	Alternators		3
30	Electrical terminal sets		1
31	Circuit tester		3
32	Crimping tool set		1
33	Wire loom threading kit		1
34	Relay tester		2
35	Digital display circuit tester		2
36	Maintenance manuals for the equipment	500gm	1
37	Lubricants, Oils, Coolants	icants, Oils, Coolants 5L	
38	Electrical kits with fuses, wires, connectors, relays, multimeters	1 Each assembly	1
39	Brazing, Soldering, Scraping, Alignment Tool Kits and Instruments		1
40	Special Tool Kits for Dismantling / Assembly		1
41	Sample Spare Parts		1
42	2 Post lift		1

## Classroom Aids

The aids required to conduct sessions in the classroom are:

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

## Annexure: Industry Validations Summary

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

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	AKGEC SKILLS FOUNDATION	Prof. Som Ashutosh	General Manager	AKGEC SKILLS FOUNDATION		somashutosh@akgec.ac.in	
2	Dyno Engineering Pvt. Ltd	Mr. Sagar Shinde	Director	Dyno Engineering Pvt. Ltd			
3	IKSC Knowledge Bridge	Mr. Atul B. Patil	Managing Director	IKSC Knowledge Bridge			
4	INCATech	Mr. Gopikrishnan T	Managing Director	INCATech		md@incaetek.com	
5	JBM Group	Mr. Rajeev Sharma	Associate Vice President- Center of Excellence	JBM Group		rajeev.sharma@jbm.co.in	

#### Annexure: Training & Employment Details

Training and Employment Projections:

Year	То	tal Candidates		Women	People with Disability		
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	
2023-24	500	350	200	140	50	35	
2024-25	1000	700	400	280	100	70	
2025-26	1500	1050	600	420	150	105	

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification	Year	Total Candidates				Wom	nen		P	eople with D	isability		
Version		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

1. 2.

Content availability for previous versions of qualifications:

□ Participant Handbook □ Facilitator Guide □ Digital Content □ Qualification Handbook □ Any Other:

Languages in which Content is available:

Annexure: Blended Learning

#### Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on: https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☑Theory/ Lectures - Imparting theoretical and conceptual knowledge	<ul> <li>Books/ e-books</li> <li>Presentations</li> <li>Reference Material</li> <li>Audio / Video Modules</li> </ul>	40:60
2	⊠Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	<ul> <li>Self-Learning Videos</li> <li>Broadcasts</li> <li>Mobile Learning</li> <li>Curated Digital content</li> </ul>	40:60
3	Showing Practical Demonstrations to the learners	<ul> <li>Video Content</li> <li>E-Resource library</li> <li>AR/ VR/ XR</li> </ul>	40:60
4	⊠Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	<ul> <li>Training tools (tools list attached)</li> <li>Video Play</li> <li>Presentations</li> </ul>	40:60
5	⊠Tutorials/ Assignments/ Drill/ Practice	<ul> <li>Online Question Bank</li> <li>Mobile Quick test app</li> <li>MCQ based tests</li> </ul>	40:60
6	☑ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	<ul> <li>Assessment engine for Essays</li> <li>Up-loadable file examinations</li> <li>Mock test sessions</li> </ul>	40:60
7	⊠On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	<ul><li>Online tests</li><li>Offline assessments</li></ul>	40:60

## Annexure: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
ASC/N9803 – Organize	Maintain safe and secure working environment	11	5	-	7
work and resources (Manufacturing)	<b>PC1.</b> identify hazardous activities and the possible causes of risks or accidents in the workplace	2	1	-	2
	<b>PC2.</b> 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
	<b>PC6.</b> report any identified breaches in health, safety and security policies and procedures to the designated person	1	1	-	1
	Health and hygiene	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	-	-
	Perform work as per quality standards	5	3	-	2
	<b>PC13.</b> 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
	Effective waste management practices	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
	<b>PC19.</b> dispose non-recyclable, recyclable and reusable waste appropriately at identified location	4	3	-	1
	Material/energy conservation practices	12	7	-	5
	<b>PC20.</b> 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	-	-
	<b>PC23</b> . 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	2	1	-	1
	maintenance of equipment				
	<b>PC25</b> . ensure electrical equipment and appliances are properly connected and	2	1	-	1
	Total Marks	50	30	_	20
ASC/NO205 Internet	Interpret information from various views, projection, 2D and 2D abanas	30	30	-	20
ASC/N9805 – Interpret	Interpret information from various views, projection, 2D and 3D snapes	21	11	-	10
engineering drawing	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	4	-	-	2
	mechanical engineering drawing				
	<b>PC4.</b> interpret all the 3 axes (x, y and z axis) and geometrical shapes (cones,	5	3	-	2
	cylinder, sphere, cuboid, etc.) on to a 2D and 3D projection				
	<b>PC5.</b> identify details of the machine component which are not clearly visible by interpreting section views	3	3	-	2
	Identify drawing standards and symbols	23	15	-	8
	PC6 Interpret Geometric Dimensioning and Tolerancing (GD&T) symbols in	6	4	-	2
	the drawings	Ũ	·		-
	PC7. interpret symbols of Radius, controlled radius, spherical radius, diameter,	6	4	-	2
	spherical diameter, square, counterbore, spotface, depth, countersink, "by",				
	maximum dimension, minimum dimension, reference, dimension origin etc.				
	PC8. identify the sequence of operations which enables the selection and	5	3	-	2
	prioritization of the datums				
	PC9. read and interpret information from Tolerance Zone boundaries for part	6	4	-	2
	features in terms of shape and size				
	Modification and storage of drawing	6	4	-	2
	PC10. observe any modification, changes required in the drawing and	3	2	-	1
	communicate the same to the concerned team in the organization				
	PC11. store the drawings in an easily accessible place, avoiding damage from	3	2	-	1
	moisture, chemicals and fire				
	Total Marks	50	30	-	20
ASC/N6816 – Perform	Plan for the maintenance activities	6	8	-	7
maintenance of electric	PC1. identify the EV, its manufacturer's specifications and functioning from the	2	2	-	1
vehicle (EV)	user manual and vehicle drawings				
	PC2. read maintenance checklist and coordinate with the superior for confirming	2	2	-	2
	the maintenance tasks				
	PC3. read the maintenance schedule of EV and plan the time and schedule for	2	2	-	2
	conducting the maintenance				
	<b>PC4.</b> identify and arrange the tools, consumables and spare parts required during	-	2	-	2
	the task				
	Carrying out maintenance of the EV	9	20	-	9
	PC5. follow safety practices during maintenance activities as per organisational	-	2	-	2
	SOP				

	<b>PC6.</b> 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
	<b>PC7.</b> dismantle the vehicle components and replace/ change the electrical and electronic systemspare parts and consumables of the vehicle as per the schedule	-	2	-	1
	<b>PC8.</b> check the internal conditions of vehicle parts i.e. bearings, shafts, battery systems, motors, wiringharness and connectors, Electronic Control Unit (ECU), automatic lock system and other similar partsetc. to test its working status and expected conditions	2	2	-	2
	<b>PC9.</b> conduct breakdown maintenance and check thesystems 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	-	-
	<b>PC10.</b> use electronic meters like Multimeter, Digital Storage Oscilloscope (DSO) and other software tools to identify any bugs in the vehicle system	-	2	-	-
	<b>PC11.</b> record the readings of important parameters e.g. battery, other high voltage sections etc. with help of specialists/experts, as necessary	2	2	-	2
	<b>PC12.</b> take immediate/permanent corrective actions after discussing with senior and clean, change or repair the vehicle components as per requirement	2	2	-	-
	<b>PC13.</b> 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 failedparts/aggregates, as per organisation's policies	1	2	-	-
	Conducting trials and documentation	15	22	-	4
	<b>PC15.</b> 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	-	-
	<b>PC17.</b> 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
	<b>PC19.</b> give suggestions to seniors for appropriate action based on findings in the breakdown maintenance actions to ensure that such breakdownwill not repeat	2	2	-	-
	<b>PC20.</b> record all repairs carried out, time taken andunplanned tasks encountered during the maintenance activities	6	6	-	-
	<b>PC21.</b> ensure that all maintenance points are adequately considered and report the superiors (manufacturing and maintenance department) aboutmaintenance activity done on the vehicle	2	6	-	2
	Total Marks	30	50	-	20
DGT/VSQ/N0102 -	Introduction to Employability Skills	1	1	-	-
Employability Skills (60	PC1. identify employability skills required for jobsin various industries	-	-	-	-
hours)	PC2. identify and explore learning andemployability portals	-	-	-	-

Constitutional values – Citizenship	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and				
duties, citizenship, responsibility towards society etc. and personal values and ethics	-	-	-	-
such as honesty, integrity, caring and respecting others, etc.				
PC4. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	2	4	-	-
PC5, recognize the significance of 21st CenturySkills for employment	-	-	-	-
PC6, practice the 21st Century Skills such as Self-Awareness, Behaviour Skills,				
time management, critical and adaptive thinking, problem-solving, creative thinking,				
social and cultural awareness, emotional awareness, learning to learn for	-	-	-	-
continuous learning etc. in personal and professional life				
Basic English Skills	2	3	-	-
PC7, use basic English for everyday conversationin different contexts, in person				
and over the telephone	-	-	-	-
<b>PC8</b> , read and understand routine information notes instructions mails letters etc.				
written in English	-	-	-	-
PC9 write short messages notes letters e-mailsetc in English		-	-	<u> </u>
Career Development & Goal Setting	1	2	_	-
PC10 understand the difference between job andcareer		<u> </u>		
PC10. understand the unreferice between job and dreet	-	-	-	
en entitude	-	-	-	-
	0	0		
Communication Skills	2	Z	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening	-	-	-	-
techniques in various settings				
PC13. work collaboratively with others in a team	-	-	-	
Diversity & Inclusion	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to	_	_	_	_
POSH Act	_	_	_	
Financial and Legal Literacy	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financialtransactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses,				
taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and uselegal aids to fight against legal				
exploitation	-	-	-	-
Essential Digital Skills	3	4	-	-
PC20, operate digital devices and carry out basicinternet operations securely and	_			1
safely	-	-	-	-
PC21, use e- mail and social media platforms and virtual collaboration tools to work				1
effectively	-	-	-	-
PC22, use basic features of word processor spreadsheets, and presentations	-	-	-	-
	1	1	1	1

Entrepreneurship	2	3	-	-
PC23. identify different types of Entrepreneurshipand Enterprises and assess				
opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of	_	_	_	_
Marketing Product, Price, Place and Promotion	_	_	_	
PC25. identify sources of funding, anticipate, andmitigate any financial/ legal	-	_	_	
hurdles for the potential business opportunity				
Customer Service	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requestsand needs in a professional	_	_	_	_
manner.	_	_	_	_
PC28. follow appropriate hygiene and groomingstandards	-	-	-	-
Getting ready for apprenticeship & Jobs	2	3	-	-
PC29. create a professional Curriculum vitae(Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offlineand online sources such as				
Employment exchange, recruitment agencies, newspapers etc. and job portals,	-	-	-	-
respectively				
PC31. apply to identified job openings using offline /online methods as per	_	_	_	_
requirement				
PC32. answer questions politely, with clarity and confidence, during recruitment and	_	_	_	_
selection	_			_
PC33. identify apprenticeship opportunities and register for it as per guidelines and	_	_	_	
requirements	_	_	_	-
Total Marks	20	30	-	-
Grand Total	150	140		60

#### Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

- 1. Assessment System Overview:
  - Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
  - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
  - Assessment agency deploys the ToA certified Assessor for executing the assessment
  - SSC monitors the assessment process & records
- 2. Testing Environment:
  - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
  - Check the duration of the training.
  - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
  - If the batch size is more than 30, then there should be 2 Assessors.
  - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
  - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
  - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
  - Check the availability of the Lab Equipment for the particular Job Role.
- 3. Assessment Quality Assurance levels / Framework:
  - Question papers created by the Subject Matter Experts (SME)
  - Question papers created by the SME verified by the other subject Matter Experts
  - Questions are mapped with NOS and PC
  - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
  - Assessor must be ToA certified & trainer must be ToT Certified
  - Assessment agency must follow the assessment guidelines to conduct the assessment
- 4. Types of evidence or evidence-gathering protocol:
  - Time-stamped & geotagged reporting of the assessor from assessment location
  - Centre photographs with signboards and scheme specific branding
  - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
  - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
- 5. Method of verification or validation:
  - Surprise visit to the assessment location
  - Random audit of the batch
  - Random audit of any candidate
- 6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

### Annexure: Acronym and Glossary

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

#### Glossary

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