



Qualification Pack



Helper - Construction Laboratory and Field Technician

QP Code: CON/Q0401

Version: 2.0

NSQF Level: 2

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CON/Q0401: Helper - Construction Laboratory and Field Technician

Brief Job Description

This job role is responsible for the identification of testing tools and equipment, handling and storing of test samples, extracting sample from fields, safe shifting of samples to the laboratory, sample preparation, and providing support in the testing of construction materials including cement, sand, aggregate, bitumen, concrete, bricks, and concrete blocks.

Personal Attributes

The helper laboratory and field technician is expected to be physically fit and should be able to work across various locations in extreme weather/site conditions. The individual should be team-oriented.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

- [1. CON/N0401: Identify and upkeep construction materials, testing tools and equipment](#)
- [2. CON/N0402: Handle and store construction material test sample at the laboratory](#)
- [3. CON/N0403: Collect test sample from field and assist in material testing at site laboratory](#)
- [4. CON/N8001: Work effectively in a team to deliver desired results at the workplace](#)
- [5. CON/N9001: Work according to personal health, safety and environment protocols at construction site](#)

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Quality Assurance and Quality Control
Country	India
NSQF Level	2
Credits	NA
Aligned to NCO/ISCO/ISIC Code	NCO-2015/9313.0601



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Minimum Educational Qualification & Experience	Ability to read and write
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NIL
Minimum Job Entry Age	18 Years
Last Reviewed On	31/03/2022
Next Review Date	31/03/2025
NSQC Approval Date	31/03/2022
Version	2.0
Reference code on NQR	2022/CON/CSDCI/05614
NQR Version	1.0



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CON/N0401: Identify and upkeep construction materials, testing tools and equipment

Description

This unit describes the skills and knowledge required to identify and upkeep the construction materials, testing tools, and equipment required for quality testing as per instructions and under close supervision.

Scope

The scope covers the following :

- Perform identification and upkeep of construction materials, testing tools and equipment

Elements and Performance Criteria

Perform identification and upkeep of construction materials, testing tools and equipment

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

- PC1.** identify construction materials such as cement, fine and coarse aggregate, bricks, steel, bitumen, admixtures, concrete blocks, paver block, timber, plywood & steel reinforcement bar etc.
- PC2.** identify testing tools and accessories such as measuring jar, gauging trowel, measurement tape, metal scale, scoop, tray, tamping rod, stop watch, brushes, funnel, thermometer, Vernier calipers, IS sieves of different size, trowel, spade, pickaxe, vibrator etc.
- PC3.** identify apparatus and equipment required for cement and concrete testing such as Vicat apparatus & accessories, GI Sieves, Digital weighing balance drying oven and cube moulds, compression testing machine, flow table, laboratory concrete mixer, slump test cone etc.
- PC4.** identify apparatus and instruments required for soil testing such as hydrometer, standard sieves of different size, compaction test apparatus, rapid moisture content meter, CBR testing machine, liquid & plasticity limit test apparatus
- PC5.** identify apparatus and instruments required for aggregate testing such as flakiness gauge, elongation gauge, ring and ball apparatus, pycnometer, impact value test apparatus, crushing value test apparatus & Los Angeles abrasion test apparatus
- PC6.** identify apparatus and instruments required for bitumen testing such as penetrometer, bitumen compactor, Marshall stability test apparatus
- PC7.** identify apparatus ,instruments, chemicals required for water testing
- PC8.** clean, inspect and care for the construction materials, testing tools and equipment used for quality testing.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** safety rules and regulations for handling and storing relevant tools, equipment, and materials for relevant works in accordance with organizational norms



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- KU2.** importance of personal protection including the use of related safety gears & equipment in accordance with organizational norms
- KU3.** service request procedures for tools, materials, and equipment as per organizational norms
- KU4.** procedure for maintenance of tools and equipment
- KU5.** different type of construction materials and their testing
- KU6.** storing and handling of construction materials
- KU7.** name of tools and equipment used for testing construction material such as cement, fine and coarse aggregate, bricks, steel, bitumen, admixtures, concrete blocks, paver block, concrete cubes, timber, plywood & steel, reinforcement bar
- KU8.** upkeep of tools and equipment
- KU9.** the nomenclature of various parts of the equipment
- KU10.** prevention techniques of equipment from dust and heat

Generic Skills (GS)

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

- GS1.** write in one or more language, preferably in the local language of the site
- GS2.** read instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably in one of the local languages of the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan self-work to achieve productivity as per the direction /close supervision of superiors
- GS7.** ensure work is done within time and as per desired quality based on instructions provided by superiors
- GS8.** identify any violation of safety norms during the work



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform identification and upkeep of construction materials, testing tools and equipment</i>	20	80	-	-
PC1. identify construction materials such as cement, fine and coarse aggregate, bricks, steel, bitumen, admixtures, concrete blocks, paver block, timber, plywood & steel reinforcement bar etc.	-	-	-	-
PC2. identify testing tools and accessories such as measuring jar, gauging trowel, measurement tape, metal scale, scoop, tray, tamping rod, stop watch, brushes, funnel, thermometer, Vernier calipers, IS sieves of different size, trowel, spade, pickaxe, vibrator etc.	-	-	-	-
PC3. identify apparatus and equipment required for cement and concrete testing such as Vicat apparatus & accessories, GI Sieves, Digital weighing balance drying oven and cube moulds, compression testing machine, flow table, laboratory concrete mixer, slump test cone etc.	-	-	-	-
PC4. identify apparatus and instruments required for soil testing such as hydrometer, standard sieves of different size, compaction test apparatus, rapid moisture content meter, CBR testing machine, liquid & plasticity limit test apparatus	-	-	-	-
PC5. identify apparatus and instruments required for aggregate testing such as flakiness gauge, elongation gauge, ring and ball apparatus, pycnometer, impact value test apparatus, crushing value test apparatus & Los Angeles abrasion test apparatus	-	-	-	-
PC6. identify apparatus and instruments required for bitumen testing such as penetrometer, bitumen compactor, Marshall stability test apparatus	-	-	-	-
PC7. identify apparatus ,instruments, chemicals required for water testing	-	-	-	-
PC8. clean, inspect and care for the construction materials, testing tools and equipment used for quality testing.	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	20	80	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N0401
NOS Name	Identify and upkeep construction materials,testing tools and equipment
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Quality Assurance & Quality Control
NSQF Level	2
Credits	TBD
Version	2.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022



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CON/N0402: Handle and store construction material test sample at the laboratory

Description

This unit describes the skills and knowledge required for effective material handling & storing of test samples in the lab as per instructions under close supervision.

Scope

The scope covers the following :

- Handle and store construction material for testing at the laboratory

Elements and Performance Criteria

Handle and store construction material for testing at the laboratory

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

- PC1.** follow instructed methods/set guidelines for collection and handling of material samples such as cement, steel, sand, aggregate, soil, admixtures, brick, concrete blocks and distilled water
- PC2.** store and stack inflammable material separately as per standard practices/instructions
- PC3.** handle loose and fluid materials like chemicals, form-oil & admixtures as per standard practices/ instructions
- PC4.** follow specified procedure for sampling, packing and tagging of materials for testing
- PC5.** follow specific procedure for storing and stacking of material samples

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** safety rules and regulations for handling and storing relevant tools, equipment, and materials for relevant works in accordance with organizational norms
- KU2.** importance of personal protection including the use of related safety gears & equipment in accordance with organizational norms
- KU3.** service request procedures for tools, materials and equipment as per organizational norms
- KU4.** procedure for maintenance of tools and equipment
- KU5.** use of tools and equipment for testing of construction material
- KU6.** handling and stacking of tools, equipment, hazardous materials, and chemicals
- KU7.** storing, handling and labeling of construction material samples such as soil, aggregates, concrete, bricks, steel, bitumen, admixtures, timber, plywood & steel reinforcement bar

Generic Skills (GS)

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



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- GS1.** write in one or more language, preferably in the local language of the site
- GS2.** read various, sign boards, safety rules , safety tags and instructions related to exit routes during emergency at the workplace
- GS3.** speak in one or more language, preferably in one of the local languages of the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work to achieve productivity as per the direction /close supervision of superiors
- GS7.** ensure work is done within time and as per desired quality based on instructions provided by superiors
- GS8.** evaluate the complexity of the tasks
- GS9.** identify any violation of safety norms during the work



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Handle and store construction material for testing at the laboratory</i>	20	80	-	-
PC1. follow instructed methods/set guidelines for collection and handling of material samples such as cement, steel, sand, aggregate, soil, admixtures, brick, concrete blocks and distilled water	-	-	-	-
PC2. store and stack inflammable material separately as per standard practices/instructions	-	-	-	-
PC3. handle loose and fluid materials like chemicals, form-oil & admixtures as per standard practices/ instructions	-	-	-	-
PC4. follow specified procedure for sampling, packing and tagging of materials for testing	-	-	-	-
PC5. follow specific procedure for storing and stacking of material samples	-	-	-	-
NOS Total	20	80	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N0402
NOS Name	Handle and store construction material test sample at the laboratory
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Quality Assurance & Quality Control
NSQF Level	2
Credits	TBD
Version	2.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022



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CON/N0403: Collect test sample from field and assist in material testing at site laboratory

Description

This unit describes the skills and knowledge required to collect, prepare test samples, and support in construction materials testing at site and in site laboratory as per instructions and under close supervision

Scope

The scope covers the following :

- Collect/extract soil, concrete, and bitumen samples from the field.
- Prepare test samples, tools, and test apparatus for cement, concrete, bricks, and aggregates testing and provide support in testing
- Prepare test samples, tools, and test apparatus for bitumen testing and provide support in testing.
- Prepare test samples, tools, and test apparatus for soil testing and provide support in testing.
- Perform housekeeping and dispose waste.

Elements and Performance Criteria

Collect/extract soil , concrete and bitumen samples from field

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

- PC1.** extract soil samples using core cutters , pack & label the sample as per standard procedure and transport it to test laboratory
- PC2.** collect hot bitumen sample from construction site as per instructions, pack & label the sample as per standard procedure and transport it to test laboratory
- PC3.** collect and cast concrete cube samples at site as per standard procedure and instructions

Prepare test samples, tools, and test apparatus for cement, concrete, bricks, and aggregates testing and provide support in testing

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

- PC4.** prepare all tools and accessories required for cement, concrete, brick and aggregate testing for sample preparation and testing as per instructions
- PC5.** collect the required/ instructed quantity of sample of cement, concrete, brick and aggregate as per instructions
- PC6.** measure instructed quantity of sample to be tested in the site laboratory
- PC7.** cast cement and concrete cube samples in site laboratory as per standard procedure and instructions
- PC8.** prepare cement test samples and provide support in slump test, consistency test ,initial & final setting time test, fineness test and soundness test as per instructions
- PC9.** carry out sieve analysis and prepare test samples for specific gravity, crushing value, impact value test, abrasion value for coarse aggregate as per instructions
- PC10.** provide support in carrying out water absorption test and compressive strength test of cement cube, concrete cube, brick, concrete block & paver block

Prepare test samples, tools, and test apparatus for bitumen testing and provide support in testing.



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

- PC11.** prepare all required tools and accessories of bitumen testing for sample preparation and testing as per instructions
- PC12.** collect the required/ instructed quantity of sample of bitumen as per instructions
- PC13.** measure instructed quantity of bitumen sample to be tested in site laboratory
- PC14.** prepare bitumen test sample and provide support in content test, penetration test, specific gravity test, softening point test, flash & fire point, Marshall stability test of bitumen mixture as per instructions

Prepare test samples, tools, and test apparatus for soil testing and provide support in testing.

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

- PC15.** prepare all required tools and accessories of soil testing for sample preparation and testing as per instructions
- PC16.** collect the required/ instructed quantity of sample of soil as per instructions
- PC17.** measure instructed quantity of sample to be tested in site laboratory
- PC18.** prepare soil test samples and provide support in test for specific gravity, bulk density, moisture content, Atterberg limits, and silt content of soil as per instructions

Perform housekeeping and dispose waste

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

- PC19.** clean tools, apparatus, instrument, and accessories and place them at the appropriate location after use
- PC20.** upkeep all tools, apparatus, instrument, and equipment as per requirement
- PC21.** dispose the tested construction materials as per instructions

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** safety rules and regulations for handling and storing relevant tools, equipment, and materials for relevant works in accordance with organizational norms
- KU2.** importance of personal protection including the use of related safety gears & equipment in accordance with organizational norms
- KU3.** service request procedures for tools, materials and equipment as per organizational norms
- KU4.** storing and handling of construction material samples
- KU5.** how to prepare test sample for cements, concrete, sand, aggregate, bitumen, soil
- KU6.** how to carry out sampling of concrete, soil, sand in site
- KU7.** visual/physical checking of cement, brick, concrete block, sand
- KU8.** importance of checking construction material prior to use
- KU9.** use of tools and equipment for testing of construction material
- KU10.** handling technique of tools and equipment
- KU11.** upkeep, repair, and maintenance of tools and equipment
- KU12.** prevention of equipment from dust and heat
- KU13.** the calibration of machines and equipment for validation
- KU14.** reading of gauges and meters along with the least count



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KU15. disposal of tested material in appropriate manner

Generic Skills (GS)

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

- GS1.** write in one or more language, preferably in the local language of the site
- GS2.** read various, sign boards, safety rules , safety tags and instructions related to exit routes during emergency at the workplace
- GS3.** speak in one or more language, preferably in one of the local languages of the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work to achieve productivity as per the direction /close supervision of superiors
- GS7.** ensure work is done within time and as per desired quality based on instructions provided by superiors
- GS8.** identify any violation of safety norms during the work



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Collect/extract soil , concrete and bitumen samples from field</i>	3	12	-	-
PC1. extract soil samples using core cutters , pack & label the sample as per standard procedure and transport it to test laboratory	-	-	-	-
PC2. collect hot bitumen sample from construction site as per instructions, pack & label the sample as per standard procedure and transport it to test laboratory	-	-	-	-
PC3. collect and cast concrete cube samples at site as per standard procedure and instructions	-	-	-	-
<i>Prepare test samples, tools, and test apparatus for cement, concrete, bricks, and aggregates testing and provide support in testing</i>	5	20	-	-
PC4. prepare all tools and accessories required for cement, concrete, brick and aggregate testing for sample preparation and testing as per instructions	-	-	-	-
PC5. collect the required/ instructed quantity of sample of cement, concrete, brick and aggregate as per instructions	-	-	-	-
PC6. measure instructed quantity of sample to be tested in the site laboratory	-	-	-	-
PC7. cast cement and concrete cube samples in site laboratory as per standard procedure and instructions	-	-	-	-
PC8. prepare cement test samples and provide support in slump test, consistency test ,initial & final setting time test, fineness test and soundness test as per instructions	-	-	-	-
PC9. carry out sieve analysis and prepare test samples for specific gravity, crushing value, impact value test, abrasion value for coarse aggregate as per instructions	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. provide support in carrying out water absorption test and compressive strength test of cement cube, concrete cube, brick, concrete block & paver block	-	-	-	-
<i>Prepare test samples, tools, and test apparatus for bitumen testing and provide support in testing.</i>	5	20	-	-
PC11. prepare all required tools and accessories of bitumen testing for sample preparation and testing as per instructions	-	-	-	-
PC12. collect the required/ instructed quantity of sample of bitumen as per instructions	-	-	-	-
PC13. measure instructed quantity of bitumen sample to be tested in site laboratory	-	-	-	-
PC14. prepare bitumen test sample and provide support in content test, penetration test, specific gravity test, softening point test, flash & fire point, Marshall stability test of bitumen mixture as per instructions	-	-	-	-
<i>Prepare test samples, tools, and test apparatus for soil testing and provide support in testing.</i>	5	20	-	-
PC15. prepare all required tools and accessories of soil testing for sample preparation and testing as per instructions	-	-	-	-
PC16. collect the required/ instructed quantity of sample of soil as per instructions	-	-	-	-
PC17. measure instructed quantity of sample to be tested in site laboratory	-	-	-	-
PC18. prepare soil test samples and provide support in test for specific gravity, bulk density, moisture content, Atterberg limits, and silt content of soil as per instructions	-	-	-	-
<i>Perform housekeeping and dispose waste</i>	2	8	-	-
PC19. clean tools, apparatus, instrument, and accessories and place them at the appropriate location after use	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC20. upkeep all tools, apparatus, instrument, and equipment as per requirement	-	-	-	-
PC21. dispose the tested construction materials as per instructions	-	-	-	-
NOS Total	20	80	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N0403
NOS Name	Collect test sample from field and assist in material testing at site laboratory
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Quality Assurance & Quality Control
NSQF Level	2
Credits	TBD
Version	2.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022



Qualification Pack

CON/N8001: Work effectively in a team to deliver desired results at the workplace

Description

This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results

Scope

The scope covers the following :

- Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams
- Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task
- Acknowledge and show sensitivity to disability, culture and gender diversity

Elements and Performance Criteria

Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams

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

- PC1.** pass on work related information/ requirement clearly to the team members
- PC2.** inform co-workers and superiors about any kind of deviations from work
- PC3.** address the problems effectively and report if required to immediate supervisor appropriately
- PC4.** receive instructions clearly from superiors and respond effectively on the same
- PC5.** communicate to team members/subordinates for appropriate work technique and method
- PC6.** seek clarification and advice as per the requirement and applicability

• *Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task*

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

- PC7.** hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams
- PC8.** work together with co-workers in a synchronized manner

Acknowledge and show sensitivity to disability, culture and gender diversity

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

- PC9.** follow practices which are sensitive to disability, culture and gender diversity.
- PC10.** respond to attitude and behaviour which are aggressive, abusive or discriminatory, in a professional manner and as per organizational policy

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



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- KU1.** own roles and responsibilities
- KU2.** importance of effective communication and establishing strong working
- KU3.** risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.
- KU4.** different modes of communication, and its appropriate usage
- KU5.** importance of creating healthy and cooperative work environment among the gangs of workers
- KU6.** different activities within his work area where an interaction with other workers is required
- KU7.** applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement
- KU8.** importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timelines, safety, risks at the construction project site
- KU9.** importance and need of supporting co-workers facing problems for smooth functioning of work
- KU10.** the fundamental concept of gender equality
- KU11.** how to recognise and be sensitive to issues of disability, culture and gender

Generic Skills (GS)

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

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read in one or more languages, preferably the local language of the site
- GS3.** read communication from team members regarding work completed, materials used, tools and tackles used, support required
- GS4.** speak in one or more languages, preferably in one of the local language of the site
- GS5.** listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes
- GS6.** communicate orally with co-workers regarding support required to complete the respective work
- GS7.** decide on what information is to be shared with co-workers within the team or from interfacing gang of workers
- GS8.** plan work and organize required resources in coordination with team members
- GS9.** complete all assigned task in coordination with team members
- GS10.** take initiative in resolving issues among co-workers or report the same to superiors
- GS11.** ensure best ways of coordination among team members
- GS12.** communicate with co-workers considering their educational / social background
- GS13.** evaluate the complexity of task and determine if any guidance is required from superiors



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams</i>	12	48	-	-
PC1. pass on work related information/ requirement clearly to the team members	-	-	-	-
PC2. inform co-workers and superiors about any kind of deviations from work	-	-	-	-
PC3. address the problems effectively and report if required to immediate supervisor appropriately	-	-	-	-
PC4. receive instructions clearly from superiors and respond effectively on the same	-	-	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	-	-	-	-
PC6. seek clarification and advice as per the requirement and applicability	-	-	-	-
• <i>Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task</i>	4	16	-	-
PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams	-	-	-	-
PC8. work together with co-workers in a synchronized manner	-	-	-	-
<i>Acknowledge and show sensitivity to disability, culture and gender diversity</i>	4	16	-	-
PC9. follow practices which are sensitive to disability, culture and gender diversity.	-	-	-	-
PC10. respond to attitude and behaviour which are aggressive, abusive or discriminatory, in a professional manner and as per organizational policy	-	-	-	-
NOS Total	20	80	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N8001
NOS Name	Work effectively in a team to deliver desired results at the workplace
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Generic 2
NSQF Level	2
Credits	TBD
Version	5.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022



Qualification Pack

CON/N9001: Work according to personal health, safety and environment protocols at construction site

Description

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site

Scope

The scope covers the following :

- Follow safety norms as defined by organization
- Adopt healthy & safe work practices
- Implement good housekeeping and environment protection process and activities
- Follow infection control guidelines as per applicability

Elements and Performance Criteria

Follow safety norms as defined by organization

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

- PC1.** identify and report any hazards, risks or breaches in site safety to the appropriate authority
- PC2.** follow emergency and evacuation procedures in case of accidents, fires, natural calamities
- PC3.** follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable
- PC4.** follow all the protocols and safety techniques conveyed during safety awareness programs like Tool Box Talks, safety demonstrations and mock drills conducted at the site
- PC5.**
 - select and operate different types of fire extinguishers corresponding to various types of fires
 - as per EHS guideline
- PC6.** identify near miss , unsafe condition and unsafe act

Adopt healthy & safe work practices

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

- PC7.** use appropriate Personal Protective Equipment (PPE) as per work requirements including: Head Protection (Helmets) Ear protection Fall Protection Foot Protection Face and Eye Protection, Hand and Body Protection Respiratory Protection (if required)
- PC8.** handle all required tools, tackles , materials & equipment safely
- PC9.** follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines
- PC10.** check and install all safety equipment as per standard guidelines
- PC11.** follow safety protocol and practices as laid down by site EHS department
- PC12.** obtain "height pass" clearance for working at heights

Implement good housekeeping practices

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

- PC13.**
 - collect, segregate and deposit construction waste into appropriate containers based on their
 - toxicity or hazardous nature



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PC14. apply ergonomic principles wherever required

Follow infection control guidelines as per applicability

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

PC15. follow recommended personal hygiene, workplace hygiene and sanitization practices

PC16. clean and disinfect all materials, tools and supplies before and after use

PC17. • report immediately to concerned authorities regarding signs and symptoms of illness of self
• and others

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines

KU2. types of safety hazards at construction sites

KU3. basic ergonomic principles as per applicability

KU4. the procedure for responding to accidents and other emergencies at site

KU5. use of appropriate personal protective equipment based on various working conditions

KU6. importance of handling tools, equipment, and materials as per applicable norms

KU7. effect of construction material on health and environments as per applicability

KU8. various environmental protection methods as per applicability

KU9. storage of waste including non-combustible scrap material and debris, combustible scrap material and debris, general construction waste and trash (non-toxic, non-hazardous), any other hazardous wastes and any other flammable wastes at the appropriate location

KU10. how to keep the workplace neat and tidy so as to be safe

KU11. how to use hazardous material in a safe and appropriate manner as per applicability

KU12. types of fire

KU13. procedure of operating different types of fire extinguishers

KU14. safety relevant to tools, tackles, and equipment as per applicability

KU15. housekeeping activities relevant to task

KU16. ways of transmission of infection

KU17. ways to manage infectious risks at the workplace

KU18. different methods of cleaning, disinfection, sterilization, and sanitization

KU19. symptoms of infection like fever, cough, redness, swelling, and inflammation

Generic Skills (GS)

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

GS1. write in at least one language, preferably in the local language of the site

GS2. fill safety formats for near miss, unsafe conditions and safety suggestions

GS3. read in one or more language, preferably in the local language of the site

GS4. speak in one or more language, preferably in one of the local language of the site



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- GS5.** listen to instructions/communication shared by site EHS and superiors regarding site safety, and conducting the toolbox talk
- GS6.** identify potential safety risks and report to the appropriate authority
- GS7.**
- assess and analyze areas which may affect health, safety and environment protocol on the
 - site



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow safety norms as defined by organization</i>	4	16	-	-
PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	-	-	-	-
PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	-	-	-	-
PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable	-	-	-	-
PC4. follow all the protocols and safety techniques conveyed during safety awareness programs like Tool Box Talks, safety demonstrations and mock drills conducted at the site	-	-	-	-
PC5. • select and operate different types of fire extinguishers corresponding to various types of fires • as per EHS guideline	-	-	-	-
PC6. identify near miss , unsafe condition and unsafe act	-	-	-	-
<i>Adopt healthy & safe work practices</i>	10	40	-	-
PC7. use appropriate Personal Protective Equipment (PPE) as per work requirements including: Head Protection (Helmets) Ear protection Fall Protection Foot Protection Face and Eye Protection, Hand and Body Protection Respiratory Protection (if required)	-	-	-	-
PC8. handle all required tools, tackles , materials & equipment safely	-	-	-	-
PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	-	-	-	-
PC10. check and install all safety equipment as per standard guidelines	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow safety protocol and practices as laid down by site EHS department	-	-	-	-
PC12. obtain "height pass" clearance for working at heights	-	-	-	-
<i>Implement good housekeeping practices</i>	4	16	-	-
PC13. <ul style="list-style-type: none"> • collect, segregate and deposit construction waste into appropriate containers based on their • toxicity or hazardous nature 	-	-	-	-
PC14. apply ergonomic principles wherever required	-	-	-	-
<i>Follow infection control guidelines as per applicability</i>	2	8	-	-
PC15. follow recommended personal hygiene, workplace hygiene and sanitization practices	-	-	-	-
PC16. clean and disinfect all materials, tools and supplies before and after use	-	-	-	-
PC17. <ul style="list-style-type: none"> • report immediately to concerned authorities regarding signs and symptoms of illness of self • and others 	-	-	-	-
NOS Total	20	80	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	CON/N9001
NOS Name	Work according to personal health, safety and environment protocols at construction site
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Generic Safety
NSQF Level	2
Credits	TBD
Version	7.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

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)/ Element 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/ Element.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5. The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.



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- The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
- After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
- In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.
- Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

Minimum Aggregate Passing % at QP Level : 50

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0401. Identify and upkeep construction materials, testing tools and equipment	20	80	-	-	100	25
CON/N0402. Handle and store construction material test sample at the site laboratory	20	80	-	-	100	25
CON/N0403. Collect test sample from field and assist in material testing at site laboratory	20	80	-	-	100	25
CON/N8001. Work effectively in a team to deliver desired results at the workplace	20	80	-	-	100	10
CON/N9001. Work according to personal health, safety and environment protocols at construction site	20	80	-	-	100	15
Total	100	400	-	-	500	100



Qualification Pack

Acronyms

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



Qualification Pack

Glossary

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



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