

Qualification Pack



Micro-Irrigation Technician

QP Code: AGR/Q1002

Version: 3.0

NSQF Level: 4

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AGR/Q1002: Micro-Irrigation Technician

Brief Job Description

A Micro-Irrigation Technician is responsible for installation, testing and maintenance of a micro-irrigation system in the field to ensure uninterrupted supply of water for farm operations.

Personal Attributes

The individual must be physically fit to work for long durations. The person must have problem-solving skills with an ability to work collaboratively with others to achieve the work objectives. Ability to read, write and communicate clearly are the other important attributes required in this job role.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N1004: Prepare to set up the micro-irrigation system](#)
2. [AGR/N1005: Install the micro-irrigation system](#)
3. [AGR/N1006: Perform repair and maintenance of the micro-irrigation system](#)
4. [AGR/N9903: Maintain health and safety at the workplace](#)
5. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Precision Farming
Country	India
NSQF Level	4
Credits	13
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3142.0101

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Minimum Educational Qualification & Experience	11th Class (Pass) OR 10th Class with 2 Years of experience relevant experience OR 10th Class (Pass and pursuing continuous regular schooling) OR 8th Class with 3 Years of experience relevant experience OR Certificate-NSQF (Level- 4 (Irrigation Service Technician)) with 6 Months of experience relevant experience OR Certificate-NSQF (Level-3 with minimum education as 5th grade pass) with 2 Years of experience relevant experience OR Certificate-NSQF (Level-3.5) with 1 Year of experience relevant experience
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	30/12/2024
NSQC Approval Date	30/12/2021
Version	3.0
Reference code on NQR	2022/AGR/ASCI/06537
NQR Version	1.0

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AGR/N1004: Prepare to set up the micro-irrigation system

Description

This OS unit is about planning the installation of a micro-irrigation system at a farm for effective irrigation and water management.

Scope

The scope covers the following :

- Plan the micro-irrigation system
- Arrange the necessary resources

Elements and Performance Criteria

Plan the micro-irrigation System

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

- PC1.** identify the characteristics of soil, water and local climate at the site proposed for the installation of micro-irrigation system
- PC2.** evaluate the land gradient and elevation differences to select a suitable micro-irrigation system
- PC3.** measure the area to be irrigated along with the water needs of the proposed crop at different stages of its growth
- PC4.** select a suitable type of micro-irrigation system such as sprinkler irrigation, drip irrigation, spray irrigation, subsurface irrigation
- PC5.** plan optimum spacing between the drip lines, drip line emitters and the crop plants
- PC6.** prepare a design for the installation of micro-irrigation system
- PC7.** comply with the relevant regulatory requirements in the micro-irrigation plan

Arrange the necessary resources

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

- PC8.** identify the installation material, tools, equipment and Personal Protective Equipment (PPE) required for the installation of the selected micro-irrigation system
- PC9.** identify the relevant vendors that retail the required resources
- PC10.** procure the required installation material, tools, equipment and PPE based on the quality offered by the vendor
- PC11.** arrange for safe storage of the installation material, tools, equipment and PPE
- PC12.** maintain the record of purchase

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** regulatory requirements governing the installation of a micro-irrigation system
- KU2.** relevant documentation requirements

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- KU3.** different parameters to be assessed to plan the installation of a micro-irrigation system such as soil, climate and water characteristics
- KU4.** different types of micro-irrigation systems such as sprinkler irrigation, drip irrigation, spray irrigation, and subsurface irrigation
- KU5.** various material, tools, equipment and PPE required for the installation of a micro-irrigation system
- KU6.** basics of crop cultivation
- KU7.** water requirement for different types of crop
- KU8.** the process of planning a micro-irrigation system

Generic Skills (GS)

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

- GS1.** prepare work-related notes and records
- GS2.** read the relevant guides, manuals and literature to get updated information about the field of work
- GS3.** perform basic calculations
- GS4.** identify possible disruptions to work and take preventive measures
- GS5.** listen attentively to understand the speaker
- GS6.** co-ordinate with co-workers to achieve the work objectives
- GS7.** take quick decisions to deal with workplace emergencies and accidents
- GS8.** communicate politely and professionally
- GS9.** apply domain knowledge and experience to improve the quality of work

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan the micro-irrigation System</i>	20	25	-	15
PC1. identify the characteristics of soil, water and local climate at the site proposed for the installation of micro-irrigation system	-	-	-	-
PC2. evaluate the land gradient and elevation differences to select a suitable micro-irrigation system	-	-	-	-
PC3. measure the area to be irrigated along with the water needs of the proposed crop at different stages of its growth	-	-	-	-
PC4. select a suitable type of micro-irrigation system such as sprinkler irrigation, drip irrigation, spray irrigation, subsurface irrigation	-	-	-	-
PC5. plan optimum spacing between the drip lines, drip line emitters and the crop plants	-	-	-	-
PC6. prepare a design for the installation of micro-irrigation system	-	-	-	-
PC7. comply with the relevant regulatory requirements in the micro-irrigation plan	-	-	-	-
<i>Arrange the necessary resources</i>	10	15	-	15
PC8. identify the installation material, tools, equipment and Personal Protective Equipment (PPE) required for the installation of the selected micro-irrigation system	-	-	-	-
PC9. identify the relevant vendors that retail the required resources	-	-	-	-
PC10. procure the required installation material, tools, equipment and PPE based on the quality offered by the vendor	-	-	-	-
PC11. arrange for safe storage of the installation material, tools, equipment and PPE	-	-	-	-
PC12. maintain the record of purchase	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1004
NOS Name	Prepare to set up the micro-irrigation system
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Precision Farming
NSQF Level	4
Credits	3
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N1005: Install the micro-irrigation system

Description

This OS unit is about installing, testing and starting the operations of a micro-irrigation system.

Scope

The scope covers the following :

- Install the micro-irrigation system
- Carry out post-installation activities
- Optimise resource utilisation

Elements and Performance Criteria

Install the micro-irrigation system

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

- PC1.** create holes in the water tubes as per the requirement
- PC2.** lay the water tubes in the field as per the plan
- PC3.** secure the water tubes on the ground using ground stakes/ conduit brackets
- PC4.** install emitters/ sprayers/ foggers at the identified spots
- PC5.** set up the irrigation timer
- PC6.** apply cap on the other end of the main tube
- PC7.** connect the main water tube to the water outlet at the farm
- PC8.** connect vacuum breaker with the pressure regulator to prevent backflow of water
- PC9.** install the water-pump at the main water supply
- PC10.** install water filter to prevent silt and dirt from getting in the water tubes
- PC11.** fix flush valves at the identified spots to facilitate regular flushing of any deposits in the water tubes
- PC12.** install the fertigation equipment to deliver water mixed with fertilizers to plants
- PC13.** run clean water through the tubes to remove any dirt and debris inside them
- PC14.** test the micro-irrigation system to see if it functions as expected
- PC15.** perform troubleshooting for any issues identified with the micro-irrigation system
- PC16.** cover the water tubes with soil/ mulch as per the plan

Carry out post-installation activities

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

- PC17.** guide the farmer regarding the functioning, minor repair and maintenance and maintenance schedule of the micro-irrigation system
- PC18.** guide the farmer regarding the retrieval of micro-irrigation system after harvesting and installation before planting crop
- PC19.** carry out necessary documentation as per the organisational policy

Optimise resource utilisation

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

PC20. optimise the usage of water/ electricity/ relevant materials in various tasks and processes

PC21. connect the electrical tools and equipment safely and turn off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant documentation requirements

KU2. the process for the installation of a micro-irrigation system

KU3. various types of fittings and equipment necessary for the installation of a micro-irrigation system such as pumps and tubes

KU4. use of the relevant tools and equipment

KU5. how to troubleshoot various issues experienced with a micro-irrigation system

KU6. basic hydraulics like pressure, flow etc.

KU7. concept of fertigation, its advantages and the process to install a fertigation system

KU8. the SOP for testing the functioning of a micro-irrigation system

Generic Skills (GS)

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

GS1. prepare work-related notes and documents

GS2. listen attentively to understand the client requirements

GS3. communicate politely and professionally

GS4. read the relevant articles to get latest updates about the field of the work

GS5. take quick decision to deal with any emergencies/ accidents

GS6. plan and prioritise tasks to ensure timely completion

GS7. co-ordinate with co-workers to achieve work objectives

GS8. identify possible disruptions to work and take preventive measures

GS9. apply domain knowledge and experience to improve the quality of work

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Install the micro-irrigation system</i>	15	25	-	15
PC1. create holes in the water tubes as per the requirement	-	-	-	-
PC2. lay the water tubes in the field as per the plan	-	-	-	-
PC3. secure the water tubes on the ground using ground stakes/ conduit brackets	-	-	-	-
PC4. install emitters/ sprayers/ foggers at the identified spots	-	-	-	-
PC5. set up the irrigation timer	-	-	-	-
PC6. apply cap on the other end of the main tube	-	-	-	-
PC7. connect the main water tube to the water outlet at the farm	-	-	-	-
PC8. connect vacuum breaker with the pressure regulator to prevent backflow of water	-	-	-	-
PC9. install the water-pump at the main water supply	-	-	-	-
PC10. install water filter to prevent silt and dirt from getting in the water tubes	-	-	-	-
PC11. fix flush valves at the identified spots to facilitate regular flushing of any deposits in the water tubes	-	-	-	-
PC12. install the fertigation equipment to deliver water mixed with fertilizers to plants	-	-	-	-
PC13. run clean water through the tubes to remove any dirt and debris inside them	-	-	-	-
PC14. test the micro-irrigation system to see if it functions as expected	-	-	-	-
PC15. perform troubleshooting for any issues identified with the micro-irrigation system	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. cover the water tubes with soil/ mulch as per the plan	-	-	-	-
<i>Carry out post-installation activities</i>	10	10	-	10
PC17. guide the farmer regarding the functioning, minor repair and maintenance and maintenance schedule of the micro-irrigation system	-	-	-	-
PC18. guide the farmer regarding the retrieval of micro-irrigation system after harvesting and installation before planting crop	-	-	-	-
PC19. carry out necessary documentation as per the organisational policy	-	-	-	-
<i>Optimise resource utilisation</i>	5	5	-	5
PC20. optimise the usage of water/ electricity/ relevant materials in various tasks and processes	-	-	-	-
PC21. connect the electrical tools and equipment safely and turn off when not in use	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1005
NOS Name	Install the micro-irrigation system
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Precision Farming
NSQF Level	4
Credits	5
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N1006: Perform repair and maintenance of the micro-irrigation system

Description

This OS unit is about performing regular repair and maintenance of a micro-irrigation system.

Scope

The scope covers the following :

- Perform repair and maintenance
- Perform waste management

Elements and Performance Criteria

Perform repair and maintenance

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

- PC1.** examine the emitters for the required level of pressure
- PC2.** check the fertigation system and irrigation timer for correct functioning
- PC3.** remove the flush valves and water tube cap as per the SOP
- PC4.** run clean water through the water tubes to flush any deposits inside them
- PC5.** clean the water filter to remove any blockage inside it
- PC6.** carry out chlorine/ acid treatment to remove salts such carbonates, bi-carbonates, iron, calcium, etc.
- PC7.** set the emitters/ foggers/ sprinklers in the correct position for effective supply of water to the plants
- PC8.** identify damaged or malfunctioning micro-irrigation system components such as emitter, sprayer, fogger, water filter, water-tubes, etc.
- PC9.** replace the damaged or malfunctioning components as per the SOP
- PC10.** maintain the record of maintenance
- PC11.** schedule the next maintenance as per the maintenance schedule

Perform waste management

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

- PC12.** segregate waste into different categories
- PC13.** dispose the non-recyclable waste appropriately
- PC14.** deposit the recyclable and reusable material at the identified location

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant record-keeping requirements
- KU2.** the SOP for the repair and maintenance of a micro-irrigation system

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- KU3.** the process to detect faults and damages in a micro-irrigation system
- KU4.** common repair and maintenance needs of a micro-irrigation installation
- KU5.** approved cleaning material for use on a micro-irrigation system
- KU6.** correct handling of the relevant repair and maintenance tools and equipment
- KU7.** common faults with a fertigation system
- KU8.** appropriate maintenance schedule for micro-irrigation system
- KU9.** methods of recycling and disposing different types of waste
- KU10.** common sources of pollution and the ways to minimise it

Generic Skills (GS)

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

- GS1.** communicate clearly and politely
- GS2.** evaluate all solutions to a problem before selecting the best one
- GS3.** identify problems that may disrupt work and take preventive action within the limits of authority
- GS4.** maintain work-related records
- GS5.** read the relevant literature to get updated information about the field of work
- GS6.** plan and schedule tasks for effective time-management
- GS7.** listen attentively to understand the information/ instructions being given

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform repair and maintenance</i>	20	25	-	20
PC1. examine the emitters for the required level of pressure	-	-	-	-
PC2. check the fertigation system and irrigation timer for correct functioning	-	-	-	-
PC3. remove the flush valves and water tube cap as per the SOP	-	-	-	-
PC4. run clean water through the water tubes to flush any deposits inside them	-	-	-	-
PC5. clean the water filter to remove any blockage inside it	-	-	-	-
PC6. carry out chlorine/ acid treatment to remove salts such carbonates, bi-carbonates, iron, calcium, etc.	-	-	-	-
PC7. set the emitters/ foggers/ sprinklers in the correct position for effective supply of water to the plants	-	-	-	-
PC8. identify damaged or malfunctioning micro-irrigation system components such as emitter, sprayer, fogger, water filter, water-tubes, etc.	-	-	-	-
PC9. replace the damaged or malfunctioning components as per the SOP	-	-	-	-
PC10. maintain the record of maintenance	-	-	-	-
PC11. schedule the next maintenance as per the maintenance schedule	-	-	-	-
<i>Perform waste management</i>	10	15	-	10
PC12. segregate waste into different categories	-	-	-	-
PC13. dispose the non-recyclable waste appropriately	-	-	-	-
PC14. deposit the recyclable and reusable material at the identified location	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1006
NOS Name	Perform repair and maintenance of the micro-irrigation system
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Precision Farming
NSQF Level	4
Credits	2
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N9903: Maintain health and safety at the workplace

Description

This OS is about maintaining health and safety of self and other co-workers at the workplace

Scope

The scope covers the following :

- Maintain personal hygiene
- Maintain clean and safe workplace
- Administer appropriate emergency procedures

Elements and Performance Criteria

Maintain personal hygiene

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

- PC1.** wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals
- PC2.** wash the worn clothes with soap and sun dry before use next time
- PC3.** ensure the face is covered with mask or three layers of cloth-piece
- PC4.** follow the workplace sanitization norms including distancing from sick people

Maintain clean and safe workplace

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

- PC5.** carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor
- PC6.** wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy
- PC7.** follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards
- PC8.** assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices
- PC9.** sanitize equipment, tools and machinery before and after use
- PC10.** use equipment and materials safely and correctly and return the same to designated storage after use
- PC11.** dispose waste safely and correctly in the designated area
- PC12.** recognize risks to bystanders and take required action to reduce the risks
- PC13.** work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed
- PC14.** report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger
- PC15.** follow government / workplace advisories incase of outbreak of any disease/disaster

Administer appropriate emergency procedures

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

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- PC16.** follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements
- PC17.** use emergency equipment in accordance with manufacturer's specifications and workplace requirements
- PC18.** provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques
- PC19.** recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- PC20.** report details of first aid administered in accordance with workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** personal hygiene and fitness requirement
- KU7.** importance of sanitization of the workplace
- KU8.** types of Personal Protective Equipment (PPE) required at the workplace and their importance
- KU9.** the correct and safe way to use materials and equipment required for the work
- KU10.** the importance of good housekeeping at the workplace
- KU11.** safe waste disposal methods
- KU12.** methods for minimizing environmental damage during work
- KU13.** the risks to health and safety including contagious diseases and the measures to be taken to control those risks in the area of work
- KU14.** workplace procedures and requirements for the prevention and treatment of workplace injuries/illnesses.
- KU15.** basic emergency first aid procedure
- KU16.** local emergency services
- KU17.** why accidents, incidents and problems should be reported and the appropriate actions to be taken

Generic Skills (GS)

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

- GS1.** record the data as per the requirement
- GS2.** report problems to the appropriate personnel in a timely manner

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- GS3.** read instruction manual for hand tool and equipments
- GS4.** communicate clearly and effectively with co-workers, and other stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to personal hygiene and safety
- GS7.** schedule daily activities and draw up priorities
- GS8.** manage relationships with co-workers, manager and other stakeholders
- GS9.** assess situation and identify appropriate control measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain personal hygiene</i>	10	5	-	10
PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals	-	-	-	-
PC2. wash the worn clothes with soap and sun dry before use next time	-	-	-	-
PC3. ensure the face is covered with mask or three layers of cloth-piece	-	-	-	-
PC4. follow the workplace sanitization norms including distancing from sick people	-	-	-	-
<i>Maintain clean and safe workplace</i>	15	15	-	15
PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor	-	-	-	-
PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy	-	-	-	-
PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards	-	-	-	-
PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices	-	-	-	-
PC9. sanitize equipment, tools and machinery before and after use	-	-	-	-
PC10. use equipment and materials safely and correctly and return the same to designated storage after use	-	-	-	-
PC11. dispose waste safely and correctly in the designated area	-	-	-	-
PC12. recognize risks to bystanders and take required action to reduce the risks	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed	-	-	-	-
PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger	-	-	-	-
PC15. follow government / workplace advisories incase of outbreak of any disease/disaster	-	-	-	-
<i>Administer appropriate emergency procedures</i>	15	5	-	10
PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements	-	-	-	-
PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements	-	-	-	-
PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques	-	-	-	-
PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	-	-	-	-
PC20. report details of first aid administered in accordance with workplace procedures	-	-	-	-
NOS Total	40	25	-	35

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

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

Constitutional values - Citizenship

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

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

Becoming a Professional in the 21st Century

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

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

Basic English Skills

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

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

Career Development & Goal Setting

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

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

Communication Skills

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

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

Diversity & Inclusion

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

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

Financial and Legal Literacy

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

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

Essential Digital Skills

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

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

Entrepreneurship

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

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

Customer Service

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

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

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

Qualification Pack

- 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	-	-

Qualification Pack

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	-	-	-	-

Qualification Pack

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	NA
Next Review Date	27/05/2024
NSQC Clearance Date	27/05/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

Qualification Pack

(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
AGR/N1004.Prepare to set up the micro-irrigation system	30	40	-	30	100	25
AGR/N1005.Install the micro-irrigation system	30	40	-	30	100	30
AGR/N1006.Perform repair and maintenance of the micro-irrigation system	30	40	-	30	100	25
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	0	0	50	10
Total	150	175	0	0	450	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
PwD	Persons with Disabilities
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment
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.

Qualification Pack

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.