

Qualification Pack



Automotive Product Testing Technician

QP Code: ASC/Q8401

Version: 2.0

NSQF Level: 3.5

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ASC/Q8401: Automotive Product Testing Technician

Brief Job Description

The individual in this job is responsible for conducting various types of tests on the vehicle inside the laboratory as well as on the road.

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/N8402: Carry the testing process, note observations and make modifications in the test setup](#)
3. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Automotive
Sub-Sector	Research & Development
Occupation	Automotive Product Testing and Validation
Country	India
NSQF Level	3.5
Credits	14
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7231.0201

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Minimum Educational Qualification & Experience	8th grade pass with 2 years of NTC (or NAC) with 1 Year of experience OR 8th Class with 3 Years of experience OR 10th grade pass and pursuing continuous schooling OR 11th Class
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	28/04/2022
Next Review Date	28/04/2025
NSQC Approval Date	28/04/2022
Version	2.0
Reference code on NQR	QG-3.5-AU-00723-2023-V1.1-ASDC
NQR Version	1.1

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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

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- 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

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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

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Assessment Criteria

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

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

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National Occupational Standards (NOS) Parameters

NOS Code	ASC/N9803
NOS Name	Organize work and resources (Manufacturing)
Sector	Automotive
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2026
NSQC Clearance Date	29/07/2021

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ASC/N8402: Carry the testing process, note observations and make modifications in the test setup

Description

This NOS is about conducting the test procedure as per the instructions given by the testing engineer and the work instructions, supporting the engineer in noting observations and make modifications to the set up to accommodate the various testing scenario and arrive at the final outcomes

Elements and Performance Criteria

Setup the test apparatus and test vehicle or component for the testing process

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

- PC1..** conduct a thorough check up of the testing equipment and the external connections for the test apparatus
- PC2..** setup the test apparatus as per the selected testing process and the internal sops/ work instructions and the setting standards for the testing machine
- PC3..** ensure that the surface of the assembling gun/ bolting gun is cleaned to remove dust and any other impurities
- PC4..** ensure that the hoists & cranes for lifting the parts are working in order as per the process requirement
- PC5..** ensure drop of sub-assemblies like frame , gear box, axles, car frame, etc. at the respective testing platforms/ benches without damaging the components
- PC6..** ensure that hoists are used to lift the right material from the conveyors, bins, part trolleys etc.
- PC7..** ensure part clearances as specified in the work instructions/ standard operating processes
- PC8..** pick the right fastening part and right tightening tool from the right tray/ kit trolley as identified in the drawing/ standard operating procedure/ work instruction and is correctly placed in the designated slot/ space as indicated in the work instructions/ sop to fastening the component/ vehicle under test
- PC9..** conduct design and fabrication of the fixtures for conducting the durability tests
- PC10..** conduct test setup for components undergoing repeated vibrations and subjecting to frequent stresses like fuel tank, fuel system, crankshaft, connecting rods, suspension, powertrain and axle system
- PC11..** conduct proper connection of instruments like strain gauge, load cell and other servo hydraulics machines to induce and measure stress levels on the components
- PC12..** make required connections of data logger/ data acquisition system as mentioned in the standard operating procedure manual/ work instructions
- PC13..** conduct visual inspection of the bundled electrical and electronics wiring, circuits and harness
- PC14..** check for orientation of terminals and connectors used for connecting the testing process
- PC15..** test for any short circuit/ open circuit for the electrical/ electronic connections in the test apparatus
- PC16..** check the working of the test apparatus post connecting the test component/ vehicle to ensure error free testing activity

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PC17.. ensure regular cleaning and maintenance of fatigue lab equipment like fatigue testing machines, servo hydraulic actuators, material testing machine, impact testing machine, bending machines, torsional machines

Conduct actual test procedure under supervision of the test engineer

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

- PC18..** ensure development of the test bogey for conducting the structural durability tests/ fatigue test/ stress test to be conducted in the structure durability laboratory
- PC19..** start/ stop the test activity as per the instructions given by the test engineer and the steps mentioned in the testing manual/ work instructions
- PC20..** support the testing engineer in taking different observations/ readings as per the parameters mentioned in the testing manual/ work instructions
- PC21..** under supervision of the test engineer, make minor modification in the test setup/ vehicle/ component under testing to take reading under different scenarios
- PC22..** observe any deviations during the test process. observe any noise or vibrations during the testing process. inform the testing engineer of any deviations observed
- PC23..** change parts as directed by the testing engineer, fit new parts and continue the testing process under the supervision of the testing engineer
- PC24..** note the modifications which have been made to the original setup in order to derive comparisons between test scenarios
- PC25..** make connections of the various data capturing meters and instrumentation such as load cells, pneumatic/ plc testing gauges, strain gauges, displacement transducers, accelerometers, gps data collection devices and data loggers to capture the data points during the vehicle running condition
- PC26..** check all the safety features required for the vehicle under running condition are working and are checked as per the vehicle safety check list provided as per the checklist given in the testing manual
- PC27..** check the fuel level, oil/ lubricant level, cooling water level, tyre pressure etc. are checked before starting the on road testing of the vehicle prototype as per the checklist given in the testing manual
- PC28..** check for all system warning indicators showing system failures, loose connections, malfunctioning etc. are addressed before starting the various types of tests as per the checklist given in the testing manual.
- PC29..** tabulate and record observations of phenomena, test results, data log etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** new products manufactured by the company
- KU2.** internal product standards finalized within the organization
- KU3.** 5S and Safety norms practiced in the organization
- KU4.** the working of the internal combustion engine (Petrol/ Diesel)/ CNG engines
- KU5.** different parts of the automobile and basic working principle of automobile aggregates
- KU6.** different parameters used to evaluate the performance of the automobile
- KU7.** process for setting up of test benches, test platforms and test apparatus

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- KU8.** basic laws of physics, chemistry. metallurgy & mathematics
- KU9.** basic laws of geometry and product design
- KU10.** the methods of using instruments like Vernier callipers, micrometres, rulers and other inspection tools
- KU11.** how to read and interpret sketches and engineering drawings
- KU12.** different types of assembling and joining processes and associated equipment
- KU13.** fundamentals of servo hydraulics, acoustics holography, sound meters, vibration meters
- KU14.** working of load cells and strain gauges and connecting them for test process
- KU15.** fundamental structure and working of anechoic chambers and reverberation chambers
- KU16.** fundamentals of instrumentation and usage of flow meters for checking fuel and lubrication flow, smoke meters, power transducers, temperature sensors, particle sensors process for setting up of test
- KU17.** benches, test platforms and test apparatus various types of tests used to
- KU18.** evaluate the design and performance of various automotive components different parameters used to evaluate the performance of the components
- KU19.** the method of reading and interpreting the various gauges
- KU20.** how to visualize the final product output
- KU21.** the impact of various physical parameters like torqueing and tightening on the properties of final output product like durability, surface finish, part movement, aesthetics etc.
- KU22.** various defects related to running automobiles and potential impact on the working of the final vehicle
- KU23.** various sources of noise and vibrations in the vehicle and potential causes of the noise and vibrations
- KU24.** basic road driving skills and fundamentals of vehicle movement in various conditions
- KU25.** mandatory checks which need to be conducted on the vehicle before trial run
- KU26.** potential health and safety hazards and related safety precautions

Generic Skills (GS)

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

- GS1.** document information from the manuals, discussion notes, process charts etc.
- GS2.** create small notes/ work documents/ diagrams/ maps for self-help to understand the process
- GS3.** read equipment manuals and process documents to understand the equipment and processes better
- GS4.** read internal information memos send by internal customers (other functions within the organization
- GS5.** discuss task lists, schedules, and work-loads with the testing engineer
- GS6.** answer the queries raised by the engineer as well as intercompany departments
- GS7.** attentively listen with full attention to the speaker and comprehend the information given by the speaker
- GS8.** break the problem into smaller issues and tasks to arrive at a solution

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- GS9.** understand inter process relationship and establish relationship between various parts of the problem
- GS10.** leverage experience to find effective solutions to problems
- GS11.** use basic analytical tools to arrive at solutions
- GS12.** plan and organize the work order and jobs received from the Operator
- GS13.** organize all process/ equipment manuals so that sorting/ accessing information is easy
- GS14.** keep fixtures, tools, drawings, Work Instructions, SOP manuals as per the part number, colour codes etc as defined under the 5S systems
- GS15.** validate all process/ equipment manuals so that the final process selected is correct
- GS16.** use common sense and make judgments during day to day basis
- GS17.** use reasoning skills to identify and resolve problems
- GS18.** use intuition to detect any potential problems which could arise during operations
- GS19.** gather information skilfully from multiple sources
- GS20.** analyse information in depth and identifies the problem in a timely manner
- GS21.** develop alternate solutions and resolves problems in early stages
- GS22.** work tireless in spite of repeat activities in a diligent manner to resolve problems on a day to day basis
- GS23.** use previous experience in resolving problems and taking decisions
- GS24.** familiarise with leading practices available in the market
- GS25.** represent any new ideas/ approaches on process improvement and productivity improvement to the seniors in the team
- GS26.** exhibit objectivity & openness to others views
- GS27.** collaborate with stakeholders to achieve the desired state of final result

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Setup the test apparatus and test vehicle or component for the testing process</i>	18	46	-	-
PC1.. conduct a thorough check up of the testing equipment and the external connections for the test apparatus	1	3	-	-
PC2.. setup the test apparatus as per the selected testing process and the internal sops/ work instructions and the setting standards for the testing machine	2	4	-	-
PC3.. ensure that the surface of the assembling gun/ bolting gun is cleaned to remove dust and any other impurities	1	3	-	-
PC4.. ensure that the hoists & cranes for lifting the parts are working in order as per the process requirement	1	3	-	-
PC5.. ensure drop of sub-assemblies like frame , gear box, axles, car frame, etc. at the respective testing platforms/ benches without damaging the components	1	3	-	-
PC6.. ensure that hoists are used to lift the right material from the conveyors, bins, part trolleys etc.	1	2	-	-
PC7.. ensure part clearances as specified in the work instructions/ standard operating processes	1	3	-	-
PC8.. pick the right fastening part and right tightening tool from the right tray/ kit trolley as identified in the drawing/ standard operating procedure/ work instruction and is correctly placed in the designated slot/ space as indicated in the work instructions/ sop to fastening the component/ vehicle under test	1	3	-	-
PC9.. conduct design and fabrication of the fixtures for conducting the durability tests	1	4	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10.. conduct test setup for components undergoing repeated vibrations and subjecting to frequent stresses like fuel tank, fuel system, crankshaft, connecting rods, suspension, powertrain and axle system	1	2	-	-
PC11.. conduct proper connection of instruments like strain gauge, load cell and other servo hydraulics machines to induce and measure stress levels on the components	1	3	-	-
PC12.. make required connections of data logger/ data acquisition system as mentioned in the standard operating procedure manual/ work instructions	1	2	-	-
PC13.. conduct visual inspection of the bundled electrical and electronics wiring, circuits and harness	1	3	-	-
PC14.. check for orientation of terminals and connectors used for connecting the testing process	1	2	-	-
PC15.. test for any short circuit/ open circuit for the electrical/ electronic connections in the test apparatus	1	2	-	-
PC16.. check the working of the test apparatus post connecting the test component/ vehicle to ensure error free testing activity	1	2	-	-
PC17.. ensure regular cleaning and maintenance of fatigue lab equipment like fatigue testing machines, servo hydraulic actuators, material testing machine, impact testing machine, bending machines, torsional machines	1	2	-	-
<i>Conduct actual test procedure under supervision of the test engineer</i>	12	24	-	-
PC18.. ensure development of the test bogey for conducting the structural durability tests/ fatigue test/ stress test to be conducted in the structure durability laboratory	1	2	-	-
PC19.. start/ stop the test activity as per the instructions given by the test engineer and the steps mentioned in the testing manual/ work instructions	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC20.. support the testing engineer in taking different observations/ readings as per the parameters mentioned in the testing manual/ work instructions	1	2	-	-
PC21.. under supervision of the test engineer, make minor modification in the test setup/ vehicle/ component under testing to take reading under different scenarios	1	2	-	-
PC22.. observe any deviations during the test process. observe any noise or vibrations during the testing process. inform the testing engineer of any deviations observed	1	2	-	-
PC23.. change parts as directed by the testing engineer, fit new parts and continue the testing process under the supervision of the testing engineer	1	2	-	-
PC24.. note the modifications which have been made to the original setup in order to derive comparisons between test scenarios	1	2	-	-
PC25.. make connections of the various data capturing meters and instrumentation such as load cells, pneumatic/ plc testing gauges, strain gauges, displacement transducers, accelerometers, gps data collection devices and data loggers to capture the data points during the vehicle running condition	1	2	-	-
PC26.. check all the safety features required for the vehicle under running condition are working and are checked as per the vehicle safety check list provided as per the checklist given in the testing manual	1	2	-	-
PC27.. check the fuel level, oil/ lubricant level, cooling water level, tyre pressure etc. are checked before starting the on road testing of the vehicle prototype as per the checklist given in the testing manual	1	2	-	-
PC28.. check for all system warning indicators showing system failures, loose connections, malfunctioning etc. are addressed before starting the various types of tests as per the checklist given in the testing manual.	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC29.. tabulate and record observations of phenomena, test results, data log etc.	1	2	-	-
NOS Total	30	70	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ASC/N8402
NOS Name	Carry the testing process, note observations and make modifications in the test setup
Sector	Automotive
Sub-Sector	Manufacturing and R&D
Occupation	test technician
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	28/04/2022
Next Review Date	28/04/2025
NSQC Clearance Date	28/04/2022

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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:

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- 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.

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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

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- 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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
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	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
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	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
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	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
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	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
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	-	-	-	-
<i>Customer Service</i>	1	2	-	-
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	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
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	-	-	-	-
NOS Total	20	30	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	31/01/2024
Next Review Date	31/01/2027
NSQC Clearance Date	31/01/2024

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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

Minimum Aggregate Passing % at QP Level : 70

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(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	15
ASC/N8402.Carry the testing process, note observations and make modifications in the test setup	30	70	-	-	100	75
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	100	130	-	20	250	100

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Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
PPE	Personal Protective Equipment
PwD	Person with Disability
SOP	Standard Operating Practices
PwD	Persons with Disability

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Glossary

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

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