

Qualification Pack



Plumber - General

Options: Perform Installation of Insulation on Pipes

QP Code: PSC/Q0104

Version: 5.0

NSQF Level: 4

Water Management and Plumbing Skill Council || Unit No-606, DLF Prime Tower
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PSC/Q0104: Plumber - General

Brief Job Description

The Plumber - General installs Water Supply, Drainage and Sewage system, with general and & advanced sanitary fittings and fixtures in domestic, commercial and institutional setups. The Plumber General also Repair & maintains the plumbing systems and fixtures for domestic set up setups.

Personal Attributes

The individual must be able to work independently and be comfortable in performing laborious work. The person should be good at following instructions and a team player with a positive attitude.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [PSC/N0130: Prepare for Plumbing Installations and Maintenance](#)
2. [PSC/N0131: Install water Supply Systems](#)
3. [PSC/N0132: Install Drainage System](#)
4. [PSC/N0133: Install Plumbing Fixtures](#)
5. [PSC/N0142: Perform Troubleshooting and Maintenance for Domestic Plumbing Fixtures and Systems](#)
6. [PSC/N0136: Apply Health and Safety Practices at the Workplace](#)
7. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Options(Not mandatory):

Option : Perform Installation of Insulation on Pipes

This NOS aims to provide participants with the knowledge and skills required to effectively install insulation on various types of pipes. Participants will learn about different insulation materials, techniques for measuring and cutting insulation, as well as best practices for installation to ensure energy efficiency and safety.

1. [PSC/N0183: Perform Installation of Insulation on Pipes](#)

Qualification Pack (QP) Parameters



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Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance, Plumbing Systems Installation and Maintenance
Country	India
NSQF Level	4
Credits	18
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7126.0101
Minimum Educational Qualification & Experience	12th grade Pass OR Pursuing 3rd year of 3-year diploma after 10th OR 10th grade pass with 1 year NTC plus CITS (or NAC) OR 8th grade pass with 2 year NTC plus 1 year NAC plus 1 year CITS OR Previous relevant Qualification of NSQF Level (3 as Assistant Plumber - General with 8th Grade Pass) with 2 Years of experience Relevant
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	17/12/2027
NSQC Approval Date	17/12/2024
Version	5.0
Reference code on NQR	QG-04-PL-03441-2024-V2-WMPS
NQR Version	5.0

Remarks:

NIL

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PSC/N0130: Prepare for Plumbing Installations and Maintenance

Description

This unit is about identification of tasks, organisation of materials and preparation of work area for starting the plumbing work.

Scope

The scope covers the following :

- Identify different tools, equipment and fittings
- Read and interpret plumbing drawing
- Prepare for work

Elements and Performance Criteria

Identify different tools, equipment and fittings

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

PC1. Explain in detail the use of different tools, measuring & inspection device equipment, and fittings for plumbing.

PC2. Perform cutting deburring/filing, marking, and fixing operations using vice.

PC3. Assess the tool's material quality to ensure long-term use in demanding plumbing environments.

PC4. Check if the tool & fitting required for different pipe types and plumbing applications.

PC5. Ensure that the tool includes necessary safety features to prevent injuries during use.

Read and interpret the plumbing drawing

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

PC6. Ensure that the pipes are installed correctly, with minimal short turns, correct distances, and optimal use of space.

PC7. Verify that hot and cold-water lines are correctly laid and insulated where necessary to prevent heat loss.

PC8. Interpret the position of the fixtures and their accessories for supply and drainage systems

PC9. Understand hot & cold-water piping lay out in the building.

PC10. Ensure correct pipe -size/dia / type are used to get the required pressure & flow rate for water supply system.

PC11. Ensure correct usage pipe size & fitting the pipe with correct slope to install drainage system

PC12. Ensure that all plumbing fixtures (sinks, toilets, showers) are positioned according to the architectural plan, with proper spacing for usability and maintenance.

PC13. Ensure that each fixture has clearly indicated connection points for water supply.

PC14. Check the drainage system for proper venting, position of traps & anti siphonage to prevent breaking of water seals

Prepare for work

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

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- PC15.** Collect required plumbing material -type, size, and quantities based on specifications from drawings and plans.
- PC16.** Check if the tools and equipment are functioning properly and inform the relevant authority in case of any deviation.
- PC17.** Clear the area of hazardous substances, debris, and waste as per organizational norms
- PC18.** Store collected materials to be used in a secure manner to ensure there is no spillage or cross-contamination.
- PC19.** place signages and barricades as required to ensure safety and security of the work area, workers, and visitors
- PC20.** plan tasks in agreement with others while adhering to time commitments.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Knowledge about hand tool tools such as pipe wrenches, adjustable spanners, pipe cutters, pliers, and plungers, etc & power tool like drilling machines crimping etc
- KU2.** Understand correct application of tool such as tightening pipes, cutting materials, or gripping components.
- KU3.** Knowledge of specialized equipment like pipe threaders, soldering torches, drain cleaning machines, and pipe benders in complex installations and maintenance tasks.
- KU4.** Understand different types of pipes (PVC, Copper, PEX, GI) and corresponding fittings (elbows, tees, couplings) & consumables.
- KU5.** Understand the working of measuring & testing device like pressure gauges, leak detectors, and measuring is essential for troubleshooting and ensuring accuracy in installation.
- KU6.** Understand how to read and use diagnostic tools helps in identifying issues and ensuring proper alignment and sealing in the plumbing system.
- KU7.** Knowledge of different types of plumbing symbols used to represent various components like pipes, fixtures, valves, and fittings.
- KU8.** Knowledge of different types of views such as plan view, isometric drawings, Cross-sectional view, and detail drawings
- KU9.** Techniques of jointing of different pipes, measuring slope (for drainage), and coordination of plumbing system with other utilities for effective system interpretation and troubleshooting.
- KU10.** Understanding these annotations is key to ensuring the plumbing system meets local codes, and safety standards, and works efficiently.
- KU11.** Standards, policies, and procedures followed in the company relevant to employment and performance conditions.
- KU12.** Organization's departments, hierarchy, products, services
- KU13.** Workplace safety requirements, hazard reporting, and handling procedures
- KU14.** Commonly used system symbols, terminologies, abbreviations, titles, sub-titles, dimensions, and reference dates used by plumbers.
- KU15.** Measurements and standards relevant to the plumbing industry.
- KU16.** Types and purpose of drawings and plans associated with plumbing.

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- KU17.** Tools, equipment, and materials relative to drawings/specifications.
- KU18.** Importance of accuracy in measurements and calculations.
- KU19.** Purpose of work schedules, work plans, charts, work bulletins, and memos, and the work-related information that can be obtained from them.
- KU20.** Mathematical formulas needed to calculate area, length, perimeter, diameter, circumference, volume, mass, force, pressure, scales, ratios, etc.
- KU21.** Categories of materials and their safe handling, storage, and transport requirements
- KU22.** Measures to avoid cross contamination & prevent pollution
- KU23.** Types of plumbing waste and their disposal.

Generic Skills (GS)

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

- GS1.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS2.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS3.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS4.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS5.** plan one's daily tasks to achieve maximum productivity
- GS6.** establish priorities and deadlines in consultation with others and record them
- GS7.** be punctual and work as per agreed priorities
- GS8.** manage distractions and maintain workplace discipline
- GS9.** listen to customer's concerns and doubts carefully and address them
- GS10.** be courteous
- GS11.** identify ways to increase productivity and reduce errors

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify different tools, equipment and fittings</i>	5	10	-	-
PC1. Explain in detail the use of different tools, measuring & inspection device equipment, and fittings for plumbing.	-	-	-	-
PC2. Perform cutting deburring/filing, marking, and fixing operations using vice.	-	-	-	-
PC3. Assess the tool's material quality to ensure long-term use in demanding plumbing environments.	-	-	-	-
PC4. Check if the tool & fitting required for different pipe types and plumbing applications.	-	-	-	-
PC5. Ensure that the tool includes necessary safety features to prevent injuries during use.	-	-	-	-
<i>Read and interpret the plumbing drawing</i>	5	10	-	3
PC6. Ensure that the pipes are installed correctly, with minimal short turns, correct distances, and optimal use of space.	-	-	-	-
PC7. Verify that hot and cold-water lines are correctly laid and insulated where necessary to prevent heat loss.	-	-	-	-
PC8. Interpret the position of the fixtures and their accessories for supply and drainage systems	-	-	-	-
PC9. Understand hot & cold-water piping lay out in the building.	-	-	-	-
PC10. Ensure correct pipe -size/dia / type are used to get the required pressure & flow rate for water supply system.	-	-	-	-
PC11. Ensure correct usage pipe size & fitting the pipe with correct slope to install drainage system	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Ensure that all plumbing fixtures (sinks, toilets, showers) are positioned according to the architectural plan, with proper spacing for usability and maintenance.	-	-	-	-
PC13. Ensure that each fixture has clearly indicated connection points for water supply.	-	-	-	-
PC14. Check the drainage system for proper venting, position of traps & anti siphonage to prevent breaking of water seals	-	-	-	-
<i>Prepare for work</i>	5	10	-	2
PC15. Collect required plumbing material -type, size, and quantities based on specifications from drawings and plans.	-	-	-	-
PC16. Check if the tools and equipment are functioning properly and inform the relevant authority in case of any deviation.	-	-	-	-
PC17. Clear the area of hazardous substances, debris, and waste as per organizational norms	-	-	-	-
PC18. Store collected materials to be used in a secure manner to ensure there is no spillage or cross-contamination.	-	-	-	-
PC19. place signages and barricades as required to ensure safety and security of the work area, workers, and visitors	-	-	-	-
PC20. plan tasks in agreement with others while adhering to time commitments.	-	-	-	-
NOS Total	15	30	-	5



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National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0130
NOS Name	Prepare for Plumbing Installations and Maintenance
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	2.5
Version	3.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

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PSC/N0131: Install water Supply Systems

Description

This unit is about installing the assembled pipes, fittings and other components of a water supply system and, ensuring their proper functioning.

Scope

The scope covers the following :

- Prepare for installation of water supply system
- Cut, bend and assemble various types of pipes
- Install pipes, fittings valves fixtures & appliance
- Post-installation activities

Elements and Performance Criteria

Prepare for installation of water supply system

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

PC1. Study a typical water distribution system and identify its different components.

PC2. Explain in detail the hot-water and cold-water distribution/circulation system.

PC3. Inspect typical solar water heater system and demonstrate its different components with its applications.

PC4. Identify & select the fitting requirements to install the pipes

PC5. measure and mark dimensions for installation of the pipes and fittings base on site condition making allowances for finale finishing

PC6. Explain limitations of solar water heater in multi-floor building.

Cut, prepare, and assemble various types of pipes

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

PC7. Cut G-I, CPVC, PERT, PEX, or PPR pipes to the required length, ensuring measurements are proportionate to the fittings.

PC8. Bend and form the pipes to specified angles and offsets.

PC9. prepare pipe ends using techniques such as reaming, deburring, levelling, filing, and grinding

PC10. Join different types of pipes using fittings and with specified techniques.

PC11. Ensure the assembled pipe meets the required specifications

PC12. Report any issues/ difficulties that may arise.

carry out the corrective actions

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

PC13. Install the assembled pipe fittings and other water supply components

PC14. identify the area and route where the assembled pipes are to be installed

PC15. perform wall chasing, drilling, and nailing on a range of building materials such as brickwork, concrete, block work, timber, etc.

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PC16. install pipes and other water supply components according to given specifications and site requirements without damage or interference to the surrounding structures

PC17. finish the cut area of the wall after installing pipes and other water supply components

post-installation activities

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

PC18. check if all the water supply system installations are properly aligned, sized, supported, and installed properly

PC19. identify and rectify faults that are within limits of expertise and authority and escalate others to authorized personnel

PC20. clear the work area and dispose, reuse, or recycle leftover materials according to regulations and, codes of practice

PC21. clean and store tools and equipment according to manufacturer's recommendations and workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standards, policies, and procedures followed in the company relevant to employment and performance conditions

KU2. organization's departments, hierarchy, products, services

KU3. workplace safety requirements, hazard reporting, and handling procedures

KU4. processes and components of municipal, residential, and private water distribution systems

KU5. properties of water, including pressure and flow rates

KU6. capillary action, thermal expansion, and fabrication techniques to prevent leaking in

KU7. electrolysis and problems associated with the use of dissimilar metals

KU8. types of documents containing water supply plans and how to extract relevant information from them

KU9. standard plumbing symbols used in sketches and blueprints

KU10. Knowledge of typical water distribution systems and their different components.

KU11. Understand in detail the hot-water and cold-water distribution system.

KU12. Knowledge of typical solar water heater systems and their different components with their applications.

KU13. various techniques of installing the water piping system in a building such as over-ground piping, underground piping, piping embedded in concrete, concealed piping, wall-mounted piping

KU14. standards applicable to the piping installation in plumbing types, characteristics and the application of different pipe fittings and fixture supports, and the fixing and jointing techniques

KU15. process of mains supplies of water in buildings.

KU16. layout of piping systems supports, hangers, and restraints used in water supply systems.

KU17. plumbing tools, equipment, and hardware (studs, bolts, and nuts)

KU18. standard measuring procedures such as center-to-center, end to center and end to end

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- KU19.** impact of accurate marking out on fabrication process, work time, and finished work quality
- KU20.** characteristics of the metal used in various plumbing materials and the fabrication methods compatible with them
- KU21.** measuring and marking out processes and allowances to be considered for fabrication of pipes
- KU22.** various fit-off processes and their tools and principles
- KU23.** installation process of pipes and fittings for various plumbing applications
- KU24.** test procedures to check the proper functioning of the pipework installed pre-commissioning checks and procedures.
- KU25.** application of mechanical and hydraulic principles for clearing blockages
- KU26.** corrosion protection such as coatings and tape
- KU27.** procedure to rectify faults such as air lock in the pipes and pipe blockages

Generic Skills (GS)

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

- GS1.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS2.** measure all dimensions in metric scale
- GS3.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS4.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS5.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS6.** plan one's daily tasks to achieve maximum productivity
- GS7.** be punctual and work as per agreed priorities
- GS8.** listen to customer's concerns and doubts carefully and address them
- GS9.** be courteous and polite with customers and team members
- GS10.** establish workable solutions for problems in hand in consultation with others and record them
- GS11.** breakdown relevant work process into its constituent activities for ease of analysis
- GS12.** identify ways to increase productivity and reduce error

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of water supply system</i>	2	4	-	-
PC1. Study a typical water distribution system and identify its different components.	-	-	-	-
PC2. Explain in detail the hot-water and cold-water distribution/circulation system.	-	-	-	-
PC3. Inspect typical solar water heater system and demonstrate its different components with its applications.	-	-	-	-
PC4. Identify & select the fitting requirements to install the pipes	-	-	-	-
PC5. measure and mark dimensions for installation of the pipes and fittings base on site condition making allowances for finale finishing	-	-	-	-
PC6. Explain limitations of solar water heater in multi-floor building.	-	-	-	-
<i>Cut, prepare, and assemble various types of pipes</i>	5	10	-	2
PC7. Cut G-I, CPVC, PERT, PEX, or PPR pipes to the required length, ensuring measurements are proportionate to the fittings.	-	-	-	-
PC8. Bend and form the pipes to specified angles and offsets.	-	-	-	-
PC9. prepare pipe ends using techniques such as reaming, deburring, levelling, filing, and grinding	-	-	-	-
PC10. Join different types of pipes using fittings and with specified techniques.	-	-	-	-
PC11. Ensure the assembled pipe meets the required specifications	-	-	-	-
PC12. Report any issues/ difficulties that may arise.	-	-	-	-
<i>carry out the corrective actions</i>	5	10	-	3
PC13. Install the assembled pipe fittings and other water supply components	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. identify the area and route where the assembled pipes are to be installed	-	-	-	-
PC15. perform wall chasing, drilling, and nailing on a range of building materials such as brickwork, concrete, block work, timber, etc.	-	-	-	-
PC16. install pipes and other water supply components according to given specifications and site requirements without damage or interference to the surrounding structures	-	-	-	-
PC17. finish the cut area of the wall after installing pipes and other water supply components	-	-	-	-
<i>post-installation activities</i>	3	6	-	-
PC18. check if all the water supply system installations are properly aligned, sized, supported, and installed properly	-	-	-	-
PC19. identify and rectify faults that are within limits of expertise and authority and escalate others to authorized personnel	-	-	-	-
PC20. clear the work area and dispose, reuse, or recycle leftover materials according to regulations and, codes of practice	-	-	-	-
PC21. clean and store tools and equipment according to manufacturer's recommendations and workplace procedures	-	-	-	-
NOS Total	15	30	-	5



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National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0131
NOS Name	Install water Supply Systems
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	3
Version	2.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

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PSC/N0132: Install Drainage System

Description

This unit deals in detail with the installation of drainage systems in accordance with the industry standards and site requirements.

Scope

The scope covers the following :

- Prepare for installation of drainage systems
- Perform installation of drainage systems
- Post-installation activities

Elements and Performance Criteria

Prepare for installation of drainage systems

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

PC1. identify the type of drainage piping systems and its components to be installed as appropriate for the type of building

PC2. use plumbing project plans to determine the location of various drainage components and the route of the water drainage piping and traps

PC3. calculate quantity, dimensions and type of materials required from design drawings/specifications

PC4. construct chambers to accommodate drainage systems

PC5. determine fitting requirements for installing various types of drainage pipes according to given specifications and site requirements

PC6. check if the area is prepared for laying the pipes for underground, above ground and overhead piping systems

Perform installation of drainage systems

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

PC7. install the various components of drainage system such as various pipes and their fittings, manholes, traps, cleanouts, catch basins, inspection chamber, soak pit etc.

PC8. perform fitting activities on various types of pipes such as stoneware (SW) pipes, polyvinyl chloride (PVC) pipes etc.

PC9. install stormwater and sub-soil drainage system

PC10. install different types of pumps used in sanitary and drainage systems such as submersible water pumps, dewatering pumps (for rainwater piping) etc.

PC11. install pipework for water and sewage treatment plant

Post-installation activities

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

PC12. test the installations for proper functioning

PC13. repair faulty drainage pipes and traps

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- PC14.** ensure that all inspection openings and covers are fitted according to relevant standards and job specifications
- PC15.** backfill excavated areas to secure the installation
- PC16.** put required signages at the site after the plumbing task has been completed
- PC17.** clear the work area and dispose, reuse or recycle left over materials according to legislation, regulations, codes of practice and job specification
- PC18.** clean and store tools and equipment according to manufacturer's recommendations and workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standards, policies, and procedures followed in the company relevant to employment and performance conditions
- KU2.** organization's departments, hierarchy, products, services
- KU3.** workplace safety requirements, hazard reporting and handling procedures
- KU4.** plan documents containing drainage details
- KU5.** how to identify the standard plumbing symbols used in sketches and blueprints
- KU6.** techniques of installing the water piping system in a building such as over ground piping, underground piping, piping embedded in concrete, concealed piping, wall mounted piping
- KU7.** installing wastewater and drainage plumbing for various fixtures
- KU8.** function of each component of a drainage system
- KU9.** standards applicable to the piping installation in plumbing
- KU10.** properties of water, including pressure and flow rates
- KU11.** capillary action, thermal expansion and fabrication techniques to prevent leaking installations
- KU12.** electrolysis and problems associated with the use of dissimilar metals
- KU13.** characteristics and the application of different pipe fittings and fixture supports, including fixing and jointing techniques
- KU14.** process of mains supply of water and drainage
- KU15.** layout of piping systems and types and grades of pipes and fittings
- KU16.** description of soil waste pipe, siphon pipe and vent pipe and their importance
- KU17.** types of supports, hangers and restraints, their properties and grades of fastening hardware such as studs, bolts and nuts
- KU18.** types of flooring for installations and levelling
- KU19.** piping and plumbing tools and equipment
- KU20.** standard measuring procedures such as center to center, end to center, and end to end
- KU21.** impact of accurate marking out on fabrication process, work time and finished work quality
- KU22.** measuring and marking dimensions and allowances on the pipes for fabrication
- KU23.** plumbing materials characteristics of various metal materials and their compatibility with different fabrication method
- KU24.** various fit off processes and their tools and principles

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- KU25.** installation process of pipes and fittings for various plumbing applications
- KU26.** test procedures to check proper functioning of the pipework installed
- KU27.** pre commissioning checks and procedures
- KU28.** application of mechanical and hydraulic principles for clearing blockages
- KU29.** corrosion protection such as coatings and tape
- KU30.** air lock and blockage removal in the pipes

Generic Skills (GS)

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

- GS1.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS2.** measure all dimensions used in plumbing in metric scale
- GS3.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS4.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS5.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS6.** plan one's daily tasks to achieve maximum productivity
- GS7.** be punctual and work as per agreed priorities
- GS8.** listen to customer's concerns and doubts carefully and address them
- GS9.** be courteous and polite with customers and team members
- GS10.** establish workable solutions for problems in hand in consultation with others and record them
- GS11.** breakdown relevant work process into its constituent activities for ease of analysis
- GS12.** identify ways to increase productivity and reduce errors

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of drainage systems</i>	4	8	-	-
PC1. identify the type of drainage piping systems and its components to be installed as appropriate for the type of building	-	-	-	-
PC2. use plumbing project plans to determine the location of various drainage components and the route of the water drainage piping and traps	-	-	-	-
PC3. calculate quantity, dimensions and type of materials required from design drawings/specifications	-	-	-	-
PC4. construct chambers to accommodate drainage systems	-	-	-	-
PC5. determine fitting requirements for installing various types of drainage pipes according to given specifications and site requirements	-	-	-	-
PC6. check if the area is prepared for laying the pipes for underground, above ground and overhead piping systems	-	-	-	-
<i>Perform installation of drainage systems</i>	7	14	-	5
PC7. install the various components of drainage system such as various pipes and their fittings, manholes, traps, cleanouts, catch basins, inspection chamber, soak pit etc.	-	-	-	-
PC8. perform fitting activities on various types of pipes such as stoneware (SW) pipes, polyvinyl chloride (PVC) pipes etc.	-	-	-	-
PC9. install stormwater and sub-soil drainage system	-	-	-	-
PC10. install different types of pumps used in sanitary and drainage systems such as submersible water pumps, dewatering pumps (for rainwater piping) etc.	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. install pipework for water and sewage treatment plant	-	-	-	-
<i>Post-installation activities</i>	4	8	-	-
PC12. test the installations for proper functioning	-	-	-	-
PC13. repair faulty drainage pipes and traps	-	-	-	-
PC14. ensure that all inspection openings and covers are fitted according to relevant standards and job specifications	-	-	-	-
PC15. backfill excavated areas to secure the installation	-	-	-	-
PC16. put required signages at the site after the plumbing task has been completed	-	-	-	-
PC17. clear the work area and dispose, reuse or recycle left over materials according to legislation, regulations, codes of practice and job specification	-	-	-	-
PC18. clean and store tools and equipment according to manufacturer's recommendations and workplace procedures	-	-	-	-
NOS Total	15	30	-	5



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National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0132
NOS Name	Install Drainage System
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	3
Version	2.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Qualification Pack

PSC/N0133: Install Plumbing Fixtures

Description

This unit deals in detail with installing plumbing fixtures in accordance with industry standards and site requirements.

Scope

The scope covers the following :

- Prepare for installation of fixtures
- Install sanitary fixtures, support and related accessories
- Perform post-Installation activities

Elements and Performance Criteria

Prepare for installation of fixtures

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

PC1. Plan the correct fixtures requirement, parts, and support material provided in the packing with the manufacturer's list or order form.

PC2. select the size, type, and quantity of fixture and trim for specific applications according to the given specifications

PC3. locate and mark the position of fixtures and fixture supports in structures

PC4. Ensure fixtures are level and securely fastened. Tighten connections without over-tightening, which can damage the fittings.

Install sanitary fixtures, support, and related accessories

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

PC5. cut the physical structures such as walls, and concrete in line with the correct markings and specifications for performing internal pipe installations

PC6. install supports for plumbing piping using correct tool to ensure grade, spacing, and alignment

PC7. install fixtures as per specifications without damage to pipework, the surrounding area.

PC8. Install and secure the sensor for touchless fittings and fixtures in the slot provided slot.

PC9. insert batteries for sensor-based fittings and fixtures safely and in compliance with the manufacturer's specifications

PC10. connect fixture to water supply, drainage and electricity supply & ensuring proper functioning, safety and compliance to manufacturer's specifications

PC11. perform installation of smart plumbing fixtures.

PC12. Perform Installation of smart sensors and automated systems to monitor and control water flow, temperature, and energy usage in real-time.

PC13. perform installation of dry wall modules and mounting of various plumbing fixtures

Perform post-Installation activities

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

Qualification Pack

- PC14.** plumb and level the supports and fixtures installed to ensure alignment and balance
- PC15.** check if all installations are properly aligned, supported and functioning
- PC16.** identify and rectify/ replace faults that are within limits of expertise and authority and escalate others to authorized personnel
- PC17.** clear the work area and dispose, reuse or recycle left over materials according to regulations and codes of practice
- PC18.** Handover to customer with full information and warranty card of products.
- PC19.** Handover to customer with full information and warranty card of products.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization's policies on quality and delivery standards, safety and hazards, integrity, dress code, etc.
- KU2.** individual's role in the workflow
- KU3.** risk and impact of not following defined procedures/work instructions
- KU4.** standards, regulations and codes of practice relevant to the plumbing industry
- KU5.** alignment and elevation techniques used in plumbing systems
- KU6.** types of plumbing related fixtures, supports (such as carriers, blocking and wall hangers) and fasteners (such as anchors, bolts and clamps)
- KU7.** tools and equipment such as hand tools & power tools including adjustable wrench, ball-peen hammer, basin wrench, chalk line, chisel, file, hacksaw, level, pliers, lineman, needle nose, water pump, groove lock, plumb bob, pry bars, rubber mallet, screwdrivers (complete set) and power tools such as power drill and screw gun
- KU8.** lifting/load shifting equipment including ladders, height scaffolding, elevated work platforms, hand trolleys, hoists and jacks
- KU9.** sealants and adhesives, plumber's putty
- KU10.** characteristics, materials, finishes, uses, limitations and performance measures of plumbing related fixtures
- KU11.** plumbing for various types of water closets
- KU12.** types of urinal, description of flushing, devices, automatic tanks
- KU13.** principles of siphon ball valves in a flushing system
- KU14.** types of wash basin, sinks, kitchen sink sizes and its description
- KU15.** types of fittings and fixtures that come with sensors
- KU16.**
 - basic working principal of sensor faucet
 -
- KU17.** principles of solenoid ball valves and sensors in touchless system
- KU18.** accessories required for installing wash basin, sizes of mirror, glass shelf, towel rail
- KU19.** description and sizes of pantry and laundry sinks, their waste outlets, bathtubs and its accessories
- KU20.** importance of introducing the traps of the sanitary fittings, both deep seal traps and low seal traps

Qualification Pack

- KU21.** conservancy system and water carriage system and the combination system
- KU22.** Knowledge of smart plumbing practices.
- KU23.** correct practices for installing plumbing fixtures
- KU24.** codes, standards and regulations applicable for the installation of plumbing fixtures

Generic Skills (GS)

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

- GS1.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS2.** measure all dimensions used in plumbing in metric scale
- GS3.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS4.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS5.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS6.** plan one's daily tasks to achieve maximum productivity
- GS7.** be punctual and work as per agreed priorities
- GS8.** listen to customer's concerns and doubts carefully and address them
- GS9.** be courteous and polite with customers and team members
- GS10.** establish workable solutions for problems in hand in consultation with others and record them
- GS11.** breakdown relevant work process into its constituent activities for ease of analysis
- GS12.** identify ways to increase productivity and reduce errors

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of fixtures</i>	4	8	-	-
PC1. Plan the correct fixtures requirement, parts, and support material provided in the packing with the manufacturer's list or order form.	-	-	-	-
PC2. select the size, type, and quantity of fixture and trim for specific applications according to the given specifications	-	-	-	-
PC3. locate and mark the position of fixtures and fixture supports in structures	-	-	-	-
PC4. Ensure fixtures are level and securely fastened. Tighten connections without over-tightening, which can damage the fittings.	-	-	-	-
<i>Install sanitary fixtures, support, and related accessories</i>	7	14	-	5
PC5. cut the physical structures such as walls, and concrete in line with the correct markings and specifications for performing internal pipe installations	-	-	-	-
PC6. install supports for plumbing piping using correct tool to ensure grade, spacing, and alignment	-	-	-	-
PC7. install fixtures as per specifications without damage to pipework, the surrounding area.	-	-	-	-
PC8. Install and secure the sensor for touchless fittings and fixtures in the slot provided slot.	-	-	-	-
PC9. insert batteries for sensor-based fittings and fixtures safely and in compliance with the manufacturer's specifications	-	-	-	-
PC10. connect fixture to water supply, drainage and electricity supply & ensuring proper functioning, safety and compliance to manufacturer's specifications	-	-	-	-
PC11. perform installation of smart plumbing fixtures.	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Perform Installation of smart sensors and automated systems to monitor and control water flow, temperature, and energy usage in real-time.	-	-	-	-
PC13. perform installation of dry wall modules and mounting of various plumbing fixtures	-	-	-	-
<i>Perform post-Installation activities</i>	4	8	-	-
PC14. plumb and level the supports and fixtures installed to ensure alignment and balance	-	-	-	-
PC15. check if all installations are properly aligned, supported and functioning	-	-	-	-
PC16. identify and rectify/ replace faults that are within limits of expertise and authority and escalate others to authorized personnel	-	-	-	-
PC17. clear the work area and dispose, reuse or recycle left over materials according to regulations and codes of practice	-	-	-	-
PC18. Handover to customer with full information and warranty card of products.	-	-	-	-
PC19. Handover to customer with full information and warranty card of products.	-	-	-	-
NOS Total	15	30	-	5



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0133
NOS Name	Install Plumbing Fixtures
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Qualification Pack

PSC/N0142: Perform Troubleshooting and Maintenance for Domestic Plumbing Fixtures and Systems

Description

This unit deals in detail with performing maintenance activities, identifying and rectifying faults in domestic plumbing systems and fixtures as per the standards.

Scope

The scope covers the following :

- Identify faults in domestic plumbing systems and fixtures
- Perform repair and maintenance activities
- Post-maintenance activities
- Adopt green Plumbing Practices

Elements and Performance Criteria

Identify faults in domestic plumbing systems and fixtures

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

PC1. Detect root cause for problem
PC2. detect blockages and damage in pipes, fitting and fixtures
PC3. detect reason for low flow low pressure

Perform repair and maintenance activities

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

PC4. Replace faulty pipe fitting & parts
PC5. remove air lock and blockages in the pipes that are installed
PC6. repair and maintain water supply tanks and valves
PC7. unclog drains and drain's strainer baskets
PC8. repair broken sewer, dripping faucets and fixtures that are not working properly
PC9. resolve leakages, loosening and jamming of fittings
PC10. implement measures to reduce noise in pipes and fixtures
PC11. inspect and maintain the septic systems on a timely basis
PC12. perform basic services for appliances such as water heaters, washing machines and dishwashers etc.

Post-maintenance activities

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

PC13. clean up spills quickly after the task has been completed
PC14. empty waste containers as per organizational procedures
PC15. discard oily rags and flammable materials as per industry practices
PC16. record daily logs in a specified format for activities such as maintenance and installation
PC17. guide customers on proper care and maintenance of plumbing systems

Qualification Pack

Adopt Green Plumbing Practices

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

- PC18.** Minimize water usage by using water-efficient fixtures and appliances.
- PC19.** Apply water leak prevention techniques
- PC20.** Use low toxicity and environment friendly materials
- PC21.** Maintain optimal water pressure to prevent waste and damage to the system.
- PC22.** Perform Insulation on pipes carrying hot water to minimize energy loss and improve efficiency.
- PC23.** Use locally sourced materials and prefabricated components to reduce transportation energy, and choose products with a lower carbon footprint.
- PC24.** Ensure that the plumbing system complies with relevant green building standards like LEED (Leadership in Energy and Environmental Design) or Green Building Certification.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization's policies on quality and delivery standards, safety and hazards, integrity, dress code, etc.
- KU2.** risk and impact of not following defined procedures/work instructions
- KU3.** organisational requirements of documentation for work
- KU4.** organisational policies on repair work w.r.t. cost, time, material, process, etc.
- KU5.** standards, regulations and codes of practice relevant to the plumbing industry
- KU6.** types of plumbing related tools, equipment, fixtures, pipes, fittings, supports, fasteners, etc.
- KU7.** various pipes used in plumbing such as metal pipes cast iron (CI), galvanized iron (GI), plastic pipes, polyvinyl chloride (PVC) pipes,
- KU8.** chlorinated polyvinyl chloride (CPVC), stoneware pipes, soft, semi soft and hard temper
- KU9.** SI system of measurement
- KU10.** characteristics and the application of different pipe fittings and fixture supports, including fixing and jointing techniques
- KU11.** process of mains supply of water and drainage and their plumbing
- KU12.** layout of piping systems
- KU13.** various fit off processes and their tools and principles
- KU14.** common plumbing problems with respect to fixtures, pipes and fittings and their remedial and preventive measures
- KU15.** test procedures to check proper functioning of the fixtures and pipework installed
- KU16.** application of mechanical and hydraulic principles for clearing blockages
- KU17.** corrosion protection such as coatings and tape
- KU18.** correct practices for troubleshooting and maintenance for plumbing fixtures and systems
- KU19.** Conduct assessments on the life-cycle impact of plumbing materials and systems to ensure they provide long-term sustainability.
- KU20.** Encourage occupants to adopt water- and energy-saving practices, such as using cold water for laundry and turning off taps when not in use.

Qualification Pack

KU21. Manage stormwater to prevent pollution and reduce water waste.

Generic Skills (GS)

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

- GS1.** write common words/signs and set phrases used in the work
- GS2.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS3.** measure all dimensions used in plumbing in metric scale
- GS4.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS5.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS6.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS7.** spot discrepancies or errors and select the most efficient solution
- GS8.** plan one's daily tasks to achieve maximum productivity
- GS9.** be punctual and work as per agreed priorities
- GS10.** listen to customer's concerns and doubts carefully and address them
- GS11.** be courteous and polite in communications with customers and team
- GS12.** establish workable solutions for problems in hand in consultation with others and record them
- GS13.** identify ways to improve quality of work and reduce errors

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify faults in domestic plumbing systems and fixtures</i>	5	10	-	2
PC1. Detect root cause for problem	-	-	-	-
PC2. detect blockages and damage in pipes, fitting and fixtures	-	-	-	-
PC3. detect reason for low flow low pressure	-	-	-	-
<i>Perform repair and maintenance activities</i>	5	10	-	2
PC4. Replace faulty pipe fitting & parts	-	-	-	-
PC5. remove air lock and blockages in the pipes that are installed	-	-	-	-
PC6. repair and maintain water supply tanks and valves	-	-	-	-
PC7. unclog drains and drain's strainer baskets	-	-	-	-
PC8. repair broken sewer, dripping faucets and fixtures that are not working properly	-	-	-	-
PC9. resolve leakages, loosening and jamming of fittings	-	-	-	-
PC10. implement measures to reduce noise in pipes and fixtures	-	-	-	-
PC11. inspect and maintain the septic systems on a timely basis	-	-	-	-
PC12. perform basic services for appliances such as water heaters, washing machines and dishwashers etc.	-	-	-	-
<i>Post-maintenance activities</i>	2	4	-	-
PC13. clean up spills quickly after the task has been completed	-	-	-	-
PC14. empty waste containers as per organizational procedures	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. discard oily rags and flammable materials as per industry practices	-	-	-	-
PC16. record daily logs in a specified format for activities such as maintenance and installation	-	-	-	-
PC17. guide customers on proper care and maintenance of plumbing systems	-	-	-	-
<i>Adopt Green Plumbing Practices</i>	3	6	-	1
PC18. Minimize water usage by using water-efficient fixtures and appliances.	-	-	-	-
PC19. Apply water leak prevention techniques	-	-	-	-
PC20. Use low toxicity and environment friendly materials	-	-	-	-
PC21. Maintain optimal water pressure to prevent waste and damage to the system.	-	-	-	-
PC22. Perform Insulation on pipes carrying hot water to minimize energy loss and improve efficiency.	-	-	-	-
PC23. Use locally sourced materials and prefabricated components to reduce transportation energy, and choose products with a lower carbon footprint.	-	-	-	-
PC24. Ensure that the plumbing system complies with relevant green building standards like LEED (Leadership in Energy and Environmental Design) or Green Building Certification.	-	-	-	-
NOS Total	15	30	-	5



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0142
NOS Name	Perform Troubleshooting and Maintenance for Domestic Plumbing Fixtures and Systems
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Qualification Pack

PSC/N0136: Apply Health and Safety Practices at the Workplace

Description

This unit is about practices to be executed at the workplace which is crucial for creating a safe and secure working environment that promotes the well-being of employees and minimizes the risk of accidents, injuries, and occupational illnesses. Here's a description outlining the key aspects of implementing health and safety practices at the workplace.

Scope

The scope covers the following :

- Follow safety measures to avoid accidents
- Daily inspection of tools and equipment
- Deal with emergencies

Elements and Performance Criteria

Follow safety measures to avoid accidents

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

PC1. identify risks and hazards at the workplace

PC2. wear personal protective equipment (PPE) as per the type of plumbing work

PC3. place protective barricades and signages around the pits and trenches

PC4. isolate the plumbing fittings and fixtures from electrical wiring to avoid accidents

PC5. adhere to organisational procedures for reporting hazards and incidents to relevant authorities

PC6. establish ventilation before entering underground work areas

PC7. work safely in and around trenches, elevated places and confined areas

PC8. ensure tools and hazardous materials are not left unattended

PC9. ensure good housekeeping in order to prevent hazards e.g. fire

PC10. dispose waste materials and used PPE according to regulations and codes of practice

Follow hygiene and sanitation practices

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

PC11. follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing etc.

PC12. clean and disinfect work area, materials/supplies, equipment etc. before and after use.

PC13. report hygiene and sanitation issues to appropriate authority

Use tools, equipment and materials safely

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

PC14. check that the tools, equipment and materials are in good condition and as per industry standards before use

PC15. use power tools and machinery that are grounded

PC16. replace or repair split or loose tools before use

Qualification Pack

PC17. store and transport various plumbing materials safely

Deal with emergencies

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

PC18. follow workplace emergency and evacuation procedures

PC19. use a fire extinguisher correctly

PC20. use safe methods to free a person from electrocution

PC21. administer appropriate first aid (such as CPR etc.) to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. possible causes of risk, hazard or accident in the workplace

KU2. organisational procedures for upkeep of tools and plumbing materials, health and safety

KU3. location of all the general health and safety equipment in the workplace

KU4. meaning of hazards and risks

KU5. hazardous environment encountered during work such as underground areas, elevated areas, areas with water and electricity supply, presence of biological waste, under construction sites etc.

KU6. work practices and precautions to control and prevent risks, hazards and accidents

KU7. importance of each personal protective equipment used such as eye protection mask, hard hats, gloves, apron, rubber boots etc.

KU8. tools and plumbing equipment as per latest industry standards

KU9. preventative and remedial actions to be taken in case of exposure to toxic materials

KU10. specific safety and health related problems faced in domestic, commercial and institutional setups

KU11. various causes of fire and precautionary activities to prevent the fire accident

KU12. techniques of using the different fire extinguishers

KU13. rescue techniques applied during a fire hazard

KU14. various types of safety signs and meaning

KU15. appropriate basic first aid treatment relevant to the condition e.g. shock, electrical shock, bleeding, minor burns, poisoning, eye injuries etc.

KU16. potential injuries and ill health associated with incorrect handing of tools and equipment

Generic Skills (GS)

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

GS1. write an accident/incident report in local language or English

GS2. read and comprehend labels, charts, signages, manuals, plumbing symbols etc.

GS3. question coworkers appropriately in order to clarify instructions and other issues

Qualification Pack

- GS4.** plan and organize the work schedule, work area, tools, equipment and materials for improved productivity
- GS5.** determine key considerations and priorities when faced with problems
- GS6.** seek official and authorised sources of help and guidance to resolve problems that cannot be solved at one's level of authority

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow safety measures to avoid accidents</i>	12	32	-	5
PC1. identify risks and hazards at the workplace	1	2	-	0.5
PC2. wear personal protective equipment (PPE) as per the type of plumbing work	1	2	-	0.5
PC3. place protective barricades and signages around the pits and trenches	1	4	-	0.5
PC4. isolate the plumbing fittings and fixtures from electrical wiring to avoid accidents	1	4	-	0.5
PC5. adhere to organisational procedures for reporting hazards and incidents to relevant authorities	1	4	-	0.5
PC6. establish ventilation before entering underground work areas	1	4	-	0.5
PC7. work safely in and around trenches, elevated places and confined areas	1	3	-	0.5
PC8. ensure tools and hazardous materials are not left unattended	1	3	-	0.5
PC9. ensure good housekeeping in order to prevent hazards e.g. fire	2	3	-	0.5
PC10. dispose waste materials and used PPE according to regulations and codes of practice	2	3	-	0.5
<i>Follow hygiene and sanitation practices</i>	3	8	-	2
PC11. follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing etc.	1	3	-	1
PC12. clean and disinfect work area, materials/supplies, equipment etc. before and after use.	1	3	-	0.5
PC13. report hygiene and sanitation issues to appropriate authority	1	2	-	0.5

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Use tools, equipment and materials safely</i>	7	8	-	1
PC14. check that the tools, equipment and materials are in good condition and as per industry standards before use	2	2	-	0.25
PC15. use power tools and machinery that are grounded	2	2	-	0.25
PC16. replace or repair split or loose tools before use	1	2	-	0.25
PC17. store and transport various plumbing materials safely	2	2	-	0.25
<i>Deal with emergencies</i>	8	12	-	2
PC18. follow workplace emergency and evacuation procedures	2	3	-	0.5
PC19. use a fire extinguisher correctly	2	3	-	0.5
PC20. use safe methods to free a person from electrocution	2	3	-	0.5
PC21. administer appropriate first aid (such as CPR etc.) to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.	2	3	-	0.5
NOS Total	30	60	-	10



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0136
NOS Name	Apply Health and Safety Practices at the Workplace
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing, Water Supply & Water Treatment & Quality Control, Sewerage & Sewage Treatment, Drainage, Water Harvesting & Ground Recharging, Firefighting & Safety Systems, Gas & Piping (Industrial / Medical), HVAC & Steam, Manufacturing of Plumbing / Firefighting Products, Micro-Hydel Power
Occupation	Plumbing Systems Installation and Maintenance, Designing, Sales, Material Handling, Plumbing Servicing, Plumbing Plant Operations
NSQF Level	4
Credits	0.5
Version	2.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Qualification Pack

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:

Qualification Pack

- 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.

Qualification Pack

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	-	-



Qualification Pack

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	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Qualification Pack

PSC/N0183: Perform Installation of Insulation on Pipes

Description

This NOS aims to provide participants with the knowledge and skills required to effectively install insulation on various types of pipes. Participants will learn about different insulation materials, techniques for measuring and cutting insulation, as well as best practices for installation to ensure energy efficiency and safety.

Scope

The scope covers the following :

- Identify the materials.
- perform measurement and cutting of insulation materials.
- Perform installation of insulation materials.
- health, safety and maintain records.

Elements and Performance Criteria

Identify the materials

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

PC1. Identify different types of insulation materials like fibre glass, mineral wood, foam insulation, cellulose, etc.

PC2. identify different types of covering for the protection of insulation material.

PC3. identify different types of fasteners and joints.

PC4. identify different types of sealings and jointing material.

PC5. identify the accessories such as insulation hanger, insulation saddle, etc.

PC6. identify the different types and grade of pipes

PC7. identify the different types of measuring devices

PC8. identify the different types of cutting and sealing devices.

. perform measurement and cutting of insulation materials.

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

PC9. identify the irregularities in pipe diameter, shape, or surface condition and rectify it.

PC10. ensure proper alignment and sealing of insulation joints.

PC11. perform different techniques for cutting such as nesting or pattern cutting to maximize the number of usable pieces from each insulation sheet or roll.

PC12. perform clean and smooth cutting of edges of insulation material to facilitate proper sealing and adhesion during installation.

PC13. avoid ragged or jagged edges

PC14. identify the correct measurement of material with required instruments.

Perform installation of insulation materials.

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

PC15. calculate the desired thickness of insulation material based on pipe diameter.

Qualification Pack

- PC16.** perform checking of thermal conductivity, density and durability.
- PC17.** perform tightly fit of insulation material around the pipes.
- PC18.** Ensure complete coverage of the pipe, including bends, joints, and fittings.
- PC19.** perform secured sealing of seams, joints, and edges of insulation to prevent air leakage and moisture ingress.
- PC20.** apply fastening methods such as adhesive bonding or mechanical fasteners correctly to ensure insulation stays in place.
- PC21.** check, insulation should not obstruct access to valves, controls, or other components of the piping system.
- PC22.** check for the properly installed insulation so that they should effectively reduce heat loss or gain, contributing to energy conservation goals.
- PC23.** Ensure compatibility of insulation material with the operating temperature and conditions of the piping system.

health, safety and maintain records.

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

- PC24.** adhere to safety protocols and regulations, including handling of insulation materials
- PC25.** perform the use of personal protective equipment (PPE).
- PC26.** Maintain records of insulation installation, including material specifications, measurements, and installation procedures.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Understand the characteristics and properties of different insulation materials commonly used for pipe insulation, such as fiberglass, mineral wool, foam, and reflective insulation.
- KU2.** Knowledge of how heat transferred through pipes via conduction, convection, and radiation, and how insulation helps mitigate these transfer mechanisms.
- KU3.** Understand the importance of pipe insulation in reducing heat loss or gain, improving energy efficiency, and lowering utility costs.
- KU4.** Knowledge of the operating temperature range of the piping system and selecting insulation materials.
- KU5.** Understand the role of insulation in preventing condensation and moisture buildup on pipes.
- KU6.** Ability to calculate the required thickness of insulation based on factors such as pipe diameter, operating temperature, and desired energy savings.
- KU7.** Proficiency in accurately measuring pipe dimensions and calculating insulation requirements.
- KU8.** Familiarity with various cutting techniques for insulation materials, such as using knives, shears, or saws.
- KU9.** Knowledge of proper surface preparation techniques, including cleaning and priming.
- KU10.** Understand different methods for installing insulation on pipes, such as wrapping, gluing, or using pre-formed sections.
- KU11.** Knowledge of sealing methods, such as tapes, adhesives, or mechanical fasteners, to ensure air-tightness.

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- KU12.** Familiarity with industry standards and regulations governing insulation thickness requirements for different piping systems and applications.
- KU13.** Understand the fire rating and flammability characteristics of insulation materials.
- KU14.** Awareness of environmental factors that may affect insulation performance, such as exposure to UV radiation, weather conditions, or chemical exposure.
- KU15.** Knowledge of jacketing materials, such as aluminum or stainless steel, used to protect insulation from mechanical damage, weathering, and UV degradation.
- KU16.** Understand the specific requirements for insulating pipes in specialized applications, such as cryogenic systems, high-temperature steam lines, or underground piping.
- KU17.** Awareness of the importance of regular inspection and maintenance of insulation systems to ensure continued performance and longevity.
- KU18.** Understand the cost implications of different insulation materials and installation methods, and selecting cost-effective solutions without compromising performance.
- KU19.** Familiarity with relevant building codes, standards, and regulations governing the installation of insulation on pipes, and ensuring compliance with these requirements.
- KU20.** Ability to identify common issues and problems with insulation installation, such as gaps, compression, or inadequate coverage, and implementing corrective measures to address these issues effectively.

Generic Skills (GS)

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

- GS1.** write common words/signs and set phrases used in the work
- GS2.** prepare checklists, reports and fill out forms in local language or Hindi/English
- GS3.** measure all dimensions used in plumbing in metric scale
- GS4.** perform arithmetic calculations of addition, subtraction, multiplication and division processes
- GS5.** read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi
- GS6.** state information, doubts and concerns about work related matters in local language or Hindi/English
- GS7.** spot discrepancies or errors and select the most efficient solution
- GS8.** plan one's daily tasks to achieve maximum productivity
- GS9.** be punctual and work as per agreed priorities
- GS10.** listen to customer's concerns and doubts carefully and address them
- GS11.** be courteous and polite in communications with customers and team
- GS12.** establish workable solutions for problems in hand in consultation with others and record them
- GS13.** identify ways to improve quality of work and reduce errors

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify the materials</i>	2	4	-	-
PC1. Identify different types of insulation materials like fibre glass, mineral wood, foam insulation, cellulose, etc.	-	-	-	-
PC2. identify different types of covering for the protection of insulation material.	-	-	-	-
PC3. identify different types of fasteners and joints.	-	-	-	-
PC4. identify different types of sealings and jointing material.	-	-	-	-
PC5. identify the accessories such as insulation hanger, insulation saddle, etc.	-	-	-	-
PC6. identify the different types and grade of pipes	-	-	-	-
PC7. identify the different types of measuring devices	-	-	-	-
PC8. identify the different types of cutting and sealing devices.	-	-	-	-
<i>. perform measurement and cutting of insulation materials.</i>	3	6	-	2
PC9. identify the irregularities in pipe diameter, shape, or surface condition and rectify it.	-	-	-	-
PC10. ensure proper alignment and sealing of insulation joints.	-	-	-	-
PC11. perform different techniques for cutting such as nesting or pattern cutting to maximize the number of usable pieces from each insulation sheet or roll.	-	-	-	-
PC12. perform clean and smooth cutting of edges of insulation material to facilitate proper sealing and adhesion during installation.	-	-	-	-
PC13. avoid ragged or jagged edges	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. identify the correct measurement of material with required instruments.	-	-	-	-
<i>Perform installation of insulation materials.</i>	8	16	-	3
PC15. calculate the desired thickness of insulation material based on pipe diameter.	-	-	-	-
PC16. perform checking of thermal conductivity, density and durability.	-	-	-	-
PC17. perform tightly fit of insulation material around the pipes.	-	-	-	-
PC18. Ensure complete coverage of the pipe, including bends, joints, and fittings.	-	-	-	-
PC19. perform secured sealing of seams, joints, and edges of insulation to prevent air leakage and moisture ingress.	-	-	-	-
PC20. apply fastening methods such as adhesive bonding or mechanical fasteners correctly to ensure insulation stays in place.	-	-	-	-
PC21. check, insulation should not obstruct access to valves, controls, or other components of the piping system.	-	-	-	-
PC22. check for the properly installed insulation so that they should effectively reduce heat loss or gain, contributing to energy conservation goals.	-	-	-	-
PC23. Ensure compatibility of insulation material with the operating temperature and conditions of the piping system.	-	-	-	-
<i>health, safety and maintain records.</i>	2	4	-	-
PC24. adhere to safety protocols and regulations, including handling of insulation materials	-	-	-	-
PC25. perform the use of personal protective equipment (PPE).	-	-	-	-
PC26. Maintain records of insulation installation, including material specifications, measurements, and installation procedures.	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	15	30	-	5



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	PSC/N0183
NOS Name	Perform Installation of Insulation on Pipes
Sector	Plumbing
Sub-Sector	Industrial / Non-Industrial Plumbing
Occupation	Plumbing Systems Installation and Maintenance
NSQF Level	4
Credits	3
Version	1.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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



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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
PSC/N0130.Prepare for Plumbing Installations and Maintenance	15	30	0	5	50	15
PSC/N0131.Install water Supply Systems	15	30	0	5	50	20
PSC/N0132.Install Drainage System	15	30	0	5	50	20
PSC/N0133.Install Plumbing Fixtures	15	30	0	5	50	20
PSC/N0142.Perform Troubleshooting and Maintenance for Domestic Plumbing Fixtures and Systems	15	30	0	5	50	10
PSC/N0136.Apply Health and Safety Practices at the Workplace	30	60	-	10	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	125	240	-	35	400	100

Optional: 1 Perform Installation of Insulation on Pipes

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
PSC/N0183.Perform Installation of Insulation on Pipes	15	30	0	5	50	15



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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
Total	15	30	-	5	50	15



Qualification Pack

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

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)	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.