



# Model Curriculum

**QP Name: Automotive Engine Repair Technician**

**QP Code: ASC/Q1409**

**NSQF Level: 3**

Automotive Skill Development Council  
E-113 GF Floor, Okhla Industrial Area, Phase III, New Delhi -  
110020

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# Training Parameters

<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Automotive Vehicle Service
<b>Occupation</b>	Technical Service & Repair
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7213.0201
<b>Minimum Educational Qualification &amp; Experience</b>	<p>10th Class + 2 years ITI (Mechanic Motor Vehicle/Diesel Mechanic/Mechanic Auto Electrical and Electronics)</p> <p>OR</p> <p>10th Class pass with 2 years relevant experience</p> <p>OR</p> <p>11th Class Pass</p> <p>OR</p> <p>12th Class pass with 1 year relevant experience</p> <p>OR</p> <p>Certificate-NSQF (Four Wheeler Service Assistant Level 2.5) with 2 Years of experience</p>
<b>Pre-Requisite License or Training</b>	Driving License
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	20th Nov 2020
<b>Next Review Date</b>	20th Nov 2025
<b>NSQC Approval Date</b>	20th Nov 2020
<b>Model Curriculum Creation Date</b>	20th Nov 2020
<b>Model Curriculum Valid Up to Date</b>	20th Nov 2025
<b>Minimum Duration of the Course</b>	420 Hours, 0 Minutes
<b>Maximum Duration of the Course</b>	420 Hours, 0 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.

- Perform service and repair of engine and other related mechanical aggregates in a vehicle.
- Work effectively and efficiently as per schedules and timelines while complying with the health and hygiene norms.
- Implement safety practices.
- Optimize the use of resources to ensure less wastage and maximum conservation.
- Communicate effectively using interpersonal skills.

### 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
Module:1-Introduction to the role of Automotive Engine Repair Technician <i>Bridge Module</i>	05:00	0:00	-	-	05:00
<b>ASC/N9801 - Organize Work and Resources (Service)</b> <b>NOS Version No. 1.0</b> <b>NSQF Level 3</b>	<b>25:00</b>	<b>30:00</b>	-	-	<b>55:00</b>
Module:2-Work effectively and efficiently	15:00	15:00	-	-	30:00
Module:3-Optimize resource utilization	10:00	15:00	-	-	25:00
<b>DGT/VSQ/N0102 -Employability Skills (60 hours)</b> <b>NOS Version No. – 1.0</b> <b>NSQF Level – 3</b>	<b>24:00</b>	<b>36:00</b>			<b>60:00</b>
Module 4: Introduction to Employability Skills	0.5:00	1:00			1.5:00
Module 5: Constitutional values - Citizenship	0.5:00	1:00			1.5:00

Module 6: Becoming a Professional in the 21st Century	1:00	1.5:00			2.5:00
Module 7: Basic English Skills	4:00	6:00			10:00
Module 8: Career Development & Goal Setting	1:00	1:00			2:00
Module 9: Communication Skills	2:00	3:00			5:00
Module 10: Diversity & Inclusion	1:00	1.5:00			2.5:00
Module 11: Financial and Legal Literacy	2:00	3:00			5:00
Module 12: Essential Digital Skills	4:00	6:00			10:00
Module 13: Entrepreneurship	3:00	4:00			7:00
Module 14: Customer Service	2:00	3:00			5:00
Module 15: Getting ready for apprenticeship & Jobs	3:00	5:00			8:00
<b>ASC/N1418 – Carry out service, repair and overhaul of vehicle engine and</b>	<b>85:00</b>	<b>185:00</b>	<b>30:00</b>	-	<b>300:00</b>

<b>allied aggregates NOS Version No. 1.0 NSQF Level 3</b>					
Module:16-Perform service and repair of engine/related mechanical aggregates in a vehicle	85:00	185:00	30:00	-	300:00
<b>Total Duration</b>	<b>139:00</b>	<b>251:00</b>	<b>30:00</b>	-	<b>420:00</b>

# Module Details

## Module 1

### Introduction to the Role of Automotive Engine Repair Technician

#### Bridge Module

#### Terminal Outcomes:

Discuss how to work as per the defined the role and responsibilities of an Automotive Engine Repair Technician.

Discuss the scope of work of an Automotive Engine Repair Technician.

<b>Duration: 05:00</b>	<b>Duration: 0:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the role and responsibilities of an automotive engine repair technician.</li> <li>List the basics of driving and parking 4 wheeler vehicle.</li> <li>Identify the various parts / components of the vehicle.</li> <li>List the activities to be performed for maintaining / managing the workshop, including tools and equipment.</li> <li>List the standard operating procedures (SOP) with respect to (w.r.t.) inspection, diagnosis, service and repairs.</li> <li>Identify the documentation involved in the process.</li> </ul>	
<b>Classroom Aids:</b>	
Laptop, white board, marker, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 2

### Work Effectively and Efficiently

Mapped to NOS ASC/N9801

#### Terminal Outcomes:

- Employ appropriate ways to maintain a safe and secure working environment.
- Perform work as per the quality standards.

<b>Duration: 15:00</b>	<b>Duration: 15:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>● Outline the organizational structure to be followed to report about health, safety and security breaches to the concerned authorities.</li> <li>● List the potential workplace related risks and hazards, their causes and preventions.</li> <li>● State the methods to keep the work area clean and tidy.</li> <li>● Discuss how to complete the given work within the stipulated time period.</li> <li>● Explain how to maintain a proper balance between team and individual goals.</li> <li>● Discuss epidemics and pandemics and their impact on society at large.</li> <li>● Discuss the significance of conforming to basic hygiene practices such as washing hands, using alcohol-based hand sanitizers.</li> <li>● Discuss the use of proper PPE for maintaining health and hygiene at workplace and the process of wearing/discarding them.</li> <li>● Define self-quarantine or self-isolation.</li> <li>● Discuss the importance of identifying and reporting symptoms to the concerned authorities.</li> <li>● Explain the significance of following prescribed rules and guidelines during an epidemic or a pandemic.</li> <li>● Discuss organizational hygiene and sanitation guidelines and ways of reporting breaches/gaps if any.</li> <li>● Discuss the ways of dealing with stress and anxiety during an epidemic or a pandemic.</li> </ul>	<ul style="list-style-type: none"> <li>● Perform routine cleaning of tools, equipment and machines.</li> <li>● Employ various techniques for checking malfunctions in the equipment as per Standard Operating Procedure (SOP).</li> <li>● Apply basic housekeeping practices to ensure that the work area is clean, such as mopping spills and leaks, cleaning grease stains etc.</li> <li>● Demonstrate how to evacuate the workplace in case of an emergency.</li> <li>● Show how to sanitize and disinfect one's work area regularly.</li> <li>● Demonstrate the correct way of washing hands using soap and water.</li> <li>● Demonstrate the correct way of sanitizing hands using alcohol-based hand rubs.</li> <li>● Display the correct way of wearing and removing PPE such as face masks, hand gloves, face shields, PPE suits, etc.</li> <li>● Demonstrate appropriate social and behavioural etiquette (greeting and meeting people, spitting/coughing/sneezing, etc.).</li> <li>● Prepare a list of relevant hotline/emergency numbers.</li> </ul>
<b>Classroom Aids:</b>	

White board/black board marker/chalk, duster, computer or Laptop attached to LCD projector

### **Tools, Equipment and Other Requirements**

Personal Protection Equipment: safety glasses, head protection, rubber gloves, safety footwear, warning signs and tapes, fire extinguisher and first aid kit

Sanitization kit, disinfectants, alcohol-based sanitizers, different types of face masks, shields, suits, etc.



## Module 3: Optimize Resource Utilization

Mapped to NOS ASC/N9801

### Terminal Outcomes:

- Use the resources efficiently.
- Apply conservation practices at the workplace.

Duration: 10:00	Duration: 15:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the ways to optimize usage of resources.</li> <li>• Discuss various methods of waste management and its disposal.</li> <li>• List the different categories of waste for the purpose of segregation</li> <li>• Differentiate between recyclable and non-recyclable waste</li> <li>• State the importance of using appropriate colour dustbins for different types of waste.</li> <li>• Discuss the common sources of pollution and ways to minimize it.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform basic checks to identify any spills and leaks and that need to be plugged /stopped.</li> <li>• Demonstrate different disposal techniques depending upon different types of waste.</li> <li>• Employ different ways to check if equipment/machines are functioning as per requirements and report malfunctioning, if observed.</li> <li>• Employ ways for efficient utilization of material and water</li> <li>• Use energy efficient electrical appliances and devices to ensure energy conservation</li> </ul>
<b>Classroom Aids:</b>	
White board/black board marker/chalk, duster, computer or Laptop attached to LCD projector	
<b>Tools, Equipment and Other Requirements</b>	
Different type of waste bins to collect and segregate waste for disposal	

## Module 4: 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>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the importance of Employability Skills in meeting the job requirements</li> </ul>	<ul style="list-style-type: none"> <li>• List different learning and employability related GOI and private portals and their usage</li> </ul>

<b>Classroom Aids:</b>
Whiteboard, marker pen, projector
<b>Tools, Equipment and Other Requirements</b>

## Module 5: Constitutional values - Citizenship

*Mapped to DGT/VSQ/N0102*

### Terminal Outcomes:

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

<b>Duration:</b> <0.5:00>	<b>Duration:</b> <1:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to practice different environmentally sustainable practices</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 6: Becoming a Professional in the 21st Century

*Mapped to DGT/VSQ/N0102*

### Terminal Outcomes:

- Demonstrate professional skills required in 21<sup>st</sup> century

<b>Duration:</b> <1:00>	<b>Duration:</b> <1.5:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss 21st century skills.</li> <li>• Describe the benefits of continuous learning</li> </ul>	<ul style="list-style-type: none"> <li>• Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness,</li> </ul>

	emotional awareness, learning to learn etc. in personal or professional life.
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 7: Basic English Skills

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

- Practice basic English speaking.

<b>Duration:</b> <4:00>	<b>Duration:</b> <6:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe basic communication skills</li> <li>• Discuss ways to read and interpret text written in basic English</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone</li> <li>• Read and interpret text written in basic English</li> <li>• Write a short note/paragraph / letter/e - mail using basic English</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 8: Career Development & Goal Setting

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

- Demonstrate Career Development & Goal Setting skills.

<b>Duration:</b> <1:00>	<b>Duration:</b> <1:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss need of career development plan</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to communicate in a well -mannered way with others.</li> <li>• Create a career development plan with well-defined short- and long-term goals</li> </ul>
<b>Classroom Aids:</b>	

Whiteboard, marker pen, projector

**Tools, Equipment and Other Requirements**

**Module 9: Communication Skills**

*Mapped to DGT/VSQ/N0102*

**Terminal Outcomes:**

- Practice basic communication skills.

<b>Duration:</b> <2:00>	<b>Duration:</b> <3:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the importance of active listening for effective communication</li> <li>• Discuss the significance of working collaboratively with others in a team</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

**Module 10: Diversity & Inclusion**

*Mapped to DGT/VSQ/N0102*

**Terminal Outcomes:**

- Describe PwD and gender sensitisation.

<b>Duration:</b> <1:00>	<b>Duration:</b> <1.5:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the significance of reporting sexual harassment issues in time</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

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## Module 11: Financial and Legal Literacy

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

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

<b>Duration:</b> <2:00>	<b>Duration:</b> <3:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>List the common components of salary and compute income, expenditure, taxes, investments etc.</li> <li>Discuss the legal rights, laws, and aids</li> </ul>	<ul style="list-style-type: none"> <li>Outline the importance of selecting the right financial institution, product, and service</li> <li>Demonstrate how to carry out offline and online financial transactions, safely and securely</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 12: Essential Digital Skills

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

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

<b>Duration:</b> <4:00>	<b>Duration:</b> <6:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>Describe the role of digital technology in today's life</li> <li>Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely</li> </ul>	<ul style="list-style-type: none"> <li>Show how to operate digital devices and use the associated applications and features, safely and securely</li> <li>Create sample word documents, excel sheets and presentations using basic features</li> <li>Utilize virtual collaboration tools to work</li> </ul>

	effectively
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 13: Entrepreneurship

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

- Describe opportunities as an entrepreneur.

<b>Duration:</b> <3:00>	<b>Duration:</b> <4:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>Explain the types of entrepreneurship and enterprises</li> <li>Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan</li> <li>Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>Create a sample business plan, for the selected business opportunity</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 14: Customer Service

### Mapped to DGT/VSQ/N0102

#### Terminal Outcomes:

- Describe ways of maintaining customer.

<b>Duration:</b> <2:00>	<b>Duration:</b> <3:00>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>Explain the significance of identifying customer needs and addressing them.</li> <li>Explain the significance of identifying customer needs and responding to them in a professional manner.</li> <li>Discuss the significance of maintaining hygiene and dressing appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate how to maintain hygiene and dressing appropriately.</li> </ul>
<b>Classroom Aids:</b>	

Whiteboard, marker pen, projector

**Tools, Equipment and Other Requirements**

**Module 15: Getting ready for apprenticeship & Jobs**

*Mapped to DGT/VSQ/N0102*

**Terminal Outcomes:**

- Describe ways of preparing for apprenticeship & Jobs appropriately.

<b>Duration: &lt;3:00&gt;</b>	<b>Duration: &lt;5:00&gt;</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the significance of maintaining hygiene and confidence during an interview</li> <li>• List the steps for searching and registering for apprenticeship opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Create a professional Curriculum Vitae (CV)</li> <li>• Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively</li> <li>• Perform a mock interview</li> </ul>
<b>Classroom Aids:</b>	
Whiteboard, marker pen, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 16: Perform Service and Repair of Engine/Related Mechanical Aggregates in a Vehicle

*Mapped to NOS ASC/N1418*

### Terminal Outcomes:

- Perform the steps to diagnose direct/indirect faults in vehicle’s engine and allied systems.
- Employ appropriate procedures to disassemble/assemble vehicle’s engine and its aggregates.
- Perform service, repair and overhaul of engine/related mechanical aggregates in a vehicle.

<b>Duration:</b> 85:00	<b>Duration:</b> 185:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>



Summarise the specifications related to the various engine components/ aggregates in the vehicle.

Explain the basic technology and functioning of various types of engine such as: working cycle (2 stroke and 4 stroke), fuel type (petrol, diesel, CNG, LPG), engine management system

List the causes and symptoms of operational faults and failures of engine components/aggregates of a vehicle.

Explain the functioning of tools and equipment required to repair engine and other aggregate components as per SOP recommended by OEM.

Identify the malfunctions in tools and equipment that need to be escalated to the supervisor.

Discuss the process of understanding work requirements by reviewing the job card.

Recall the process of assessing the fault by test driving the vehicle.

State the procedure to collect and check tools/equipment from concerned departments

Discuss the process of repairing/replacing/calibrating/overhauling of engine/allied aggregates.

Explain standard operating procedures to carry out routine maintenance, service, repair and overhaul of the engine/allied aggregates.

Identify the repair issues beyond own scope or those which are economically and technically infeasible to be escalated further.

List the precautions to be taken to protect the vehicle and its other systems from any damage while working on it.

List the various post-repair activities to be performed including performance check, returning consumables, parts, tools, equipment etc.

Check the components related to the various engine components/ aggregates.

Perform the steps to diagnose direct and indirect faults at the precise location in vehicle's engine and allied systems

Apply suitable techniques to inspect components which require replacement due to wear and tear

Demonstrate how to use workshop tools/measuring devices/equipment required for the job

Employ appropriate steps to remove/dismantle engine/allied aggregates and report the additional repair requirements, if any

Perform steps to refill/replace coolants, engine oil and other lubricants/fluids as per OEM guidelines

Check that the correct spare parts, tools and equipment are available and in proper working order.

Demonstrate how to test drive the vehicle to assess the need for repairs.

Inspect any repair done from an outside source.

Demonstrate how to select the correct seals, sealants, fittings, gaskets, joints, fasteners, lubricants, coolant required for the job.

Perform scheduled checks, calibration and timely repairs for workshop tools, equipment and workstation

<p>Elucidate the importance of proper disposal of materials/components.</p> <p>State the importance of maintaining proper records and documentation pertaining to inspection, servicing and repairs of the components.</p> <p>Outline the flow of work processes from receiving vehicle to delivery along with workshop structure and departments involved</p> <p>List the different types of components /aggregates with manufacturer’s specifications</p> <p>Discuss common faults and failures in engine, allied aggregates and other related units as well as their rectification procedures.</p> <p>List the safety requirements for equipment and components prescribed by the OEM.</p> <p>Discuss organisational and professional code of ethics and standards of practice.</p> <p>Discuss the general safety, health and environmental policies and regulations applicable for work place.</p> <p>List the various sources of information available for assessing engine, allied aggregate, including diagnostic displays, visual inspections, etc.</p> <p>Identify the types of errors/defects in tools and equipment.</p> <p>Identify the symptoms that necessitate replacement of parts/aggregates post dismantling.</p> <p>Discuss the identification codes, nomenclature of various engine components and aggregates in a vehicle.</p> <p>Explain the basic technology and functioning of various systems and components of the vehicle other than engine and allied aggregates such as transmission system, brake system, steering system, etc.</p> <p>Describe the process of inspecting the repair done from an outside source/local machining garages on the various engine aggregates.</p> <p>Discuss the corrective action to be taken for common faults and failures in engine, allied aggregate and related systems.</p>	<p>Perform routine maintenance and overhaul of the engine.</p> <p>Demonstrate how to dismantle, repair and clean/replace and adjust, reassemble and test the components for correct operation.</p> <p>Perform post-repair activities such as performance check and determine if further inspection is required.</p> <p>Dispose replaced defective components and changed oil, lubricant, grease properly.</p> <p>Demonstrate using computer applications required for maintaining records related to different processes involved</p>
<p><b>Classroom Aids:</b></p>	
<p>Laptop, white board, marker, projector</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Vehicle, various body parts, engine, tools and equipment, material, mechanical and electrical components / aggregates, lubricants, grease, oil, etc.</p> <p>Feeler gauges, torque wrench, multimeter, engineering rule (scale), battery charger, tester, hydrometer, tachometer etc. Fuel pressure testers, manifold gauge sets, oil pressure gauges, tire pressure gauges etc., and ball joint separators, bearing pullers, gear puller tools, slide hammers etc.</p>	

# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI	Mechanic Motor Vehicle	3	Four Wheeler Service	1	Four Wheeler Service	NA
ITI	Mechanic Motor Vehicle	4	N/A	N/A	Four Wheeler Service	NA
Diploma	Automobile Engineering/ Mechanical Engineering	2	Four Wheeler Service	1	Four Wheeler Service	NA
Diploma	Automobile Engineering/ Mechanical Engineering	3	N/A	N/A	Four Wheeler Service	NA
Certificate-NSQF(Four Wheeler Master Technician) Level-6	Four Wheeler Master Technician Level-6	2	Four Wheeler Service	1	Four Wheeler Service	NA

  

Trainer Certification	
Domain Certification	Platform Certification
“Automotive Engine Repair Technician”, QP: “ASC/Q1409”, minimum accepted score is 80%	Recommended 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 Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI	Mechanic Motor Vehicle	4	Four Wheeler Service	1	Four Wheeler Service	<b>NA</b>
ITI	Mechanic Motor Vehicle	5	N/A	N/A	Four Wheeler Service	<b>NA</b>
Diploma	Automobile Engineering/ Mechanical Engineering	3	Four Wheeler Service	1	Four Wheeler Service	<b>NA</b>
Diploma	Automobile Engineering/ Mechanical Engineering	4	N/A	N/A	Four Wheeler Service	<b>NA</b>
Certificate-NSQF(Four Wheeler Master Technician) Level-6	Four Wheeler Master Technician Level-6	3	Four Wheeler Service	1	Four Wheeler Service	<b>NA</b>

### Assessor Certification

Domain Certification	Platform Certification
“Automotive Engine Repair Technician”, QP: “ASC/Q1409”, minimum accepted score is 80%	Recommended that the Assessor is certified for the job role “Assessor (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:

The assessor should:

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

Center 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

1. 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
2. Soft copies of the documents & photographs of the assessment are stored in the Hard Drive

## References

## Glossary

Term	Description
<b>Declarative Knowledge</b>	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.
<b>Key Learning Outcome</b>	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).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module</b> . A set of terminal outcomes help to achieve the training outcome.

## Acronyms and Abbreviations

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>PwD</b>	Persons with Disability
<b>OEM</b>	Original Equipment Manufacturer
<b>CNG</b>	Compressed Natural Gas
<b>LPG</b>	Liquefied Petroleum Gas