

Qualification Pack

Basic Concepts of Commercial Vehicle Service and Repair

QP Code: ASC/N1316

Version: 1.0

NSQF Level: 3.5

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Qualification Pack

Contents

ASC/N1316: Basic Concepts of Commercial Vehicle Service and Repair	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
ASC/N1316: Basic Concepts of Commercial Vehicle Service and Repair	5
Assessment Guidelines and Weightage	10
<i>Assessment Guidelines</i>	10
<i>Assessment Weightage</i>	11
Acronyms	12
Glossary	13

Qualification Pack

ASC/N1316: Basic Concepts of Commercial Vehicle Service and Repair

Brief Job Description

This NOS unit is about performing and supporting senior technician during service, diagnosis and repair of faults and issues in light, medium and heavy-duty vehicles.

Personal Attributes

undefined

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ASC/N1316: Basic Concepts of Commercial Vehicle Service and Repair](#)

Qualification Pack (QP) Parameters

Sector	Automotive
Sub-Sector	
Occupation	Automotive Service & Repair
Country	
NSQF Level	3.5
Credits	2
Aligned to NCO/ISCO/ISIC Code	
Minimum Educational Qualification & Experience	<p>11th grade pass (Continuous education after 11th Class) OR 10th grade pass plus 1-year NTC/ NAC OR 10th grade pass with 1.5 years of experience OR 9th grade pass with 3 Years of experience OR 8th grade pass with 4.5 years of experience</p>

Qualification Pack

Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	18/02/2028
NSQC Approval Date	18/02/2025
Version	1.0
Reference code on NQR	NG-3.5-AU-03741-2025-V1-ASDC
NQR Version	1.0

Qualification Pack

ASC/N1316: Basic Concepts of Commercial Vehicle Service and Repair

Description

This NOS unit is about performing and supporting senior technician during service, diagnosis and repair of faults and issues in light, medium and heavy-duty vehicles.

Scope

The scope covers the following :

- Assist technician in preparation for servicing and repairing work
- Assist during servicing and repairing of various components and systems of vehicle
- Perform post-servicing and repairing activities

Elements and Performance Criteria

Assist technician in preparation for servicing and repairing work

To be competent, the user/individual on the job must be able to:

PC1. Assist in positioning the vehicle on a suitable platform for service, maintenance and repair

PC2. Identify and arrange the required special service tools, measuring instruments, vehicle parts, gauges, fixtures, workshop supplies, etc. as per SOP and technician's instructions

PC3. Check the tools, measuring instruments, vehicle parts, gauges, fixtures etc. for any defects and proper functioning

PC4. Report the malfunctioning, if any, in tools/equipment to the concerned person for rectification

PC5. Prepare the work area by cleaning and placement of tools/equipment in an organised manner

PC6. Wear PPE according to nature of job to be performed

Assist during servicing and repairing of various components and systems of vehicle

To be competent, the user/individual on the job must be able to:

PC7. Identify the type of engine and auto component/aggregate of vehicle

PC8. Assist senior in visual inspection of the vehicle for any external impact/bend/leak/incorrect level/wear & tear

PC9. Assist senior in performing routine service/maintenance (inspect/correct/adjust/clean/lubricate) in vehicle/aggregate

PC10. Comply with the Standard Operating Procedures and vehicle service manuals for repairing, servicing and using workshop tools and equipment.

PC11. Assist in dismantling and assembling of aggregate/system like suspension system, steering system, cooling system, engine gearbox etc

Qualification Pack

PC12. Assist senior during engine valve clearance adjustment, compression pressure test/ oil pressure test/ fan belt tension checking, clutch pedal free play adjustment and clutch pedal height adjustment, pedal stroke measurement, transmission cable adjustment and gear lever play checking, brake pedal free play and stroke adjustments, LCRV adjustment and lift axle LSV adjustment, brake shoe removal and refitting, hub play adjustment and wheel greasing and brake adjustment - auto slack adjuster etc.

PC13. Check electrical master board and sensor board for any faults, leakage/need of charging in battery, wiring repair requirement, faults in basic electrical & electronic components checking (Fuse, Relay, Switch & Bulb etc.) under the guidance of senior technician by using appropriate tools and equipment

PC14. Clean and condition dismantled mechanical and electrical components prior to assembly

PC15. Work carefully to ensure no damage is caused to any aggregate/component

Perform post-servicing and repairing activities

To be competent, the user/individual on the job must be able to:

PC16. Assist technician in checking the performance of vehicle/aggregate post repair

PC17. Check and fill PDI/PMS check sheet as per the SOP.

PC18. Return leftover consumable/parts, tools/equipment and report if any malfunctions are observed to the person concerned

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Basics of automobiles and automotive Terminology

KU2. VIN / chassis number & engine number codification

KU3. Different components/aggregates as well as auto component manufacturer's specifications of the heavy vehicle

KU4. The tools used to assess deviations from specifications during routine servicing, maintenance and repair including use of pressure indicators: oil pressure gauges, tire pressure gauges etc., pullers: ball joint separators, bearing pullers, etc., gasket scrapers, etc., measuring equipment: Vernier callipers, micrometre, multi-metre, dial gauge etc., hand tools, power tools, lifting/jacking equipment, tools for other tasks such as wheel alignment, AC gas charging etc

KU5. Basic usage of precision measuring instruments i.e. ruler, vernier, micrometre, dial gauge plunger type and lever type gauge, magnetic stand, feeler gauge, thread pitch gauge, radius gauge, torque wrench, torque multiplier, angular torque gauge, spring balance, bore gauge, straight edge, refractometer, hertz meter etc. application and handling

KU6. Basic technology used in and functioning of various systems and components of the heavy vehicle such as engine, transmission, batteries, body management system, telematics, brake system, air-conditioning systems, active & passive safety system, media and other systems

KU7. Construction and working of various components/systems and associated sub-systems of vehicle

KU8. Various types of engines i.e. petrol, diesel, CNG etc. in light, medium and heavy-duty vehicles

KU9. Interconnection of systems with each other and effect of one system on other system

Qualification Pack

- KU10.** Vehicle terminology like wheel base, ground clearance, front and rear O/H, wheel track front & rear, overall length, overall height
- KU11.** Engine terminology i.e. strokes length/ bore diameter/ number of cylinder/ valve mechanism/ fuels and fuel system
- KU12.** Emission norms and engine management system basics
- KU13.** Need of periodic maintenance
- KU14.** Importance of lubrication chart
- KU15.** Basics of electricity - voltage, current & resistance
- KU16.** Series and parallel circuit,
- KU17.** Construction and functioning of various electronics components i.e. fuse, relay, battery etc.
- KU18.** Use of multimeter & hydrometer
- KU19.** Some of the typical symptoms of common faults and failures in vehicle mechanical, electrical and electronic systems
- KU20.** Occupational Safety and Health (OSH) measures required for working on electric vehicle
- KU21.** Documentation required on the job regarding the basic details of repair, maintenance and service performed

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Read and interpret workplace related documentation
- GS2.** Analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS3.** Identify potential workplace problem and take suitable action
- GS4.** Read various sources of information available for assessing service and repair requirements
- GS5.** Write any work-related information
- GS6.** Write in English/regional language

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist technician in preparation for servicing and repairing work</i>	9	10	-	4
PC1. Assist in positioning the vehicle on a suitable platform for service, maintenance and repair	1	2	-	-
PC2. Identify and arrange the required special service tools, measuring instruments, vehicle parts, gauges, fixtures, workshop supplies, etc. as per SOP and technician's instructions	3	2	-	2
PC3. Check the tools, measuring instruments, vehicle parts, gauges, fixtures etc. for any defects and proper functioning	2	3	-	1
PC4. Report the malfunctioning, if any, in tools/equipment to the concerned person for rectification	1	1	-	-
PC5. Prepare the work area by cleaning and placement of tools/equipment in an organised manner	1	2	-	1
PC6. Wear PPE according to nature of job to be performed	1	-	-	-
<i>Assist during servicing and repairing of various components and systems of vehicle</i>	17	32	-	14
PC7. Identify the type of engine and auto component/aggregate of vehicle	2	1	-	2
PC8. Assist senior in visual inspection of the vehicle for any external impact/bend/leak/incorrect level/wear & tear	1	2	-	1
PC9. Assist senior in performing routine service/maintenance (inspect/correct/adjust/clean/lubricate) in vehicle/aggregate	3	6	-	2
PC10. Comply with the Standard Operating Procedures and vehicle service manuals for repairing, servicing and using workshop tools and equipment.	1	2	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Assist in dismantling and assembling of aggregate/system like suspension system, steering system, cooling system, engine gearbox etc	2	4	-	1
PC12. Assist senior during engine valve clearance adjustment, compression pressure test/ oil pressure test/ fan belt tension checking, clutch pedal free play adjustment and clutch pedal height adjustment, pedal stroke measurement, transmission cable adjustment and gear lever play checking, brake pedal free play and stroke adjustments, LCRV adjustment and lift axle LSV adjustment, brake shoe removal and refitting, hub play adjustment and wheel greasing and brake adjustment - auto slack adjuster etc.	3	6	-	3
PC13. Check electrical master board and sensor board for any faults, leakage/need of charging in battery, wiring repair requirement, faults in basic electrical & electronic components checking (Fuse, Relay, Switch & Bulb etc.) under the guidance of senior technician by using appropriate tools and equipment	3	6	-	3
PC14. Clean and condition dismantled mechanical and electrical components prior to assembly	1	3	-	1
PC15. Work carefully to ensure no damage is caused to any aggregate/component	1	2	-	-
<i>Perform post-servicing and repairing activities</i>	4	8	-	2
PC16. Assist technician in checking the performance of vehicle/aggregate post repair	2	4	-	1
PC17. Check and fill PDI/PMS check sheet as per the SOP.	1	2	-	1
PC18. Return leftover consumable/parts, tools/equipment and report if any malfunctions are observed to the person concerned	1	2	-	-
NOS Total	30	50	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ASC/N1316
NOS Name	Basic Concepts of Commercial Vehicle Service and Repair
Sector	Automotive
Sub-Sector	
Occupation	Automotive Service & Repair
NSQF Level	3.5
Credits	2
Version	1.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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

Qualification Pack

Minimum Aggregate Passing % at QP Level : 50

(**Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N1316.Basic Concepts of Commercial Vehicle Service and Repair	30	50	-	20	100	100
Total	30	50	-	20	100	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Qualification Pack

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.