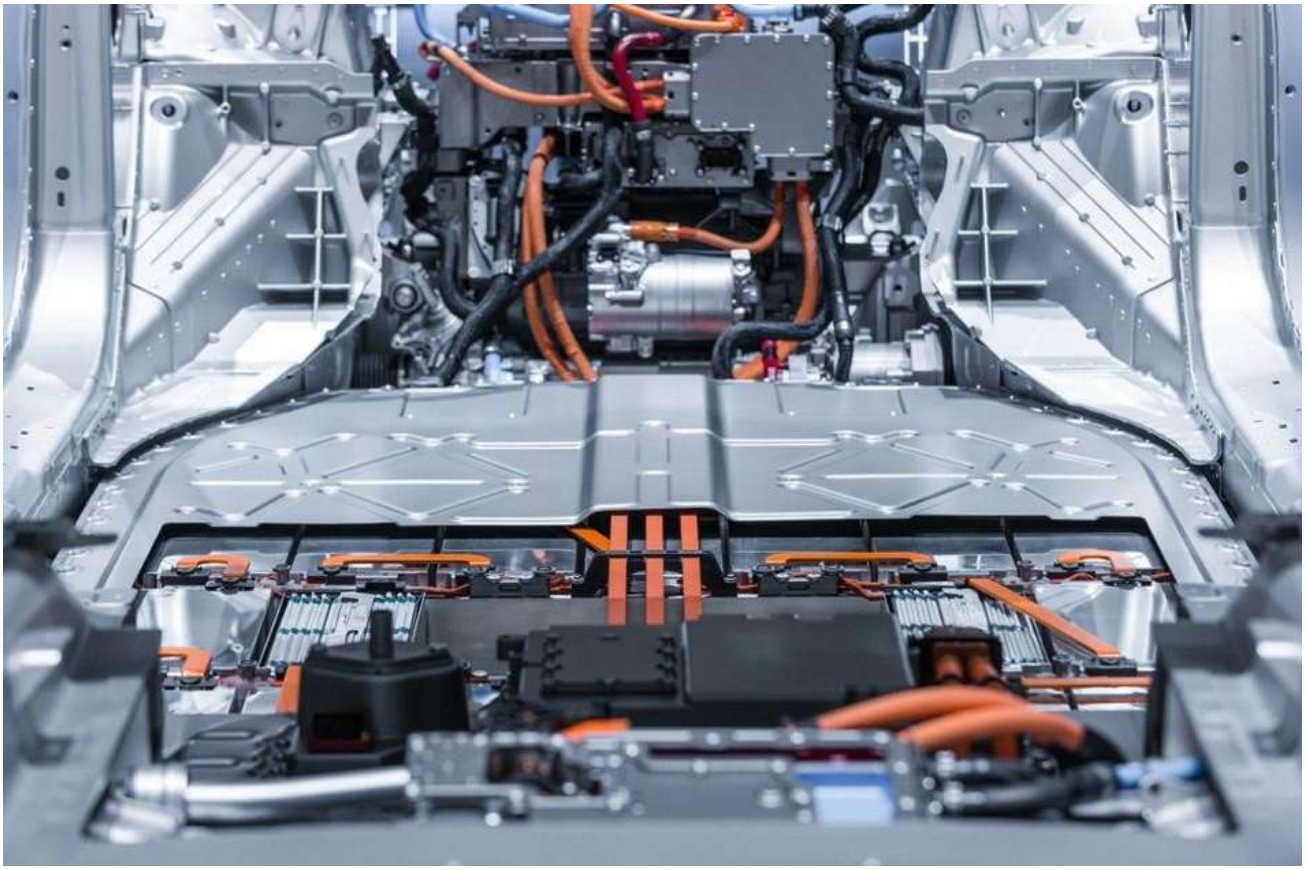

Model Curriculum

QP Name: Electric Vehicle Assembly Technician

QP Code: ASC/Q3605

QP Version: 2.0

NSQF Level: 3.5

Model Curriculum Version: 1.0

Automotive Skills Development Council | 153, Gr Floor, Okhla Industrial Area, Phase – III, Leela Building, New Delhi – 110020

Table of Contents

Training Parameters

Sector	Automotive
Sub-Sector	Manufacturing
Occupation	Assembly Operation
Country	India
NSQF Level	3.5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8211.1201
Minimum Educational Qualification and Experience	8th Class pass with 2 years of NTC + 1 year experience OR 8th Class pass with 3 years relevant experience OR 10th Class pass and pursuing continuous schooling OR 11th Class pass OR Certificate-NSQF (Automotive Assembly Technician level 3) with 2 Years of experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 years
Last Reviewed On	24/06/2021
Next Review Date	24/06/2026
NSQC Approval Date	24/06/2021
QP Version	2.0
Model Curriculum Creation Date	24/06/2021
Model Curriculum Valid Up to Date	24/06/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	420 Hours 00 Minutes
Maximum Duration of the Course	420 Hours 00 Minutes

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Interpret assembly drawing/work instructions/SOPs for identification of raw material, tools and equipment required for the assembly operations.
- Perform pre-assembling activities such as lifting of workpiece, inspection of tools and equipment etc.
- Perform various assembling operations such as bolting, tightening, riveting, fastening, adhesive clamping, crimping etc.
- Perform post-assembly operations such as cleaning and testing of vehicle.
- Work effectively and efficiently as per schedules and timelines.
- Implement safety practices.
- Optimize the use of resources to ensure less wastage and maximum conservation.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	**05:00**	**00:00**			**05:00**
Module 1: Introduction to the role of an Electric Vehicle Assembly Technician	5:00	0:00			5:00
ASC/N9803 – Organize work and resources (Manufacturing) NOS Version No. – 1.0 NSQF Level – 3	**20:00**	**35:00**			**55:00**
Module 2: Organize work and resources according to safety and conservation standards	20:00	35:00			55:00
DGT/VSQ/N0102 - Employability Skills (60 hours) NOS Version No. – 1.0 NSQF Level – 5	**24:00**	**36:00**			**60:00**
Module 3: Introduction to Employability Skills	0.5:00	1:00			1.5:00
Module 4: Constitutional values - Citizenship	0.5:00	1:00			1.5:00
Module 5: Becoming a Professional in the 21st Century	1:00	1.5:00			2.5:00
Module 6: Basic English Skills	4:00	6:00			10:00

Module 7: Career Development & Goal Setting	1:00	1:00			2:00
Module 8: Communication Skills	2:00	3:00			5:00
Module 9: Diversity & Inclusion	1:00	1.5:00			2.5:00
Module 10: Financial and Legal Literacy	2:00	3:00			5:00
Module 11: Essential Digital Skills	4:00	6:00			10:00
Module 12: Entrepreneurship	3:00	4:00			7:00
Module 13: Customer Service	2:00	3:00			5:00
Module 14: Getting ready for apprenticeship & Jobs	3:00	5:00			8:00
ASC/N9805 – Interpret engineering drawing NOS Version No. – 1.0 NSQF Level - 4	**15:00**	**15:00**			**30:00**
Module 15: Interpret engineering drawing	15:00	15:00			30:00
ASC/N3619 – Perform electric vehicle assembly operations NOS Version No. – 1.0 NSQF Level - 4	**90:00**	**150:00**	**30:00**		**270:00**
Module 16: Prepare for electric vehicle assembly activities	45:00	50:00	15:00		110:00
Module 17: Perform electric vehicle components assembly and post-assembly activities	45:00	100:00	15:00		175:00
Total Duration	**154:00**	**236:00**	**30:00**		**420:00**

Module Details

Module 1: Introduction to the role of an Electric Vehicle Assembly Technician

Bridge module

Terminal Outcomes:

- Discuss the role and responsibilities of an Electric Vehicle Assembly Technician.

Duration: *<05:00>*	**Duration**: *<00:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the role and responsibilities of an Electric Vehicle Assembly Technician. • Discuss the job opportunities for an Electric Vehicle Assembly Technician in the automobile industry. • Explain about Indian electric vehicle manufacturing market. • List various automobile Original Equipment Manufacturers (OEMs) and different products/ models manufactured by them. • Discuss the standards and procedures involved in the different processes of electric vehicle assembly. • List different types of EVs manufactured in the automobile industry. • Discuss various functional processes like procurement, store operation, inventory, quality system etc. in an automobile industry. • Identify the standard checklists and schedules recommended by OEM.	
Classroom Aids:	
Whiteboard, marker pen, projector, standard checklists and schedules samples	
Tools, Equipment and Other Requirements	

Module 2: Organize work and resources according to safety and conservation standards

Mapped to ASC/N9803, v1.0

Terminal Outcomes:

- Employ appropriate ways to maintain safe and secure working environment.
- Perform work as per the quality standards.
- Apply conservation practices at the workplace.

Duration: *<20:00>*	**Duration**: *<35:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the potential workplace related risks and hazards, their causes and preventions. • Identify PPE to be used at workplace. • Identify various warning signs used at the workplace. • Describe appropriate strategies to deal with emergencies and accidents at the workplace. • Outline the organizational structure to be followed to report about health, safety and security breaches to the concerned authorities. • Discuss the importance of keeping work area clean and tidy. • Discuss the significance of conforming to basic hygiene practices such as washing hands, using alcohol based hand sanitizers or soap. • Discuss organizational hygiene and sanitation guidelines and ways of reporting breaches/gaps if any to the concerned authorities. • Discuss the ways of dealing with stress and anxiety. • Discuss how to complete the given work within the stipulated time period. • Explain how to maintain a proper balance between team and individual goals. • Explain 5S guidelines at workplace. • List the various materials used at the workplace. • Explain organisational recommended procedure for storage of tools, equipment and material after completion of work. • Explain the ways to optimize usage of resources. • Discuss various methods of waste management and its disposal.	• Apply appropriate safety practices to ensure safety of people at the workplace • Display the correct way of wearing and removing PPE such as face masks, hand gloves, face shields, PPE suits, etc. • Demonstrate the use of fire extinguisher. • Apply basic first aid procedure in case of emergencies. • Perform routine cleaning of tools, equipment and machines. • Employ various techniques for checking malfunctions in the equipment as per Standard Operating Procedure (SOP). • Show how to sanitize and disinfect one's work area regularly. • Demonstrate the correct way of washing hands using soap and water. • Demonstrate the correct way of sanitizing hands using alcohol-based hand rubs. • Demonstrate how to evacuate the workplace in case of an emergency. • Demonstrate sorting of materials, tools and equipment and spare parts after completion of work. • Demonstrate the steps involved in storage of tools, equipment and material after completion of work. • Perform basic checks to identify any spills and leaks and that need to be plugged /stopped. • Demonstrate different disposal techniques depending upon types of waste. • Employ different ways to check if equipment/machines are functioning as per requirements and report malfunctioning, if observed. • Employ ways for efficient utilization of material and water.

• List the different categories of waste for the purpose of segregation • Differentiate between recyclable and non-recyclable waste • State the importance of using appropriate colour dustbins for different types of waste. • Discuss common practices for conserving electricity at workplace. • Discuss the common sources of pollution and ways to minimize it.	
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• Housekeeping material: Cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel, fire extinguisher • Safety gears: Safety shoes, ear plug, goggles, gloves, helmet, first-aid kit	

Module 3: Introduction to Employability Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements

Duration: *<0.5:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of Employability Skills in meeting the job requirements	• List different learning and employability related GOI and private portals and their usage
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 4: Constitutional values - Citizenship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about constitutional values to be followed to become a responsible citizen

Duration: *<0.5:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.	• Show how to practice different environmentally sustainable practices
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 5: Becoming a Professional in the 21st Century

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate professional skills required in 21st century

Duration: *<1:00>*	**Duration**: *<1.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss 21st century skills. • Describe the benefits of continuous learning	• Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 6: Basic English Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic English speaking.

Duration: *<4:00>*	**Duration**: *<6:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe basic communication skills • Discuss ways to read and interpret text written in basic English	• Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone • Read and interpret text written in basic English • Write a short note/paragraph / letter/e - mail using basic English
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 7: Career Development & Goal Setting

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate Career Development & Goal Setting skills.

Duration: *<1:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of career development plan	• Demonstrate how to communicate in a well -mannered way with others. • Create a career development plan with well-defined short- and long-term goals
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 8: Communication Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic communication skills.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of active listening for effective communication • Discuss the significance of working collaboratively with others in a team	• Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 9: Diversity & Inclusion

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe PwD and gender sensitisation.

Duration: *<1:00>*	**Duration**: *<1.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of reporting sexual harassment issues in time	• Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 10: Financial and Legal Literacy

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of managing expenses, income, and savings.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the common components of salary and compute income, expenditure, taxes, investments etc. • Discuss the legal rights, laws, and aids	• Outline the importance of selecting the right financial institution, product, and service • Demonstrate how to carry out offline and online financial transactions, safely and securely
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 11: Essential Digital Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate procedure of operating digital devices and associated applications safely.

Duration: *<4:00>*	**Duration**: *<6:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the role of digital technology in today's life • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely	• Show how to operate digital devices and use the associated applications and features, safely and securely • Create sample word documents, excel sheets and presentations using basic features • Utilize virtual collaboration tools to work effectively
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 12: Entrepreneurship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe opportunities as an entrepreneur.

Duration: *<3:00>*	**Duration**: *<4:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the types of entrepreneurship and enterprises • Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan • Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement	• Create a sample business plan, for the selected business opportunity
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 13: Customer Service

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of maintaining customer.

Duration: *<2:00>*	**Duration**: *<3:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of identifying customer needs and addressing them. • Explain the significance of identifying customer needs and responding to them in a professional manner. • Discuss the significance of maintaining hygiene and dressing appropriately.	• Demonstrate how to maintain hygiene and dressing appropriately.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 14: Getting ready for apprenticeship & Jobs

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: *<3:00>*	**Duration**: *<5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of maintaining hygiene and confidence during an interview • List the steps for searching and registering for apprenticeship opportunities	• Create a professional Curriculum Vitae (CV) • Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively • Perform a mock interview
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 15: Interpret engineering drawing

Mapped to ASC/N9805, v1.0

Terminal Outcomes:

- Describe the basics of engineering drawing.
- Interpret the machine drawings and symbols for understanding the job requirements.

Duration: *<15:00>*	**Duration:** *<15:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify uniqueness, dimensioning and important features of 2D and 3D shapes. • Identify types of lines, angles, points and their symmetry in shapes. • Differentiate between first angle and third angle projection. • Interpret 3 axis (x, y and z axis) of projection and machine symbols used in drawing. • Describe GD&T and use of its symbols in the drawings. • Identify required limits and tolerances of component from drawing. • Explain standards used in India for making assembly drawings. • Identify organisational drawing standards for interpreting the work requirements appropriately.	• Read an object in first angle and third angle projection. • Demonstrate appropriate way of reading and interpreting the shapes (cones, cylinder, sphere, cuboid, etc) on to a 2D and 3D projection. • Interpret and read orthographic and isometric views. • Read GD&T symbols in the given drawing. • Employ appropriate ways of storing the drawings in a defined and appropriate place. • Role play a situation on how to communicate the changes in drawing to the concerned authority.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• Drawing tools • Engineering drawing handbook • Vehicle assembly drawings	

Module 16: Prepare for electric vehicle assembly activities

Mapped to ASC/N3619, v1.0

Terminal Outcomes:

- Identify tools and equipment required for electric vehicle assembly operations
- Perform the steps to carry out pre-assembly activities such as lifting of vehicle components, inspection of tools and equipment, inspection of vehicle components for defects etc.

Duration: *<45:00>*	**Duration**: *<65:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List various components /aggregates and the manufacturer's specifications of an electric vehicle. • Describe basic technology used, functioning and interconnections of various systems and components of the vehicle. • Recall fundamental terms, laws and principles of electricity used in EV. • Discuss various symbols, units and terms used in wiring diagrams associated with electrical/electric systems/components of the vehicle. • Discuss legal regulations that need to be taken into account for handling electric vehicles. • Discuss the information derived from the assembly drawings, work instructions, SOP's etc. • List the selection criteria of assembling method and required tools and equipment as per the requirement. • Explain various assembling operations such as bolting, tightening, riveting, fastening, adhesive clamping, crimping etc. • Discuss the impact of various assembly operations on the vehicle and its components. • Illustrate the process flow of assembly operations. • List tools, measuring instruments, equipment, auto components/parts and sub-assemblies required during assembling work. • Summarise the steps to be performed for checking and cleaning the assembling tools, accessories, measuring instruments and equipment	• Read the workorder, wiring diagrams and engineering drawings to identify assembling requirements and select the assembly methods needed to be performed. • Demonstrate the standard operating procedure to use tools, equipment and measuring instruments required during assembly process. • Apply appropriate ways to check and clean the assembling tools, accessories, measuring instruments and equipment before use. • Show how to check and clean the battery terminals of electric vehicle. • Display the procedure of setting up the equipment required for assembling work. • Perform the steps of lifting and placing the auto components on the designated place by using lifting tools. • Apply appropriate techniques to check the adhesion of roof-lining, insulation material, roof-rail etc. of the auto component. • Demonstrate the correct method of the assembly operation such as angle for holding the tools and equipment, direction of application of torque, ergonomics of hand/ body etc.

before use. • Discuss the process of filling CLRI sheet and reporting to the supervisor about the abnormalities identified and action taken in it. • List the steps for setting up the equipment required for assembling work. • State the importance of selecting right program in case of robotic assembly method as per the work instructions. • Discuss the process of lifting and placing the auto components on the designated place as per the work instructions. • List the steps to be performed for checking the adhesion of roof-lining, insulation material, roof-rail etc. of the auto component.	
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• PPT's, teaching aids, torqueing charts, assembly drawing / blue print, component assembly plan • **Measuring and marking tools**: Steel tape, steel rule, vernier calliper, micrometre, compass, divider, scriber, T Square, bevel protractor, pin set, torque meter etc. • **Assembly tools and equipment:** Riveting machine, drilling machine, riveting guns, pneumatic guns, fasteners, rubber seals, soldering iron, jigs, fixtures, adhesives • **Components:** Bolts, nuts, screws, wires, fasteners, connectors, sealants, adhesive bonding material etc. • **Lifting devices:** Hoists, cranes, bins, part trolleys, pallet trucks • **Safety materials**: Fire extinguisher, portable welding curtains, leather safety gloves, leather aprons, safety glasses, helmet, safety shoe and first-aid kit • **Cleaning material**: Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel	

Module 17: Perform electric vehicle components assembly and post-assemblyactivities

Mapped to ASC/N3619, v1.0

Terminal Outcomes:

- Demonstrate various assembly operations such as bolting, tightening, riveting, fastening, adhesive clamping, crimping etc.
- Perform steps to carry out post-assembly activities.

Duration: *<45:00>*	**Duration**: *<115:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the necessary precautions to be taken to avoid any hazard and accident during assembly activities. • Outline the process of an electric vehicle mechanical components assembly operations such as bolting, riveting, tightening etc. and electrical components assembly operations such as wire connections, wire color identification, wire routing, wire stripping, crimping, soldering, high frequency welding etc. • List the steps to be performed for adjustment, alignment and setting of the parts, assemblies and aggregates as per Product Quality Standard (PQS). • List various sealing compounds. • Discuss the process of application of sealing compounds, gaskets and adhesives on a vehicle assembly. • List the steps to be performed for labelling the auto components. • Discuss the information needed to be mentioned on the labels of the auto components. • Recall the tasks to be performed post-assembly. • Discuss the importance of selecting correct lubricant. • Explain properties and specifications of lubricant required for lubricating the required component. • List commonly occurring defects in the assembled vehicle. • Discuss the impact of defects on the quality of assembled vehicle. • Explain the inspection methods for identifying the defects and checking	• Demonstrate organizational specified procedure of all assembly operations such as bolting, riveting, tightening, wire stripping, crimping, soldering, high frequency welding etc. • Employ appropriate assembly method for assembling of safety parts i.e. bearings, shafts etc., battery systems, motors, electrical components such as electric wire harness, Electronic Control Unit (ECU) etc. and other similar parts in electric vehicle. • Demonstrate the organizational specified procedure of installing the various components of oil and lube system in the vehicle. • Show how to adjust, align and set the parts, assemblies and aggregates as per Product Quality Standard (PQS). • Apply appropriate ways to check the leakage of water, oil, air etc. near the battery system. • Demonstrate how to number the wires connected to batteries of the vehicle. • Apply appropriate ways of sealing to prevent water leakage in vehicle components. • Demonstrate the organizational specified procedure for labelling the auto components as per the assembly process and quality standards followed. • Display how to lubricate the vehicle components. • Employ appropriate ways to check the level of battery charge, battery water, brake oil, gear oil, engine oil etc. in the vehicle. • Perform the steps to check the quality

the quality of assembled vehicle as per the control plan. • Recall organisational recommended procedure for storage of tools, equipment and fixture after completion of work. • List different methods for disposing off waste material and scrap.	of assembled components as per the control plan and work instructions. • Apply appropriate inspection methods for identifying the defects in assembled vehicle. • Perform steps to check the current in battery by using multimeter. • Demonstrate the organisational procedure involved in storage of tools, equipment and fixtures after completion of work. • Show how to dispose scrap or waste as per organisational guidelines.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• PPT's, teaching aids, torqueing charts, assembly drawing / blue print, component assembly plan • **Measuring and marking tools**: Steel tape, steel rule, vernier calliper, micrometre, compass, divider, scriber, T Square, bevel protractor, pin set, torque meter etc. • **Assembly tools and equipment:** Riveting machine, drilling machine, riveting guns, pneumatic guns, fasteners, rubber seals, soldering iron, jigs, fixtures, adhesives • **Components:** Bolts, nuts, screws, wires, fasteners, connectors, sealants, adhesive bonding material etc. • **Lifting devices:** Hoists, cranes, bins, part trolleys, pallet trucks • **Safety materials**: Fire extinguisher, portable welding curtains, leather safety gloves, leather aprons, safety glasses, helmet, safety shoe and first-aid kit • **Cleaning material**: Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
ITI	Turner/Fitter	5	Turner/ Fitter	1	Turner/ Fitter	NA
ITI	Turner/Fitter	6	Automotive Assembly	0	Automotive Assembly	**NA**
Diploma	Electrical/ Automobile	3	Electrical/ Automobile	1	Electrical/ Automobile	**NA**
Diploma	Electrical/ Automobile	4	Electrical/ Automobile	0	Electrical/ Automobile	**NA**

Trainer Certification	
Domain Certification	**Platform Certification**
"Electric Vehicle Assembly Technician, ASC/Q3605, version 1.0". Minimum accepted score is 80%.	Recommender that the trainer is certified for the job role "Trainer (VET and Skills)", Mapped to Qualification Pack: MEP/Q2601, V2.0" Minimum accepted score is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
ITI	Turner/Fitter	6	Turner/ Fitter	1	Turner/ Fitter	NA
ITI	Turner/Fitter	7	Automotive Assembly	0	Automotive Assembly	**NA**
Diploma	Electrical/ Automobile	4	Electrical/ Automobile	1	Electrical/ Automobile	**NA**
Diploma	Electrical/ Automobile	5	Electrical/ Automobile	0	Electrical/ Automobile	**NA**

Assessor Certification	
Domain Certification	**Platform Certification**
"Electric Vehicle Assembly Technician, ASC/Q3605, version 1.0". Minimum accepted score is 80%.	Recommender that the Accessor is certified for the job role "Accessor (VET and Skills)", Mapped to Qualification Pack: MEP/Q2701, V2.0" Minimum accepted score is 80%.

Assessment Strategy

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

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
SOP	Standard Operating Procedure
WI	Work Instructions
PPE	Personal Protective equipment