

## Qualification Pack



# Manager Testing Facility Level 6

QP Code: ASC/Q6503

Version: 1.0

NSQF Level: 6

Automotive Skills Development Council || Automotive Skills Development Council, Sat Paul Mittal Building, 1/6, Siri Institutional Area  
August Kranti Marg (Khel Gaon Marg) New Delhi - 110049

## Qualification Pack

### Contents

ASC/Q6503: Manager Testing Facility Level 6 .....	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/N0006: Maintain a safe and healthy working environment .....	5
ASC/N0022: Ensure implementation of 5S activities at the shop floor & the office area .....	10
ASC/N6505: Identify gaps in the existing testing facility .....	18
ASC/N6506: Select and approve the testing facility manufacturer .....	24
ASC/N6507: Install the testing facility developed by the approved manufacturer .....	29
Assessment Guidelines and Weightage .....	34
<i>Assessment Guidelines</i> .....	34
<i>Assessment Weightage</i> .....	34
Acronyms .....	36
Glossary .....	37

## Qualification Pack

### ASC/Q6503: Manager Testing Facility Level 6

#### Brief Job Description

Individuals at this job need to manage requirements identification, development and installation of testing facilities in R&D for validating the specifications of the product.

#### Personal Attributes

This job requires the individual to work for long hours in a laboratory environment. The individual should be result oriented. The individual should also be able to demonstrate skills for information ordering, analytical reasoning, problem solving, time management, interpersonal, oral expression and comprehension.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [ASC/N0006: Maintain a safe and healthy working environment](#)
2. [ASC/N0022: Ensure implementation of 5S activities at the shop floor & the office area](#)
3. [ASC/N6505: Identify gaps in the existing testing facility](#)
4. [ASC/N6506: Select and approve the testing facility manufacturer](#)
5. [ASC/N6507: Install the testing facility developed by the approved manufacturer](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Research & Development
<b>Occupation</b>	Testing and Validation
<b>Country</b>	India
<b>NSQF Level</b>	6
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/1223.0101
<b>Minimum Educational Qualification &amp; Experience</b>	B.Tech (Mechanical/Electrical/Electronics Engineering) with 5-10 Years of experience R&D department OR Certificate (ASDC Level 5 Certificate) with 0-6 Months of experience

## Qualification Pack

<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	Compulsory: software like Auto CAD, PRO-E, CAE, testing and validation techniques & Standards , knowledge of TS16949/ISO14001/EMS systems Voluntary: Enterprise Resource systems like SAP, PLM depending on applicability in organization
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	14/09/2013
<b>Next Review Date</b>	30/06/2020
<b>Deactivation Date</b>	30/06/2020
<b>NSQC Approval Date</b>	28/09/2015
<b>Version</b>	1.0

## Qualification Pack

### ASC/N0006: Maintain a safe and healthy working environment

#### Description

This NOS is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area, following practices which are not impacting the environment in a negative manner and training team members on health and safety related issues

#### Scope

The role holder will be responsible for identifying and reporting of risks creating and sustaining a safe, clean and environment friendly work place This NOS will be applicable to all Automotive sector manufacturing job roles

#### Elements and Performance Criteria

##### *Identify and report the risks identified*

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

- PC1..** Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise
- PC2.** Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc
- PC3.** Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations
- PC4.** Create awareness amongst other by sharing information on the identified risks

##### *Create and sustain a Safe, clean and environment friendly work place*

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

- PC5..** Follow the instructions given on the equipment manual describing the operating process of the equipments
- PC6..** Follow the Safety, Health and Environment related practices developed by the organization
- PC7.** Operate the machine using the recommended Personal Protective Equipments (PPE)
- PC8. .** Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc
- PC9.** Maintain high standards of personal hygiene at the work place
- PC10.** Ensure that the waste disposal is done in the designated area and manner as per organization SOP.
- PC11.** Inform appropriately the medical officer/ HR in case of self or an employees illness of contagious nature so that preventive actions can be planned for others

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards, procedures and policies related to Health, Safety and Environment followed in the company

## Qualification Pack

- KU2.** basic knowledge of Safety procedures( fire fighting, first aid) within the organization
- KU3.** knowledge of various types of PPEs and their usage
- KU4.** basic knowledge of risks/hazards associated with each occupation in the organization
- KU5.** how to safely operate various tools and machines and risks associated with the tools/ equipment
- KU6.** knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment

## Generic Skills (GS)

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

- GS1.** write basic level notes and observations
- GS2.** read safety instructions put up across the plant premises
- GS3.** read safety precautions mentioned in equipment manuals and panels to understand the potential risks associated
- GS4.** effectively communicate information to team members
- GS5.** inform employees in the plant and concerned functions about events, incidents & potential risks observed related to Safety, Health and Environment.
- GS6.** question operator/ supervisor in order to understand the safety related issues
- GS7.** attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs
- GS8.** use common sense and make judgments during day to day basis
- GS9.** use reasoning skills to identify and resolve basic problems
- GS10.** use common sense and make judgments during day to day basis
- GS11.** use reasoning skills to identify and resolve basic problems

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify and report the risks identified</i>	<b>8</b>	<b>23</b>	-	-
<b>PC1..</b> Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise	3	6	-	-
<b>PC2.</b> Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc	2	6	-	-
<b>PC3.</b> Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations	2	6	-	-
<b>PC4.</b> Create awareness amongst other by sharing information on the identified risks	1	5	-	-
<i>Create and sustain a Safe, clean and environment friendly work place</i>	<b>17</b>	<b>52</b>	-	-
<b>PC5..</b> Follow the instructions given on the equipment manual describing the operating process of the equipments	3	7	-	-
<b>PC6..</b> Follow the Safety, Health and Environment related practices developed by the organization	3	8	-	-
<b>PC7.</b> Operate the machine using the recommended Personal Protective Equipments (PPE)	3	8	-	-
<b>PC8. .</b> Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc	2	8	-	-
<b>PC9.</b> Maintain high standards of personal hygiene at the work place	2	7	-	-
<b>PC10.</b> Ensure that the waste disposal is done in the designated area and manner as per organization SOP.	3	8	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> Inform appropriately the medical officer/ HR in case of self or an employees illness of contagious nature so that preventive actions can be planned for others	1	6	-	-
<b>NOS Total</b>	<b>25</b>	<b>75</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N0006
<b>NOS Name</b>	Maintain a safe and healthy working environment
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Maintenance
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/09/2013
<b>Next Review Date</b>	15/09/2015
<b>NSQC Clearance Date</b>	20/07/2015

## Qualification Pack

# ASC/N0022: Ensure implementation of 5S activities at the shop floor & the office area

## Description

This NOS is about overseeing the implementation of all 5 S activities both at the shop floor and the office area by the team members and training the team in implementation of the 5S principles

## Scope

The individual needs to Ensure sorting, streamlining/ organizing, storage and documentation, systematic cleaning, standardization and sustenance across the plant and office premises of the organization as given in the organization guidelines

## Elements and Performance Criteria

### *Ensure proper sorting of items at the work place*

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

- PC1..** ensure all recyclable materials are put in designated containers
- PC2.** ensure no tools, fixtures & jigs are lying on workstations unless in use and no un-necessary items is lying on workbenches or work surfaces unless in use
- PC3.** ensure that the operators and other team members are segregating the waste in hazardous/ non hazardous waste as per the sorting work instructions
- PC4.** ensure that all the operators are following the technique of waste disposal and waste storage in the designated bins
- PC5..** segregate the items which are labelled at red tag items for the process area and keep them in the correct places
- PC6..** ensure that all the tools/ equipment/ fasteners/ spare parts are arranged as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5s guidelines/ work instructions
- PC7.** check for return of any type of extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area
- PC8. .** oversee removal of unnecessary equipment, storage, furniture, unneeded inventory, supplies, parts and material
- PC9.** ensure that areas of material storage areas are not overflowing
- PC10.** ensure proper stacking and storage of the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required

### *Ensure proper documentation and storage - streamlining & organizing the workplace*

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

- PC11.** ensure that the team follows the given instructions and checks for labelling of fluids, oils lubricants, solvents, chemicals etc and proper storage of the same to avoid spillage, leakage, fire etc
- PC12.** make sure that all material and tools are stored in the designated places and in the manner indicated in the 5s instructions

## Qualification Pack

- PC13.** ensure that organizing the workplace takes place with due considerations to the principles of wasted motions, ergonomics, work & method study .

### *Ensure cleaning of self and the work place*

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

- PC14.** ensure that the area has floors swept, machinery clean and is generally neat and tidy in case of cleaning, ensure that correct displays are maintained on the floor which indicate potential safety hazards
- PC15..** ensure workbenches and work surfaces are clean and in good condition
- PC16..** ensure adherence to the cleaning schedule for the lighting system to ensure proper illumination
- PC17..** ensure all recyclable materials are put in designated containers

### *Ensure standardization*

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

- PC18.** ensure that daily cleaning standards and schedules to create a clean working environment are followed across the plant
- PC19..** ensure all recyclable materials are put in designated containers
- PC20. .** ensure logical and user friendly documentation and file management for all activities across the plant and create guidelines around standardization of processes
- PC21.** ensure timely creation and sharing of the 5s checklists
- PC22.** ensure that the 5s manual are available as per the timelines

### *Ensure sustenance*

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

- PC23.** ensure team cooperation during the audit of 5 s activities
- PC24.** ensure that workmen are periodically trained to address challenges related to 5s
- PC25..** participate actively in employee work groups on 5s and encourage team members for active participation
- PC26..** oversee that the staff/operators are trained and fully understand 5s procedures
- PC27. .** ensure that all the guidelines for what to do and what not to do to build sustainability in 5s are mentioned in the 5s check lists/ work instructions and are easily searchable
- PC28.** ensure continuous training of the team members on 5s in order to increase their awareness and support implementation
- PC29.** ensure that all visual controls, notice boards, symbols etc at the manufacturing place are created, working and are put up as per the requirement

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards, procedures and policies related to 5S followed in the company
- KU2.** have basic knowledge of 5S procedures
- KU3.** know various types 5s practices followed in various areas
- KU4.** understand the 5S checklists provided in the department/ team
- KU5.** have skills to identify useful & non useful items

## Qualification Pack

- KU6.** have knowledge of labels , signs & colours used as indicators
- KU7.** Have knowledge on how to sort and store various types of tools,equipment, material etc
- KU8.** know , how to identify various types of waste products
- KU9.** understand the impact of waste/ dirt/ dust/unwantedsubstances on the process/ environment/ machinery/ humanbody
- KU10.** have knowledge of best and environment protective ways ofcleaning & waste disposal
- KU11.** understand the importance of standardization in processes
- KU12.** understand the importance of sustainability in 5S
- KU13.** have knowledge of TQM process
- KU14.** have knowledge of various materials and storage norms
- KU15.** understand visual controls, symbols, graphs etc

## Generic Skills (GS)

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

- GS1.** write basic level notes and observations
- GS2.** note down observations (if any) related to the process
- GS3.** write information documents to internal departments/ internal teams
- GS4.** read 5S instructions put up across the plant premises
- GS5.** effectively communicate information to team members inform employees in the plant and concerned functions about 5S
- GS6.** question the process head in order to understand the 5S related issues
- GS7.** attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
- GS8.** use common sense and make judgments during day to day basis
- GS9.** use reasoning skills to identify and resolve basic problems using 5S
- GS10.** persuade team members to follow 5 S
- GS11.** ensure that the team members understand the importance of using 5 S tool
- GS12.** use innovative skills to perform and manage 5 S activities at the work desk and the shop floor
- GS13.** exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work emerge, techniques in CA/CI around 5 S work practices
- GS14.** do what is right, not what is a popular practice
- GS15.** follow shop floor rules& regulations and avoid deviations
- GS16.** lead by example in the plant premises while performing activities related to 5S
- GS17.** ensure self-cleanliness on a daily basis
- GS18.** demonstrate the will to keep the work area in a clean and orderly manner
- GS19.** accept additional responsibility for self and the team
- GS20.** encourage self and other to take greater responsibilities for managing 5S
- GS21.** identify obstacles and bottlenecks in the process and find basic level solutions for removing these obstacles

## Qualification Pack

- GS22.** use previous experience in resolving problems and taking decisions
- GS23.** make timely and independent decisions on the line/ shift within the boundaries of the delegation matrix of the organization

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure proper sorting of items at the work place</i>	<b>10</b>	<b>25</b>	-	-
<b>PC1..</b> ensure all recyclable materials are put in designated containers	1	2.5	-	-
<b>PC2.</b> ensure no tools, fixtures & jigs are lying on workstations unless in use and no un-necessary items is lying on workbenches or work surfaces unless in use	1	2.5	-	-
<b>PC3.</b> ensure that the operators and other team members are segregating the waste in hazardous/ non hazardous waste as per the sorting work instructions	1	2.5	-	-
<b>PC4.</b> ensure that all the operators are following the technique of waste disposal and waste storage in the designated bins	1	2.5	-	-
<b>PC5..</b> segregate the items which are labelled at red tag items for the process area and keep them in the correct places	1	2.5	-	-
<b>PC6..</b> ensure that all the tools/ equipment/ fasteners/ spare parts are arranged as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5s guidelines/ work instructions	1	2.5	-	-
<b>PC7.</b> check for return of any type of extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area	1	2.5	-	-
<b>PC8. .</b> oversee removal of unnecessary equipment, storage, furniture, unneeded inventory, supplies, parts and material	1	2.5	-	-
<b>PC9.</b> ensure that areas of material storage areas are not overflowing	1	2.5	-	-
<b>PC10.</b> ensure proper stacking and storage of the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required	1	2.5	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure proper documentation and storage - streamlining &amp; organizing the workplace</i>	<b>3</b>	<b>7.5</b>	-	-
<b>PC11.</b> ensure that the team follows the given instructions and checks for labelling of fluids, oils lubricants, solvents, chemicals etc and proper storage of the same to avoid spillage, leakage, fire etc	1	2.5	-	-
<b>PC12.</b> make sure that all material and tools are stored in the designated places and in the manner indicated in the 5s instructions	1	2.5	-	-
<b>PC13.</b> ensure that organizing the workplace takes place with due considerations to the principles of wasted motions, ergonomics, work & method study .	1	2.5	-	-
<i>Ensure cleaning of self and the work place</i>	<b>4</b>	<b>10</b>	-	-
<b>PC14.</b> ensure that the area has floors swept, machinery clean and is generally neat and tidy in case of cleaning, ensure that correct displays are maintained on the floor which indicate potential safety hazards	1	2.5	-	-
<b>PC15..</b> ensure workbenches and work surfaces are clean and in good condition	1	2.5	-	-
<b>PC16..</b> ensure adherence to the cleaning schedule for the lighting system to ensure proper illumination	1	2.5	-	-
<b>PC17..</b> ensure all recyclable materials are put in designated containers	1	2.5	-	-
<i>Ensure standardization</i>	<b>5</b>	<b>12.5</b>	-	-
<b>PC18.</b> ensure that daily cleaning standards and schedules to create a clean working environment are followed across the plant	1	2.5	-	-
<b>PC19..</b> ensure all recyclable materials are put in designated containers	1	2.5	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC20.</b> . ensure logical and user friendly documentation and file management for all activities across the plant and create guidelines around standardization of processes	1	2.5	-	-
<b>PC21.</b> ensure timely creation and sharing of the 5s checklists	1	2.5	-	-
<b>PC22.</b> ensure that the 5s manual are available as per the timelines	1	2.5	-	-
<i>Ensure sustenance</i>	<b>7</b>	<b>16</b>	-	-
<b>PC23.</b> ensure team cooperation during the audit of 5 s activities	1	2.5	-	-
<b>PC24.</b> ensure that workmen are periodically trained to address challenges related to 5s	1	2.5	-	-
<b>PC25..</b> participate actively in employee work groups on 5s and encourage team members for active participation	1	2	-	-
<b>PC26..</b> oversee that the staff/operators are trained and fully understand 5s procedures	1	2	-	-
<b>PC27.</b> . ensure that all the guidelines for what to do and what not to do to build sustainability in 5s are mentioned in the 5s check lists/ work instructions and are easily searchable	1	2.5	-	-
<b>PC28.</b> ensure continuous training of the team members on 5s in order to increase their awareness and support implementation	1	2	-	-
<b>PC29.</b> ensure that all visual controls, notice boards, symbols etc at the manufacturing place are created, working and are put up as per the requirement	1	2.5	-	-
<b>NOS Total</b>	<b>29</b>	<b>71</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N0022
<b>NOS Name</b>	Ensure implementation of 5S activities at the shop floor & the office area
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/03/2014
<b>Next Review Date</b>	15/03/2016
<b>NSQC Clearance Date</b>	

## Qualification Pack

### ASC/N6505: Identify gaps in the existing testing facility

#### Description

This OS is about the individual analysing the requirements for the testing facilities/rigs based on the customer specifications

#### Scope

The unit/ task covers the following: identifying the testing requirements for the Product specifications analysing the competency of the existing testing facility finalising the testing facility based on the analysis

#### Elements and Performance Criteria

##### *Identifying the testing requirements*

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

- PC1..** co-ordinate with marketing/quality / R & D to gather inputs for modifying/developing new technical specifications viz . warranty failures, new sor/ national/ international specifications etc.
- PC2..** coordinate with marketing & R & D department and interact with customer to understand their pain points or new requirements with respect to technical specifications in the final product
- PC3..** discuss with team and analyze the method for performing testing and validation of the new requirements
- PC4..** prioritize the requirements based on the immediate and future basis
- PC5..** based on the analysis , evaluate the existing testing facility

##### *Analyzing the competency of the existing facility*

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

- PC6..** analyze the existing facility for requirements for new equipments, product specific fixtures etc. Electro-mechanical systems for performance in NTP/ special conditions/ abuse conditions/ endurance evaluations Standard machines for evaluation e.g. environmental chambers Instrumentation or measurement systems etc. Special equipments e.g. vibration, Stress , impact ,NVH evaluations, NDT etc. Dynamic evaluations, vehicle testing systems etc. Infrastructural back up required for all the above e.g. power, compressed air, IT systems ,floor space etc
- PC7..** estimate its feasibility for performing the testing for validation of new specifications
- PC8..** if feasible , then in coordination with team update the data for customer specifications in information systems like sap/plm and perform the testing and validation as per standard operating procedures
- PC9..** if not feasible , then discuss with team and analyze whether the test can be performed after modification of the existing testing facility or there is a requirement for a new testing facility
- PC10..** in case modifications in existing testing facility found to be feasible , then float the test requirements in SAP/PLMwith the approved existing testing facility manufacturer
- PC11..** convene a meeting with the testing facility manufacturer and explain in detail about the requirements and finalize the timelines for existing testing facility modification.

## Qualification Pack

- PC12..** coordinate with the manufacturer and ensure the development of the modified testing facility as per requirement in compliance to the standard hse regulations
- PC13..** inform the r&d testing for performing the validation of the new facility
- PC14..** monitor the validation results given by R&D testing and in coordination with manufacturer finalize the modified testing facility

### *Finalizing the requirements for the new testing facility*

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

- PC15..** discuss with team and analyze the infrastructure requirements for the new testing facility
- PC16..** based on the analysis , prepare a rough estimate of the cost involved and time required for completion
- PC17..** present the details for new testing facility requirements including the cost to the senior management and seek their approval
- PC18..** once approved , inform the sourcing department to facilitate development of new testing facility from the existing/new manufacturer

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** protocol for gathering customer requirements from concerned departments
- KU2.** product portfolio of organization
- KU3.** the manufacturing processes of organization
- KU4.** protocol for testing facility development among the R&D department of the organization
- KU5.** standards and procedures related to HSE compliances
- KU6.** list of approved testing facility manufacturers
- KU7.** manufacturing process being followed for each product
- KU8.** components being fitted in the final product assembly
- KU9.** testing facility standard operating procedures
- KU10.** testing and validation activities performed using testing facility
- KU11.** usage knowledge of information systems like SAP , ERP,PLM etc

## Generic Skills (GS)

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

- GS1.** interpret the customer requirements from the data collected from concerned departments
- GS2.** document the requirements for the testing facility for communicating to the testing facility manufacturers
- GS3.** prepare the long term and short term plans for testing facility requirements
- GS4.** document all the testing facility related data in form of 2D drawings, spreadsheets using MS Excel
- GS5.** testing facility manufacturer and ensure interpretation of the testing infrastructure requirements

## Qualification Pack

- GS6.** Sourcing department for identification of new testing facility manufacturers
- GS7.** distribute workload among team members for acquiring data pertaining to customer requirements
- GS8.** share operation knowledge with colleagues and co-workers
- GS9.** organize as team and execute the testing facility requirements capturing activity in an efficient and timely manner
- GS10.** Take external support/ help for technological upgrades ,special evaluations etc.
- GS11.** identification of problems (technical and non-technical), disruptions and delays
- GS12.** escalation procedures
- GS13.** short term / long term planning strategy for testing facility development

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identifying the testing requirements</i>	<b>9</b>	<b>20</b>	-	-
<b>PC1..</b> co-ordinate with marketing/quality / R & D to gather inputs for modifying/developing new technical specifications viz . warranty failures, new sor/ national/ international specifications etc.	2	4	-	-
<b>PC2..</b> coordinate with marketing & R & D department and interact with customer to understand their pain points or new requirements with respect to technical specifications in the final product	2	4	-	-
<b>PC3..</b> discuss with team and analyze the method for performing testing and validation of the new requirements	2	4	-	-
<b>PC4..</b> prioritize the requirements based on the immediate and future basis	1	4	-	-
<b>PC5..</b> based on the analysis , evaluate the existing testing facility	2	4	-	-
<i>Analyzing the competency of the existing facility</i>	<b>15</b>	<b>36</b>	-	-
<b>PC6..</b> analyze the existing facility for requirements for new equipments, product specific fixtures etc. Electro-mechanical systems for performance in NTP/ special conditions/ abuse conditions/ endurance evaluations Standard machines for evaluation e.g. environmental chambers Instrumentation or measurement systems etc. Special equipments e.g. vibration, Stress , impact ,NVH evaluations, NDT etc. Dynamic evaluations, vehicle testing systems etc. Infrastructural back up required for all the above e.g. power, compressed air, IT systems ,floor space etc	3	6	-	-
<b>PC7..</b> estimate its feasibility for performing the testing for validation of new specifications	2	4	-	-
<b>PC8..</b> if feasible , then in coordination with team update the data for customer specifications in information systems like sap/plm and perform the testing and validation as per standard operating procedures	1	4	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC9..</b> if not feasible , then discuss with team and analyze whether the test can be performed after modification of the existing testing facility or there is a requirement for a new testing facility	2	4	-	-
<b>PC10..</b> in case modifications in existing testing facility found to be feasible , then float the test requirements in SAP/PLMwith the approved existing testing facility manufacturer	2	4	-	-
<b>PC11..</b> convene a meeting with the testing facility manufacturer and explain in detail about the requirements and finalize the timelines for existing testing facility modification.	1	4	-	-
<b>PC12..</b> coordinate with the manufacturer and ensure the development of the modified testing facility as per requirement in compliance to the standard hse regulations	1	4	-	-
<b>PC13..</b> inform the r&d testing for performing the validation of the new facility	1	2	-	-
<b>PC14..</b> monitor the validation results given by R&D testing and in coordination with manufacturer finalize the modified testing facility	2	4	-	-
<i>Finalizing the requirements for the new testing facility</i>	<b>6</b>	<b>14</b>	-	-
<b>PC15..</b> discuss with team and analyze the infrastructure requirements for the new testing facility	2	4	-	-
<b>PC16..</b> based on the analysis , prepare a rough estimate of the cost involved and time required for completion	2	4	-	-
<b>PC17..</b> present the details for new testing facility requirements including the cost to the senior management and seek their approval	1	3	-	-
<b>PC18..</b> once approved , inform the sourcing department to facilitate development of new testing facility from the existing/new manufacturer	1	3	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N6505
<b>NOS Name</b>	Identify gaps in the existing testing facility
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	R & D Support
<b>Occupation</b>	Testing and Validation
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	14/09/2013
<b>Next Review Date</b>	30/09/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

### ASC/N6506: Select and approve the testing facility manufacturer

#### Description

This OS unit is about individual coordinating with Sourcing department and selecting the most viable manufacturer for development of facilities in order to validate the customer requirements / specifications

#### Scope

This unit/ task covers the following for material requirement for Production as well as dispatches: interacting with manufacturers for communicating the testing facility requirements Development, Installation & validation with manufacturers & internal support approval of the test facility manufacturer after validation

#### Elements and Performance Criteria

##### *Interaction with manufacturers & Selection based on feasibility*

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

- PC1..** coordinate with sourcing department and identify the list of testing facility manufacturers who can develop required testing facility, individually or by integrating multiple sub-systems from various sources/ specialists
- PC2..** float a rfq to the identified/existing testing facility manufacturers
- PC3..** based on the quote received from manufacturers , select the testing facility manufacturers with appropriate value e.g. cost and specifications balance
- PC4..** convene meetings with all the selected manufacturers one-on-one and brief them about the technical and commercial requirements
- PC5..** based on the discussions , prepare a timeline for validation of sample test facilities developed at the manufacturers premises
- PC6..** communicate the schedule to the r&d testing team for validation of sample testing facility

##### *Development , validation*

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

- PC7..** ensure development of the facility as per the timeline ; as applicable ensure integration of various systems if ordered from different sources.
- PC8..** plan for the installation from civil, mechanical, electrical, electronic & product aspects taking support from others viz. maintenance, R& D / NPD teams .& ensure timelines are as per expectations
- PC9..** plan for validation of the testing facility by coordinating with R& D testing team
- PC10..** analyze the validation results with the R& D / testing team and in coordination with the testing facility manufacturer, resolve the discrepancies observed
- PC11..** repeat steps pc. 7 to pc10. for all the sample test facility manufacturers

##### *Approval of test facility manufacturer*

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

- PC12..** based on the approval of R& D testing team, , select the most conforming testing facility manufacturers



## Qualification Pack

- PC13..** in coordination with sourcing department, negotiate the commercial terms for testing facility installation and commissioning
- PC14..** based on the negotiations , identify the most cost effective/ value based manufacturer and signoff the contract along with sourcing department after the approval from senior management
- PC15..** communicate the manufacturer for installation and commissioning of testing facility in organization R& D department premises

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the manufacturing processes of organization
- KU2.** protocol for testing facility development among the R&D department of the organization
- KU3.** standards and procedures related to HSE compliances
- KU4.** list of approved testing facility manufacturers
- KU5.** components being fitted in the final product assembly
- KU6.** testing facility standard operating procedures
- KU7.** testing and validation activities performed using testing facility

## Generic Skills (GS)

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

- GS1.** document the requirements for the testing facility for communicating to the testing facility manufacturers
- GS2.** prepare the long term and short term plans for testing facility requirements
- GS3.** document all the testing facility related data in form of 2D drawings, spreadsheets using MS Excel
- GS4.** communicate with the testing facility manufacturer for sample facility validation activity
- GS5.** communicate with Sourcing department for finalizing the contract with the technically conforming manufacturer
- GS6.** distribute workload among team members for ensuring smooth testing facility manufacturer approval activity
- GS7.** share operation knowledge with colleagues and co-workers
- GS8.** identification of problems (technical and non-technical), disruptions and delays
- GS9.** the fall back action plan in event of any issue
- GS10.** evaluate and decide the most commercially and technically viable testing facility manufacturer

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interaction with manufacturers &amp; Selection based on feasibility</i>	<b>12</b>	<b>33</b>	-	-
<b>PC1..</b> coordinate with sourcing department and identify the list of testing facility manufacturers who can develop required testing facility, individually or by integrating multiple sub-systems from various sources/ specialists	2	6	-	-
<b>PC2..</b> float a rfq to the identified/existing testing facility manufacturers	3	6	-	-
<b>PC3..</b> based on the quote received from manufacturers , select the testing facility manufacturers with appropriate value e.g. cost and specifications balance	2	6	-	-
<b>PC4..</b> convene meetings with all the selected manufacturers one-on-one and brief them about the technical and commercial requirements	2	5	-	-
<b>PC5..</b> based on the discussions , prepare a timeline for validation of sample test facilities developed at the manufacturers premises	2	6	-	-
<b>PC6..</b> communicate the schedule to the r&d testing team for validation of sample testing facility	1	4	-	-
<i>Development , validation</i>	<b>10</b>	<b>24</b>	-	-
<b>PC7..</b> ensure development of the facility as per the timeline ; as applicable ensure integration of various systems if ordered from different sources.	2	5	-	-
<b>PC8..</b> plan for the installation from civil, mechanical, electrical, electronic & product aspects taking support from others viz. maintenance, R& D / NPD teams .& ensure timelines are as per expectations	3	6	-	-
<b>PC9..</b> plan for validation of the testing facility by coordinating with R& D testing team	2	5	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10..</b> analyze the validation results with the R& D / testing team and in coordination with the testing facility manufacturer, resolve the discrepancies observed	2	5	-	-
<b>PC11..</b> repeat steps pc. 7 to pc10. for all the sample test facility manufacturers	1	3	-	-
<i>Approval of test facility manufacturer</i>	<b>8</b>	<b>13</b>	-	-
<b>PC12..</b> based on the approval of R& D testing team, , select the most conforming testing facility manufacturers	2	3	-	-
<b>PC13..</b> in coordination with sourcing department, negotiate the commercial terms for testing facility installation and commissioning	2	3	-	-
<b>PC14..</b> based on the negotiations , identify the most cost effective/ value based manufacturer and signoff the contract along with sourcing department after the approval from senior management	2	4	-	-
<b>PC15..</b> communicate the manufacturer for installation and commissioning of testing facility in organization R& D department premises	2	3	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N6506
<b>NOS Name</b>	Select and approve the testing facility manufacturer
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	R & D Support
<b>Occupation</b>	Testing and Validation
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	14/09/2013
<b>Next Review Date</b>	30/09/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

### ASC/N6507: Install the testing facility developed by the approved manufacturer

#### Description

This OS unit is about the individual monitoring the installation and commissioning of the developed testing facility by the manufacturer at the designated location in R&D department premises.

#### Scope

This unit/ task covers the following: installation and commissioning of the testing facility monitoring its performance on periodic basis

#### Elements and Performance Criteria

##### *Installation of the testing facility*

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

- PC1..** coordinate with the testing facility manufacturer for the installation of the developed facility at the designated location in the r&d premises
- PC2..** ensure that all the regulations with respect to the health , safety and environment (hse) had been taken care of while installation of the developed testing facility
- PC3..** after completion of the testing facility , coordinate with r&d testing team and maintenance teams & ensure the commissioning of the facility by the manufacturer from civil, mechanical , electrical/ electronic subsystems.
- PC4..** ensure that the team has been completely imparted the operational and functional knowledge required for running the testing facility by the manufacturer during commissioning ; ensure the documentation& manual covers spares , sourcing critical parts , as built plumbing/ wiring diagrams etc.
- PC5..** coordinate with the r&d team and ensure the validation of the installed facility by testing a prototype for the newly identified product specifications
- PC6..** based on the results obtained , collaborate with the manufacturer and ensure that all the discrepancies have been sorted out
- PC7..** showcase the new testing facility operation to the senior management and seek their approval
- PC8..** release the testing facility for usage in the regular testing and validation activities of R&D department

##### *Monitoring the performance of the testing facility*

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

- PC9..** regularly monitor the testing facility performance and hse compliance with the R&d testing team
- PC10..** based on the inputs received, communicate with the testing facility manufacturer for sorting out the discrepancies observed (if any)
- PC11..** monitor the cost benefit of the new testing facility by mapping the data for money invested for maintenance of the testing facility y-o-y basis

## Qualification Pack

- PC12..** in case of large maintenance costs incurred, discuss with the testing facility manufacturer the measures for cost reduction, outsourcing utilization within the industrial belt / group organizations etc,
- PC13..** ensure the implementation of the cost measures and monitor its effectiveness
- PC14..** if required , seek support from senior management

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** contract management system for the testing facilities maintenance
- KU2.** policies and procedures followed for HSE compliance in the organization
- KU3.** testing and validation activities performed on the testing facility
- KU4.** standard operating procedures for testing facility
- KU5.** preservation methods for testing facility
- KU6.** minor maintenance activities for upkeep of the facility

## Generic Skills (GS)

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

- GS1.** read the instructions and safety warnings printed on the testing facility components
- GS2.** document all the testing facility data pertaining to the R&D testing in form of spreadsheets using MS Excel
- GS3.** communicate with team members for monitoring the testing facility performance
- GS4.** communicate with the facility manufacturer for maintenance and other support
- GS5.** coordinate with team , manufacturer and ensure smooth installation and commissioning of the testing facility
- GS6.** plan and organize the daily maintenance activity through team members for upkeep of the testing facility
- GS7.** assess the problem, evaluate the possible solution(s) and use an optimum /best possible solution(s)
- GS8.** identify immediate or temporary solutions to resolve delays and crisis situations

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Installation of the testing facility</i>	<b>19</b>	<b>42</b>	-	-
<b>PC1..</b> coordinate with the testing facility manufacturer for the installation of the developed facility at the designated location in the r&d premises	3	6	-	-
<b>PC2..</b> ensure that all the regulations with respect to the health , safety and environment (hse) had been taken care of while installation of the developed testing facility	2	5	-	-
<b>PC3..</b> after completion of the testing facility , coordinate with r&d testing team and maintenance teams & ensure the commissioning of the facility by the manufacturer from civil, mechanical , electrical/ electronic subsystems.	3	6	-	-
<b>PC4..</b> ensure that the team has been completely imparted the operational and functional knowledge required for running the testing facility by the manufacturer during commissioning ; ensure the documentation& manual covers spares , sourcing critical parts , as built plumbing/ wiring diagrams etc.	2	5	-	-
<b>PC5..</b> coordinate with the r&d team and ensure the validation of the installed facility by testing a prototype for the newly identified product specifications	3	5	-	-
<b>PC6..</b> based on the results obtained , collaborate with the manufacturer and ensure that all the discrepancies have been sorted out	2	5	-	-
<b>PC7..</b> showcase the new testing facility operation to the senior management and seek their approval	2	5	-	-
<b>PC8..</b> release the testing facility for usage in the regular testing and validation activities of R&D department	2	5	-	-
<i>Monitoring the performance of the testing facility</i>	<b>11</b>	<b>28</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC9..</b> regularly monitor the testing facility performance and hse compliance with the R&dDtesting team	2	5	-	-
<b>PC10..</b> based on the inputs received, communicate with the testing facility manufacturer for sorting out the discrepancies observed (if any)	2	5	-	-
<b>PC11..</b> monitor the cost benefit of the new testing facility by mapping the data for money invested for maintenance of the testing facility y-o-y basis	2	5	-	-
<b>PC12..</b> in case of large maintenance costs incurred, discuss with the testing facility manufacturer the measures for cost reduction, outsourcing utilization withinthe industrial belt / group organizations etc,	2	5	-	-
<b>PC13..</b> ensure the implementation of the cost measures and monitor its effectiveness	2	5	-	-
<b>PC14..</b> if required , seek support from senior management	1	3	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N6507
<b>NOS Name</b>	Install the testing facility developed by the approved manufacturer
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	R & D Support
<b>Occupation</b>	Testing and Validation
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	14/09/2013
<b>Next Review Date</b>	30/09/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

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

**Recommended Pass % : 75**

#### Assessment Weightage

##### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N0006.Maintain a safe and healthy working environment	25	75	-	-	100	15
ASC/N0022.Ensure implementation of 5S activities at the shop floor & the office area	29	71	-	-	100	15
ASC/N6505.Identify gaps in the existing testing facility	30	70	-	-	100	25

### Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N6506.Select and approve the testing facility manufacturer	30	70	-	-	100	25
ASC/N6507.Install the testing facility developed by the approved manufacturer	30	70	-	-	100	20
<b>Total</b>	<b>144</b>	<b>356</b>	<b>-</b>	<b>-</b>	<b>500</b>	<b>100</b>

## Qualification Pack

### Acronyms

<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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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

<b>Knowledge and Understanding (KU)</b>	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.
<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.