



# Automotive Body Painting Technician

QP Code: ASC/Q3304

Version: 3.0

NSQF Level: 3

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## ASC/Q3304: Automotive Body Painting Technician

### Brief Job Description

The individual in this role performs pre-treatment and body preparation processes, sealing and painting activities such as mixing of paint, applying sealer, paint etc. and post-painting activities such as quality check, maintenance, storing and tagging etc.

### Personal Attributes

The person should be patient, organised, team-oriented and have the ability to work for long hours in adverse conditions. They should be keen observers and have an eye for detail and quality.

### Applicable National Occupational Standards (NOS)

#### Compulsory NOS:

1. [ASC/N9803: Organize work and resources \(Manufacturing\)](#)
2. [ASC/N3309: Perform pre-treatment and surface preparation process](#)
3. [ASC/N3310: Perform sealing, painting and post-painting operations](#)
4. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Painting & Surface Treatment Operation
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Credits</b>	15
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7132.0203

<b>Minimum Educational Qualification &amp; Experience</b>	10th Class + I.T.I (2 years) OR 10th Class with 2 Years of experience OR 11th Class OR Certificate-NSQF (Automotive Painting Operator Level 2.5) with 2 Years of experience
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Approval Date</b>	
<b>Version</b>	3.0

## ASC/N9803: Organize work and resources (Manufacturing)

### Description

This NOS unit is about implementing safety, planning work, adopting sustainable practices for optimising use of resources

### Scope

The scope covers the following :

- Maintain safe and secure working environment
- Health and hygiene
- Perform work as per quality standards
- Effective waste management practices
- Material/energy conservation practices

### Elements and Performance Criteria

#### *Maintain safe and secure working environment*

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

- PC1.** identify hazardous activities and the possible causes of risks or accidents in the workplace
- PC2.** follow safe working practices while dealing with hazards to ensure safety of self and others
- PC3.** carry out routine check of the machine for identifying potential hazards
- PC4.** use appropriate protective clothing/equipment for specific tasks and work
- PC5.** follow safety hazards and preventive techniques during fire drill
- PC6.** report any identified breaches in health, safety and security policies and procedures to the designated person

#### *Health and hygiene*

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

- PC7.** ensure workstation and equipment are regularly clean and sanitized
- PC8.** clean hands with soap, alcohol-based sanitizer regularly
- PC9.** avoid contact with ill people and self-isolate in a similar situation
- PC10.** wear and dispose PPEs regularly and appropriately
- PC11.** report advanced hygiene and sanitation issues to appropriate authority
- PC12.** follow stress and anxiety management techniques

#### *Perform work as per quality standards*

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

- PC13.** ensure that work is accomplished as per the requirements within the specified timeline
- PC14.** ensure team goals are given preference over individual goals

#### *Effective waste management practices*

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

- PC15.** follow the fundamentals of 5S for waste management
- PC16.** segregate waste into different categories

- PC17.** follow processes specified for disposal of hazardous waste
- PC18.** identify recyclable, non-recyclable and hazardous waste
- PC19.** dispose non-recyclable, recyclable and reusable waste appropriately at identified location

*Material/energy conservation practices*

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

- PC20.** identify ways to optimize usage of material in various tasks/activities/processes
- PC21.** check for spills/leakages in various tasks/activities/processes
- PC22.** plug spills/leakages and escalate to appropriate authority if unable to rectify
- PC23.** check if the equipment/machine is functioning normally before commencing work and rectify wherever required
- PC24.** report malfunctioning (fumes/ sparks/emission/vibration/noise) and lapse in maintenance of equipment
- PC25.** ensure electrical equipment and appliances are properly connected and turned off when not in use

## **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** organisation procedures for health, safety and security, individual role and responsibilities in this context
- KU2.** the organisation's emergency procedures for different emergency situations and the importance of following the same
- KU3.** evacuation procedures for workers and visitors
- KU4.** how and when to report hazards as well as the limits of responsibility for dealing with hazards
- KU5.** potential hazards, risks and threats based on the nature of work
- KU6.** preventative and remedial actions to be taken in case of exposure to toxic material
- KU7.** various types of fire extinguisher
- KU8.** various types of safety signs and their meaning
- KU9.** appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.
- KU10.** relevant standards, procedures and policies related to 5S followed in the company
- KU11.** the various materials used and their storage norms
- KU12.** efficient utilisation of material and water
- KU13.** basics of electricity and prevalent energy efficient devices
- KU14.** common practices of conserving electricity
- KU15.** common sources and ways to minimize pollution
- KU16.** categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics
- KU17.** usage of different colors of dustbins
- KU18.** waste management techniques
- KU19.** significance of greening

## **Generic Skills (GS)**

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

- GS1.** read safety instructions/guidelines
- GS2.** modify work practices to improve them
- GS3.** ask for clarifications from superior about the job requirement
- GS4.** work with supervisors/team members to carry out work related tasks
- GS5.** complete tasks efficiently and accurately within stipulated time
- GS6.** inform/report to concerned person in case of any problem
- GS7.** make timely decisions for efficient utilization of resources
- GS8.** write reports such as accident report, in at least English/regional language
- GS9.** be punctual and utilize time efficiently

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain safe and secure working environment</i>	<b>11</b>	<b>5</b>	-	<b>7</b>
<b>PC1.</b> identify hazardous activities and the possible causes of risks or accidents in the workplace	2	1	-	2
<b>PC2.</b> follow safe working practices while dealing with hazards to ensure safety of self and others	2	-	-	1
<b>PC3.</b> carry out routine check of the machine for identifying potential hazards	2	1	-	1
<b>PC4.</b> use appropriate protective clothing/equipment for specific tasks and work	2	1	-	1
<b>PC5.</b> follow safety hazards and preventive techniques during fire drill	2	1	-	1
<b>PC6.</b> report any identified breaches in health, safety and security policies and procedures to the designated person	1	1	-	1
<i>Health and hygiene</i>	<b>7</b>	<b>5</b>	-	<b>2</b>
<b>PC7.</b> ensure workstation and equipment are regularly clean and sanitized	2	2	-	1
<b>PC8.</b> clean hands with soap, alcohol-based sanitizer regularly	1	1	-	1
<b>PC9.</b> avoid contact with ill people and self-isolate in a similar situation	1	-	-	-
<b>PC10.</b> wear and dispose PPEs regularly and appropriately	1	-	-	-
<b>PC11.</b> report advanced hygiene and sanitation issues to appropriate authority	1	1	-	-
<b>PC12.</b> follow stress and anxiety management techniques	1	1	-	-
<i>Perform work as per quality standards</i>	<b>5</b>	<b>3</b>	-	<b>2</b>
<b>PC13.</b> ensure that work is accomplished as per the requirements within the specified timeline	2	2	-	1



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> ensure team goals are given preference over individual goals	3	1	-	1
<i>Effective waste management practices</i>	<b>15</b>	<b>10</b>	-	<b>4</b>
<b>PC15.</b> follow the fundamentals of 5S for waste management	3	2	-	1
<b>PC16.</b> segregate waste into different categories	2	1	-	-
<b>PC17.</b> follow processes specified for disposal of hazardous waste	2	2	-	1
<b>PC18.</b> identify recyclable, non-recyclable and hazardous waste	4	2	-	1
<b>PC19.</b> dispose non-recyclable, recyclable and reusable waste appropriately at identified location	4	3	-	1
<i>Material/energy conservation practices</i>	<b>12</b>	<b>7</b>	-	<b>5</b>
<b>PC20.</b> identify ways to optimize usage of material in various tasks/activities/processes	2	1	-	1
<b>PC21.</b> check for spills/leakages in various tasks/activities/processes	2	1	-	1
<b>PC22.</b> plug spills/leakages and escalate to appropriate authority if unable to rectify	2	1	-	-
<b>PC23.</b> check if the equipment/machine is functioning normally before commencing work and rectify wherever required	2	2	-	1
<b>PC24.</b> report malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment	2	1	-	1
<b>PC25.</b> ensure electrical equipment and appliances are properly connected and turned off when not in use	2	1	-	1
<b>NOS Total</b>	<b>50</b>	<b>30</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N9803
<b>NOS Name</b>	Organize work and resources (Manufacturing)
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	24/06/2026
<b>NSQC Clearance Date</b>	24/06/2021

## **ASC/N3309: Perform pre-treatment and surface preparation process**

### **Description**

This unit is about performing pre-treatment and surface preparation processes as per the standards specified by the organization.

### **Scope**

The scope covers the following :

- Preparing for pre-treatment and surface preparation process
- Inspect bath system for pre-treatment and surface preparation process
- Conduct pre-treatment and surface preparation process
- Conduct post-surface treatment activities

### **Elements and Performance Criteria**

#### *Preparing for pre-treatment and surface preparation process*

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

- PC1.** identify the work to be done by interpreting the drawing/work instructions/SOPs
- PC2.** identify and select the material, tools, equipment, jigs and accessories as per the job requirements
- PC3.** check the tools, equipment, jigs and material for any defects, expiry date etc. before use
- PC4.** check the jig to identify the loading points and locking points in it are as per job requirements
- PC5.** lift the vehicle body parts manually or by hoist and place the same securely on the designated slot/space as per the work instructions
- PC6.** check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material

#### *Inspect bath system for pre-treatment and surface preparation process*

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

- PC7.** carry out general check of feed valve, drain valve, filter condition, pressure difference and other quality control item of bath system as mentioned in SOP
- PC8.** check that magnetic separator, oil separator, phosphate sludge (for phosphate dip process), heating system (heat exchanger) of Phosphate solution and spray nozzles (blocking of hole) are in working condition
- PC9.** check the water quality to ensure that it is free from chlorine and other impurities, PH and conductivity is maintained as per norms
- PC10.** check the bath temperature and record it as per SOP/work instruction
- PC11.** use gauges to identify the required pressure difference across filter (cartridge/stainer) and then clean/ replace the filter (cartridge/stainer) if required

#### *Conduct pre-treatment and surface preparation process*

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

- PC12.** perform all pre-treatment and surface preparation processes on vehicle body/parts as per the requirements/specification

- PC13.** maintain bath pointage as per SOP/work instruction
- PC14.** check required temperature of baking oven before starting ED process and ensure that baking is done within the stipulated time
- PC15.** check part for phosphate coating condition after phosphate process and ED coating condition after ED process to confirm that coating quality is as per SOP
- PC16.** apply pressurized air on the vehicle body/ parts for removal of any unwanted extra ED drops is as per SOP
- PC17.** check ED coating parameters (Dry Film Thickness (DFT), Gloss, Methyl Isobutyl Ketone (MIBK) rub test, etc) and record data as per SOP
- PC18.** check the part condition after final rinse to ensure that it is free from water break, dust and other defects as per SOP

#### *Conduct post-surface treatment activities*

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

- PC19.** support the operator in unloading the vehicle body/parts and jigs after completion of all processes on skids for the painting activities
- PC20.** dispose waste material into the disposal area in accordance with the company's policies and environmental regulations

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** relevant pre-treatment and surface preparation standards and procedures followed in the company
- KU2.** SOP recommended by the manufacturer for using material, tools, equipment and accessories during the pre-treatment and surface preparation process
- KU3.** process flow of pre-treatment and surface preparation processes i.e. prewash, hot water spray, pre-degreasing, degrease dip, Water rinse I spray & Water rinse II dip, Surface Conditioning, Phosphate dip, Water rinse III spray & Water rinse IV dip, ED Bath, Ultra Filtrate 1, 2 and 3, RCDM dip and Fresh DI spray process
- KU4.** procedures for the handling and safe use of pre-treatment and surface preparation materials and solvents
- KU5.** various jigs and components to be loaded and their locations
- KU6.** cleaning and maintenance of the tool and equipment
- KU7.** do's and don'ts of the pre-treatment and surface preparation process as defined in SOPs/Work Instructions
- KU8.** phosphate chemical transfer process from phosphate main tank to dump tank
- KU9.** safety requirements during the pre-treatment and surface preparation process
- KU10.** material Safety Data Sheet (MSDS) of bath chemicals as well as lab chemicals
- KU11.** different types of defects which may arise due to improper parameters maintained at each tank

### **Generic Skills (GS)**

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

- GS1.** read and interpret work instructions, equipment manuals and process documents
- GS2.** communicate the painting process requirements and issues to the supervisor and co-workers
- GS3.** attentively listen and comprehend the information given by the technician/team members
- GS4.** write any work related information in English/regional language
- GS5.** recognise a workplace problem and take suitable action
- GS6.** analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7.** plan and organise tools, equipment and consumables for carrying out painting job
- GS8.** complete the assigned tasks within specified timeline and schedule

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Preparing for pre-treatment and surface preparation process</i>	<b>9</b>	<b>15</b>	-	<b>7</b>
<b>PC1.</b> identify the work to be done by interpreting the drawing/work instructions/SOPs	1	2	-	1
<b>PC2.</b> identify and select the material, tools, equipment, jigs and accessories as per the job requirements	4	3	-	2
<b>PC3.</b> check the tools, equipment, jigs and material for any defects, expiry date etc. before use	1	3	-	1
<b>PC4.</b> check the jig to identify the loading points and locking points in it as per job requirements	1	2	-	2
<b>PC5.</b> lift the vehicle body parts manually or by hoist and place the same securely on the designated slot/space as per the work instructions	1	2	-	-
<b>PC6.</b> check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material	1	3	-	1
<i>Inspect bath system for pre-treatment and surface preparation process</i>	<b>7</b>	<b>14</b>	-	<b>6</b>
<b>PC7.</b> carry out general check of feed valve, drain valve, filter condition, pressure difference and other quality control item of bath system as mentioned in SOP	1	3	-	1
<b>PC8.</b> check that magnetic separator, oil separator, phosphate sludge (for phosphate dip process), heating system (heat exchanger) of Phosphate solution and spray nozzles (blocking of hole) are in working condition	2	4	-	2
<b>PC9.</b> check the water quality to ensure that it is free from chlorine and other impurities, PH and conductivity is maintained as per norms	2	3	-	1
<b>PC10.</b> check the bath temperature and record it as per SOP/work instruction	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> use gauges to identify the required pressure difference across filter (cartridge/stainer) and then clean/ replace the filter (cartridge/stainer) if required	1	2	-	1
<i>Conduct pre-treatment and surface preparation process</i>	<b>12</b>	<b>19</b>	-	<b>7</b>
<b>PC12.</b> perform all pre-treatment and surface preparation processes on vehicle body/parts as per the requirements/specification	3	7	-	2
<b>PC13.</b> maintain bath pointage as per SOP/work instruction	1	1	-	1
<b>PC14.</b> check required temperature of baking oven before starting ED process and ensure that baking is done within the stipulated time	1	1	-	1
<b>PC15.</b> check part for phosphate coating condition after phosphate process and ED coating condition after ED process to confirm that coating quality is as per SOP	2	3	-	-
<b>PC16.</b> apply pressurized air on the vehicle body/ parts for removal of any unwanted extra ED drops is as per SOP	2	3	-	1
<b>PC17.</b> check ED coating parameters (Dry Film Thickness (DFT), Gloss, Methyl Isobutyl Ketone (MIBK) rub test, etc) and record data as per SOP	2	2	-	1
<b>PC18.</b> check the part condition after final rinse to ensure that it is free from water break, dust and other defects as per SOP	1	2	-	1
<i>Conduct post-surface treatment activities</i>	<b>2</b>	<b>2</b>	-	-
<b>PC19.</b> support the operator in unloading the vehicle body/parts and jigs after completion of all processess on skids for the painting activities	1	1	-	-
<b>PC20.</b> dispose waste material into the disposal area in accordance with the company's policies and environmental regulations	1	1	-	-
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N3309
<b>NOS Name</b>	Perform pre-treatment and surface preparation process
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Painting & Surface Treatment Operation
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	29/07/2021
<b>Next Review Date</b>	29/07/2026
<b>NSQC Clearance Date</b>	29/07/2021



## **ASC/N3310: Perform sealing, painting and post-painting operations**

### **Description**

This unit is about performing sealing, painting and post-painting operations as per the given work order and the standards specified by the organization.

### **Scope**

The scope covers the following :

- Preparing for sealer and paint work
- Perform sealing process
- Prepare paint for painting process
- Apply coatings of paint on the vehicle body
- Perform post-painting activities

### **Elements and Performance Criteria**

#### *Preparing for sealer and paint work*

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

- PC1.** identify and select the sealing and painting material, tools, equipment, jigs and accessories as per the SOP and job requirements
- PC2.** check the tools, equipment, jigs and material for any defects, expiry date etc. before use
- PC3.** check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material
- PC4.** read the body drawing to identify the sealing and painting area including water leakage point

#### *Perform sealing process*

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

- PC5.** check sealer gun pressure before starting sealer application
- PC6.** use masking tape to mask the area where sealing and painting application is not required
- PC7.** apply under body sealer (PVC) on floor area with drain caps and with required thickness as per SOP/work instruction
- PC8.** check that no pin holes are formed in sealer to avoid shower leakage
- PC9.** check and ensure no extra under body sealer (PVC) on part as mentioned in SOP/work instruction
- PC10.** apply stone guard coating (SGC) as per SOP/work instruction
- PC11.** check and ensure no extra stone guard coating (SGC) as per SOP/work instruction
- PC12.** check and record wet film thickness (WFT) of under body sealing (PVC)
- PC13.** check and repair defects like sealer pin hole, sealer crack, no sealer, ED drop, dry film thickness of SGC.

#### *Prepare paint for painting process*

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

- PC14.** identify base color and select appropriate colorants suitable for color match as per the requirements/instructions

- PC15.** mix specified amount of paint material with additives as per specified ratio by following standard procedure
- PC16.** check the paint viscosity and add reducer/thinner/water to adjust viscosity of paint mix as per requirement

*Apply coatings of paint on the vehicle body*

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

- PC17.** ensure that spray paint gun air pressure and flow is adjusted and maintained as per the job requirement
- PC18.** apply primer on vehicle body parts as per the requirements/specification
- PC19.** apply appropriate coats of paint on vehicle body parts as per the requirements/specification
- PC20.** maintain booth parameters (temperature, relative humidity (RH), etc) during the painting process as per SOP
- PC21.** check that paint coverage is uniform and there are no patches on the painted parts

*Perform post-painting activities*

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

- PC22.** check the painted parts for defects, required quality and characteristics such as thickness, flakiness, peeling, shade match as per shade card
- PC23.** write the defect on inspection check sheet as per SOP
- PC24.** repair the defects on painted parts as per SOP
- PC25.** check the parts again for defects and put the final confirmation through stamp if defect is repaired as per SOP
- PC26.** ensure that painting operator is tagging and storing the right quality parts properly and maintaining a record of the same by following organisational policies and procedures
- PC27.** ensure that the work area is unmasked and cleaned properly after completion of work
- PC28.** dispose waste material into the disposal area in accordance with the company's policies and environmental regulations

## **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** relevant painting standards and procedures followed in the company
- KU2.** how to operate paint booth in automatic and manual mode
- KU3.** various paints and thinners to be mixed in a specified proportion and frequency in paint tanks
- KU4.** how to select and use different sealing and painting tools (such as brushes, rollers, painting bucket, stirrers, scrapers, spray gun, sandpapers, putty blades, etc.) and appropriate paint materials and mixing ingredients (such as scrape, base color, colorants, thinners etc.)
- KU5.** process flow of sealing and painting process
- KU6.** how to mix the correct amount of paint material as per specified ratio
- KU7.** how to adjust viscosity of paint mix as per requirement
- KU8.** adhesives used for binding coats of paint such as oil, turpentine, mildew remover
- KU9.** time gap or drying time between application of two coats of paints

- KU10.** how to check quality parameters such as thickness, flakiness, peeling, shade match as per shade card, corrosion resistance, friction properties, abrasion resistance
- KU11.** procedures for the handling and safe use of coating materials and solvents
- KU12.** setting up and correct technique for efficient use of spray paint equipment
- KU13.** cleaning and maintenance of the spray equipment
- KU14.** various types of defects and their effect on paint quality
- KU15.** recognition of coating defects and their prevention and/or correction
- KU16.** safety requirements during the painting process

### **Generic Skills (GS)**

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

- GS1.** read and interpret work instructions, equipment manuals and process documents
- GS2.** communicate the painting process requirements and issues to the supervisor and co-workers
- GS3.** attentively listen and comprehend the information given by the technician/team members
- GS4.** write any work related information in English/regional language
- GS5.** recognise a workplace problem and take suitable action
- GS6.** analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7.** plan and organise tools, equipment and consumables for carrying out painting job
- GS8.** complete the assigned tasks within specified timeline and schedule

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Preparing for sealer and paint work</i>	<b>5</b>	<b>7</b>	-	<b>3</b>
<b>PC1.</b> identify and select the sealing and painting material, tools, equipment, jigs and accessories as per the SOP and job requirements	3	3	-	1
<b>PC2.</b> check the tools, equipment, jigs and material for any defects, expiry date etc. before use	1	2	-	1
<b>PC3.</b> check that vehicle body or parts are cleaned and they are free from oil/dirt/different foreign material	-	1	-	-
<b>PC4.</b> read the body drawing to identify the sealing and painting area including water leakage point	1	1	-	1
<i>Perform sealing process</i>	<b>7</b>	<b>16</b>	-	<b>6</b>
<b>PC5.</b> check sealer gun pressure before starting sealer application	1	1	-	-
<b>PC6.</b> use masking tape to mask the area where sealing and painting application is not required	1	1	-	1
<b>PC7.</b> apply under body sealer (PVC) on floor area with drain caps and with required thickness as per SOP/work instruction	1	3	-	1
<b>PC8.</b> check that no pin holes are formed in sealer to avoid shower leakage	1	1	-	1
<b>PC9.</b> check and ensure no extra under body sealer (PVC) on part as mentioned in SOP/work instruction	-	1	-	-
<b>PC10.</b> apply stone guard coating (SGC) as per SOP/work instruction	1	3	-	1
<b>PC11.</b> check and ensure no extra stone guard coating (SGC) as per SOP/work instruction	-	1	-	-
<b>PC12.</b> check and record wet film thickness (WFT) of under body sealing (PVC)	1	2	-	1
<b>PC13.</b> check and repair defects like sealer pin hole, sealer crack, no sealer, ED drop, dry film thickness of SGC.	1	3	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare paint for painting process</i>	<b>4</b>	<b>6</b>	-	<b>3</b>
<b>PC14.</b> identify base color and select appropriate colorants suitable for color match as per the requirements/instructions	2	1	-	1
<b>PC15.</b> mix specified amount of paint material with additives as per specified ratio by following standard procedure	1	3	-	1
<b>PC16.</b> check the paint viscosity and add reducer/thinner/water to adjust viscosity of paint mix as per requirement	1	2	-	1
<i>Apply coatings of paint on the vehicle body</i>	<b>6</b>	<b>10</b>	-	<b>5</b>
<b>PC17.</b> ensure that spray paint gun air pressure and flow is adjusted and maintained as per the job requirement	1	1	-	1
<b>PC18.</b> apply primer on vehicle body parts as per the requirements/specification	1	3	-	1
<b>PC19.</b> apply appropriate coats of paint on vehicle body parts as per the requirements/specification	2	4	-	2
<b>PC20.</b> maintain booth parameters (temperature, relative humidity (RH), etc) during the painting process as per SOP	1	1	-	1
<b>PC21.</b> check that paint coverage is uniform and there are no patches on the painted parts	1	1	-	-
<i>Perform post-painting activities</i>	<b>8</b>	<b>11</b>	-	<b>3</b>
<b>PC22.</b> check the painted parts for defects, required quality and characteristics such as thickness, flakiness, peeling, shade match as per shade card	2	3	-	1
<b>PC23.</b> write the defect on inspection check sheet as per SOP	1	1	-	-
<b>PC24.</b> repair the defects on painted parts as per SOP	2	3	-	1
<b>PC25.</b> check the parts again for defects and put the final confirmation through stamp if defect is repaired as per SOP	-	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC26.</b> ensure that painting operator is tagging and storing the right quality parts properly and maintaining a record of the same by following organisational policies and procedures	1	1	-	1
<b>PC27.</b> ensure that the work area is unmasked and cleaned properly after completion of work	1	1	-	-
<b>PC28.</b> dispose waste material into the disposal area in accordance with the company's policies and environmental regulations	1	1	-	-
<b>NOS Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N3310
<b>NOS Name</b>	Perform sealing, painting and post-painting operations
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Painting & Surface Treatment Operation
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	29/07/2021
<b>Next Review Date</b>	29/07/2026
<b>NSQC Clearance Date</b>	29/07/2021

## DGT/VSQ/N0102: Employability Skills (60 Hours)

### Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

### Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

### Elements and Performance Criteria

#### *Introduction to Employability Skills*

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

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

#### *Constitutional values - Citizenship*

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

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

#### *Becoming a Professional in the 21st Century*

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

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

#### *Basic English Skills*

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



- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

#### *Career Development & Goal Setting*

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

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

#### *Communication Skills*

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

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

#### *Diversity & Inclusion*

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

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

#### *Financial and Legal Literacy*

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

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

#### *Essential Digital Skills*

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

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

#### *Entrepreneurship*

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

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

#### *Customer Service*

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

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.
- PC28.** follow appropriate hygiene and grooming standards

### *Getting ready for apprenticeship & Jobs*

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

- PC29.** create a professional Curriculum vitae (Résumé)
- PC30.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- PC31.** apply to identified job openings using offline /online methods as per requirement
- PC32.** answer questions politely, with clarity and confidence, during recruitment and selection
- PC33.** identify apprenticeship opportunities and register for it as per guidelines and requirements

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** need for employability skills and different learning and employability related portals
- KU2.** various constitutional and personal values
- KU3.** different environmentally sustainable practices and their importance
- KU4.** Twenty first (21st) century skills and their importance
- KU5.** how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up
- KU6.** importance of career development and setting long- and short-term goals
- KU7.** about effective communication
- KU8.** POSH Act
- KU9.** Gender sensitivity and inclusivity
- KU10.** different types of financial institutes, products, and services
- KU11.** how to compute income and expenditure
- KU12.** importance of maintaining safety and security in offline and online financial transactions
- KU13.** different legal rights and laws
- KU14.** different types of digital devices and the procedure to operate them safely and securely
- KU15.** how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.
- KU16.** how to identify business opportunities
- KU17.** types and needs of customers
- KU18.** how to apply for a job and prepare for an interview
- KU19.** apprenticeship scheme and the process of registering on apprenticeship portal

### **Generic Skills (GS)**

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

- GS1.** read and write different types of documents/instructions/correspondence
- GS2.** communicate effectively using appropriate language in formal and informal settings
- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode

- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> use basic features of word processor, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>	<b>2</b>	<b>3</b>	-	-

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

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023

## 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) (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 PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training centre based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

**Minimum Aggregate Passing % at QP Level : 70**

(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/N9803.Organize work and resources (Manufacturing)	50	30	-	20	100	10
ASC/N3309.Perform pre-treatment and surface preparation process	30	50	-	20	100	45
ASC/N3310.Perform sealing, painting and post-painting operations	30	50	-	20	100	35
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>130</b>	<b>160</b>	<b>-</b>	<b>60</b>	<b>350</b>	<b>100</b>



### 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
<b>PPE</b>	Personal Protective Equipment
<b>PwD</b>	Person with Disability
<b>SOP</b>	Standard Operating Practices

## 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.
<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.