

Qualification Pack



Pulses Cultivator

QP Code: AGR/Q0104

Version: 3.0

NSQF Level: 4

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AGR/Q0104: Pulses Cultivator

Brief Job Description

A Pulses Cultivator undertakes the cultivation of pulses at the farm level. The individual is also responsible for harvesting and marketing the pulses. The person also undertakes integrated pest and disease management, along with weed management as part of the job role.

Personal Attributes

The individual must be physically fit to work for long durations. The person must be able to take decisions independently and work in coordination with others. The abilities to read, write and communicate well are the other important attributes required in this job role.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0118: Select and prepare the site and sow the pulse seeds](#)
2. [AGR/N0108: Carry out macro and micronutrient management of field crops](#)
3. [AGR/N0109: Manage weed growth in crop fields](#)
4. [AGR/N0110: Perform integrated pest and disease management for pulses](#)
5. [AGR/N0111: Perform irrigation management for field crops](#)
6. [AGR/N0120: Carry out harvesting, post-harvest processing and marketing of pulses](#)
7. [AGR/N9922: Engage in collective farming/activity](#)
8. [AGR/N9903: Maintain health and safety at the workplace](#)
9. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Food Crops)

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Country	India
NSQF Level	4
Credits	13
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6111.0401
Minimum Educational Qualification & Experience	<p>10th Class with 2 Years of experience relevant experience OR 10th Class (Pass and pursuing continuous regular schooling) OR 8th Class with 4 Years of experience relevant experience OR Certificate-NSQF (Level-4 (Trained on Certified on Paddy Farmer/Wheat cultivator/Maize Cultivator/Cereal Crop Grower)) with 6 Months of experience relevant experience OR Certificate-NSQF (Level-3) with 2 Years of experience relevant experience</p>
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	27/01/2025
NSQF Approval Date	27/01/2022
Version	3.0
Reference code on NQR	2022/AGR/ASCI/06530
NQR Version	1.0

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AGR/N0118: Select and prepare the site and sow the pulse seeds

Description

This OS unit is about selecting and preparing the site for the cultivation of pulses along with procuring and sowing the pulse seeds. It also covers resource optimisation, waste management and practising inclusion at work.

Scope

The scope covers the following :

- Select and prepare the site for the cultivation of pulses
- Procure and prepare the pulse seeds for sowing
- Prepare the field
- Sow the pulse seeds
- Optimise resource utilisation
- Perform waste management
- Practice inclusion at work

Elements and Performance Criteria

Select and prepare the site for the cultivation of pulses

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

- PC1.** check the site has conducive climatic conditions for the cultivation of pulses and is free from limiting factors such as flooding, drought, extreme heat and cold
- PC2.** coordinate with an authorised lab to determine if the soil is suitable for the cultivation of pulses
- PC3.** ensure the site is accessible and has availability of quality water, labour and other inputs
- PC4.** identify the risks associated with the cultivation of pulses at the site and take appropriate preventive measures

Procure and prepare the pulse seeds for sowing

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

- PC5.** select the appropriate variety of pulses to be cultivated based on the climate, soil condition, time of planting, cultivation duration, marketability, etc.
- PC6.** procure quality pulse seeds from a government-approved source in the required quantity
- PC7.** treat the pulse seeds using the recommended insecticide, pesticide or fungicide in the prescribed dose
- PC8.** remove and dispose the damaged/ diseased seeds
- PC9.** store the treated seeds at the recommended temperature and humidity, ensuring hygienic conditions in the storage area

Prepare the field

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

- PC10.** remove all the weeds and waste materials from the field
- PC11.** identify the soil type and carry out ploughing in the field to achieve the required tilt

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- PC12.** level the field appropriately to ensure uniformly graded field
- PC13.** create ridges and furrows in the field to avoid waterlogging
- PC14.** apply the recommended organic manure in the field in an appropriate quantity
- PC15.** check the soil's pH level using the pH meter and apply lime, gypsum or other relevant treatment in an appropriate quantity to adjust the pH

Sow the pulse seeds

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

- PC16.** select an appropriate method for sowing pulse seeds such as broadcasting or mechanised sowing
- PC17.** sow the pulse seeds at the appropriate seed rate using the relevant tools and implements
- PC18.** maintain the recommended planting depth and density to achieve the healthy growth of plants
- PC19.** carry out intercropping with a suitable crop to achieve a higher yield

Optimise resource utilisation

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

- PC20.** optimise the usage of water and other resources in various tasks and processes
- PC21.** plug water leakages to prevent its wastage

Perform waste management

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

- PC22.** segregate waste into appropriate categories
- PC23.** recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** various pulse varieties and hybrids such as green gram, red gram, Bengal gram, beans, peas, etc.
- KU2.** the criteria for selecting a site for the cultivation of pulses
- KU3.** various agro-climatic zones in India suitable for the cultivation of pulses
- KU4.** the site, climate, soil type, soil fertility, nature of subsoil and soil depth suited for growing pulses
- KU5.** the process of getting the soil sample tested through an authorised lab to determine the soil's suitability for the cultivation of pulses
- KU6.** various inputs required for the cultivation of pulses such as water, fertilisers, pesticides, labour, etc.
- KU7.** the use of various tools and implements for the preparation of field for the cultivation of pulses, such as chisel plough, disc plough, subsoiler, tiller, harrow, cultivator, etc.
- KU8.** the importance of preparing the field according to the soil type
- KU9.** the appropriate tillage required for sowing pulse seeds
- KU10.** the importance of levelling the field for uniform and efficient irrigation
- KU11.** the benefits of creating ridges and furrows

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- KU12.** how to use a pH meter and adjust the soil's pH
- KU13.** the criteria for selecting pulses varieties to cultivate such as yield quantity and period, climate along with resistance to various pests, diseases and abiotic stress, etc.
- KU14.** the appropriate time for sowing pulse seeds based on the moisture content in the soil, precipitation, humidity, etc.
- KU15.** the importance of procuring seeds from a government-approved source and the prevalent market prices for different varieties
- KU16.** the process of treating pulse seeds before sowing
- KU17.** the appropriate temperature and humidity for storing the pulse seeds before and after treatment
- KU18.** how to recognise hard and diseased pulse seeds
- KU19.** the recommended seed rate for different varieties of pulses
- KU20.** different methods for sowing pulse seeds such as broadcasting and mechanised sowing
- KU21.** use of the relevant tools and implements for sowing pulse seeds
- KU22.** recommended planting density to be maintained while sowing pulse seeds
- KU23.** different crops suitable for intercropping with pulses
- KU24.** benefits of resource optimisation and different ways to optimise resources
- KU25.** the criteria for segregating waste into appropriate categories
- KU26.** how to recycle and dispose different types of waste

Generic Skills (GS)

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

- GS1.** write work-related notes and maintain the relevant records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the information/ instructions being shared
- GS4.** communicate politely and professionally
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one
- GS7.** co-ordinate with the co-workers to achieve the work objectives
- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies/ accidents

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select and prepare the site for the cultivation of pulses</i>	4	6	-	4
PC1. check the site has conducive climatic conditions for the cultivation of pulses and is free from limiting factors such as flooding, drought, extreme heat and cold	-	-	-	-
PC2. coordinate with an authorised lab to determine if the soil is suitable for the cultivation of pulses	-	-	-	-
PC3. ensure the site is accessible and has availability of quality water, labour and other inputs	-	-	-	-
PC4. identify the risks associated with the cultivation of pulses at the site and take appropriate preventive measures	-	-	-	-
<i>Procure and prepare the pulse seeds for sowing</i>	4	4	-	4
PC5. select the appropriate variety of pulses to be cultivated based on the climate, soil condition, time of planting, cultivation duration, marketability, etc.	-	-	-	-
PC6. procure quality pulse seeds from a government-approved source in the required quantity	-	-	-	-
PC7. treat the pulse seeds using the recommended insecticide, pesticide or fungicide in the prescribed dose	-	-	-	-
PC8. remove and dispose the damaged/ diseased seeds	-	-	-	-
PC9. store the treated seeds at the recommended temperature and humidity, ensuring hygienic conditions in the storage area	-	-	-	-
<i>Prepare the field</i>	6	10	-	8
PC10. remove all the weeds and waste materials from the field	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. identify the soil type and carry out ploughing in the field to achieve the required tilt	-	-	-	-
PC12. level the field appropriately to ensure uniformly graded field	-	-	-	-
PC13. create ridges and furrows in the field to avoid waterlogging	-	-	-	-
PC14. apply the recommended organic manure in the field in an appropriate quantity	-	-	-	-
PC15. check the soil's pH level using the pH meter and apply lime, gypsum or other relevant treatment in an appropriate quantity to adjust the pH	-	-	-	-
<i>Sow the pulse seeds</i>	6	4	-	6
PC16. select an appropriate method for sowing pulse seeds such as broadcasting or mechanised sowing	-	-	-	-
PC17. sow the pulse seeds at the appropriate seed rate using the relevant tools and implements	-	-	-	-
PC18. maintain the recommended planting depth and density to achieve the healthy growth of plants	-	-	-	-
PC19. carry out intercropping with a suitable crop to achieve a higher yield	-	-	-	-
<i>Optimise resource utilisation</i>	4	8	-	4
PC20. optimise the usage of water and other resources in various tasks and processes	-	-	-	-
PC21. plug water leakages to prevent its wastage	-	-	-	-
<i>Perform waste management</i>	6	8	-	4
PC22. segregate waste into appropriate categories	-	-	-	-
PC23. recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner	-	-	-	-

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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/N0118
NOS Name	Select and prepare the site and sow the pulse seeds
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

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AGR/N0108: Carry out macro and micronutrient management of field crops

Description

This OS unit is about managing the macro and micronutrient needs of field crops to ensure their optimum growth.

Scope

The scope covers the following :

- Determine the macro and micronutrients requirements
- Apply fertilisers to the soil
- Perform soil conservation

Elements and Performance Criteria

Determine the macro and micronutrients requirements

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

- PC1.** coordinate with an authorised lab to get the soil sample tested, ensuring the sample is collected from the field, packed and labelled as per the applicable procedure
- PC2.** interpret the soil analysis report to determine the micro and macronutrients requirements of the soil based on the planned crop variety or coordinate with an expert for the purpose
- PC3.** select the appropriate organic and inorganic fertilisers, ensuring they contain the required nutrients in the recommended quantity
- PC4.** prepare organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions, ensuring personal safety

Apply fertilisers to the soil

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

- PC5.** prepare the mixture of liquid fertilisers for application in the field, using them in the recommended quantity
- PC6.** prepare the field for the application of fertilisers
- PC7.** apply organic and inorganic fertilisers containing the required macro and micronutrients to the soil in the recommended dose
- PC8.** regulate the dose of fertiliser according to the crop cycle
- PC9.** maintain the record of fertilisers used in the field

Perform soil conservation

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

- PC10.** prepare a soil nutrition supplementation calendar based on the stages of the crop's growth
- PC11.** follow the recommended practices for soil conservation, such as mulching to conserve soil moisture and application of organic fertilisers

Knowledge and Understanding (KU)

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The individual on the job needs to know and understand:

- KU1.** the basic concepts of plant nutrition and soil fertility
- KU2.** different types of macro and micronutrients, their properties and functions
- KU3.** common symptoms of nutrient deficiency in plants
- KU4.** the use of different types of green manure and nitrogen-fixing crops
- KU5.** the process of soil sampling and testing
- KU6.** how to interpret the soil analysis report to determine the macro and micronutrient requirements of the soil
- KU7.** different soil types, their advantages and disadvantages with reference to the presence of various nutrients
- KU8.** how to prepare the mixture of liquid fertilisers, using them in the recommended quantity
- KU9.** how to prepare the field for the application of fertilisers
- KU10.** the appropriate time, methods and dose for the application of different types of fertilisers for a variety of crops
- KU11.** the importance of regulating the dose of fertiliser according to the crop cycle
- KU12.** importance of soil conservation and various soil conservation practices
- KU13.** the importance of getting the soil tested through a government-approved soil-testing laboratory to determine the macro and micronutrients present in it, and the requirement of adding the nutrients manually
- KU14.** varieties of organic and inorganic fertilisers to be applied to the soil to improve its fertility, and the nutrient content in them
- KU15.** the process of preparing organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions
- KU16.** how to apply organic and inorganic fertilisers to the soil and the recommended dose to be used
- KU17.** the harmful effects of over-dosage of fertilisers
- KU18.** applicable documentation requirements
- KU19.** the process of preparing a soil nutrition supplementation calendar based on the stages of the crop's growth

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** communicate politely and professionally
- GS3.** read the relevant literature to learn about the latest developments in the field of work
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** co-ordinate with the co-workers to achieve the work objectives
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** identify possible disruptions to work and take appropriate preventive measures



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GS9. take quick decisions to deal with workplace emergencies/ accidents

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Determine the macro and micronutrients requirements</i>	12	10	-	8
PC1. coordinate with an authorised lab to get the soil sample tested, ensuring the sample is collected from the field, packed and labelled as per the applicable procedure	-	-	-	-
PC2. interpret the soil analysis report to determine the micro and macronutrients requirements of the soil based on the planned crop variety or coordinate with an expert for the purpose	-	-	-	-
PC3. select the appropriate organic and inorganic fertilisers, ensuring they contain the required nutrients in the recommended quantity	-	-	-	-
PC4. prepare organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions, ensuring personal safety	-	-	-	-
<i>Apply fertilisers to the soil</i>	10	16	-	10
PC5. prepare the mixture of liquid fertilisers for application in the field, using them in the recommended quantity	-	-	-	-
PC6. prepare the field for the application of fertilisers	-	-	-	-
PC7. apply organic and inorganic fertilisers containing the required macro and micronutrients to the soil in the recommended dose	-	-	-	-
PC8. regulate the dose of fertiliser according to the crop cycle	-	-	-	-
PC9. maintain the record of fertilisers used in the field	-	-	-	-
<i>Perform soil conservation</i>	8	14	-	12
PC10. prepare a soil nutrition supplementation calendar based on the stages of the crop's growth	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow the recommended practices for soil conservation, such as mulching to conserve soil moisture and application of organic fertilisers	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0108
NOS Name	Carry out macro and micronutrient management of field crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

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AGR/N0109: Manage weed growth in crop fields

Description

This OS unit is about managing the growth of weeds in crop fields. It covers both preventive and remedial measures for weed control.

Scope

The scope covers the following :

- Identify weed growth
- Perform weed management

Elements and Performance Criteria

Identify weed growth

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

- PC1.** inspect the field, bunds, thrashing yard, granary, composting area, and irrigation and drainage channels periodically to identify weed growth
- PC2.** maintain the record of observations with respect to weed identification and their growth

Perform weed management

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

- PC3.** select an appropriate combination of different types of intercultural and mechanical methods for effective weed control such as trash mulching, solarisation and pasteurisation
- PC4.** select and prepare the recommended herbicide/ bio-herbicide solution suitable to the crop
- PC5.** spray the herbicide/ bio-herbicide safely in the recommended dose
- PC6.** remove weeds manually using the appropriate hand tools and implements, as required
- PC7.** retain the weeds of importance during the weeding process
- PC8.** maintain the herbicides and herbicide application equipment separately to prevent cross-contamination with other chemicals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the critical period for organic weed control, reducing the dependence on herbicides and weedicides
- KU2.** the adverse effect of different types of weed on crop growth such as grass, broad leaves, sedges
- KU3.** different weed control methods such as preventative, intercultural, mechanical, biological and chemicals
- KU4.** advantages and disadvantages of different weeding methods
- KU5.** the critical period of crop-weed competition
- KU6.** different manual weeding techniques

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- KU7.** the use of relevant weeding equipment such as hoe and spade
- KU8.** use of pre-emergent and post-emergent herbicides
- KU9.** differences between blanket and spot application of herbicides
- KU10.** the process of soil solarisation and pasteurisation
- KU11.** environmental norms to be adhered to during herbicide application
- KU12.** the effect of herbicide residue on different types of crop
- KU13.** ways to minimise pollution caused by overuse of herbicides
- KU14.** the importance of inspecting the field regularly to identify weed growth
- KU15.** the appropriate combination of different types of intercultural and mechanical methods for effective weed control such as solarisation and pasteurisation
- KU16.** the process of selecting and preparing the recommended herbicide/ bio-herbicide solution suitable to the crop
- KU17.** how to spray herbicide/ bio-herbicide safely on the crop
- KU18.** the importance of retaining the weeds of importance during the weeding process
- KU19.** the importance of maintaining the herbicides and herbicide application equipment separately to prevent cross-contamination with other chemicals

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant guides, manuals and literature to get the latest updates about the field of work
- GS3.** communicate clearly and politely
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify effective solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions in case of an emergency/ accident
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify weed growth</i>	10	12	-	14
PC1. inspect the field, bunds, thrashing yard, granary, composting area, and irrigation and drainage channels periodically to identify weed growth	-	-	-	-
PC2. maintain the record of observations with respect to weed identification and their growth	-	-	-	-
<i>Perform weed management</i>	20	28	-	16
PC3. select an appropriate combination of different types of intercultural and mechanical methods for effective weed control such as trash mulching, solarisation and pasteurisation	-	-	-	-
PC4. select and prepare the recommended herbicide/ bio-herbicide solution suitable to the crop	-	-	-	-
PC5. spray the herbicide/ bio-herbicide safely in the recommended dose	-	-	-	-
PC6. remove weeds manually using the appropriate hand tools and implements, as required	-	-	-	-
PC7. retain the weeds of importance during the weeding process	-	-	-	-
PC8. maintain the herbicides and herbicide application equipment separately to prevent cross- contamination with other chemicals	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0109
NOS Name	Manage weed growth in crop fields
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

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AGR/N0110: Perform integrated pest and disease management for pulses

Description

This OS unit is about performing integrated pest management for pulses and taking various measures to prevent and control insects, pests, and diseases in it.

Scope

The scope covers the following :

- Follow the relevant preventive measures
- Identify pests and disease in pulses
- Identify and apply the necessary treatment

Elements and Performance Criteria

Follow the relevant preventive measures

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

- PC1.** use pest and disease-resistant varieties of pulses
- PC2.** carry out crop rotation with suitable crops
- PC3.** follow the recommended practices to restrict the entry of pathogens into the field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly
- PC4.** follow the relevant preventive techniques according to the cultivar such as light trap, bird perch, sticky traps, etc.
- PC5.** identify and remove the diseased crop to prevent the spread of pest and disease to healthy crop
- PC6.** use the recommended combination of biological, mechanical and chemical control methods for effective pest and disease prevention

Identify pests and disease in pulses

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

- PC7.** follow the recommended Integrated Pest Management (IPM) methods such as light and pheromone traps to identify the presence and population of pests, insects and vectors such as pod borers, hairy caterpillar, aphids, stem fly, whitefly, thrips, beetles, nematodes, etc.
- PC8.** conduct regular field visits to identify major pulse diseases such as leaf spot, leaf blight, anthracnose, Powdery mildew, root rot, rust, yellow mosaic, etc.
- PC9.** identify the symptoms of pests and disease and determine the mode of pest and disease transfer
- PC10.** identify the part of the crop affected by pests and disease
- PC11.** determine the stage of pest and disease incidence along with the extent of damage and economic threshold levels (ETL) of the pests
- PC12.** check and document the pest
- PC13.** co-ordinate with the agricultural extension service agents and diagnostic clinics to determine the causal organism for the disease and its treatment

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Identify and apply the necessary treatment

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

- PC14.** identify natural enemies of the pulses pests such as ladybird, ground beetles, hoverfly, parasitoids and adopt them for pest control according to the advice of agricultural extension service workers, Krishi Vigyan Kendra (KVK), diagnostic clinics, etc.
- PC15.** select the appropriate Integrated Pest Management (IPM) techniques for removing the identified pests and disease such as trash mulching, de-trashing, egg destruction, bund freeing, water draining, usage of bio-control agents, etc.
- PC16.** apply the recommended treatment as per the prescription to remove pests and disease
- PC17.** follow the recommended safety practices while applying any treatment, such as using the relevant PPE
- PC18.** maintain the record of the use of any pesticides, insecticides and any other treatment

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** various types of diseases found in pulses and their symptoms
- KU2.** different biotic and abiotic factors causing diseases and disorders in plants
- KU3.** different mode of transmissions of disease such as implements, vectors, rain, wind
- KU4.** the importance of adopting safe production methods for safe produce
- KU5.** advantages of biological control of insects, pest & diseases, bio-pesticides and pheromones used in IPM (Integrated Pest Management)
- KU6.** minimum residue levels and Protected Health Information (PHI) for different types of pesticides
- KU7.** use of the pesticide spraying tools and equipment
- KU8.** national and international standards on pesticide residues
- KU9.** the benefits of using pest and disease-resistant varieties of pulses
- KU10.** recommended practices to restrict the entry of pathogens into the field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly
- KU11.** the practice of crop rotation with suitable crops
- KU12.** the importance of identifying and removing the diseased crop to prevent the spread of pest and disease to the healthy crop
- KU13.** use of the recommended combination of biological, mechanical and chemical control methods for effective pest and disease prevention such as traps, sticky plates etc
- KU14.** how to identify different types of pests in pulses pod borers, hairy caterpillar, aphids, stem fly, whitefly, thrips, beetles, nematodes, etc.
- KU15.** how to identify plant disease vectors and major pulses diseases such as leaf spot, leaf blight, anthracnose, Powdery mildew, root rot, rust, yellow mosaic, etc.
- KU16.** the process of determining the stage of pest incidence along with the extent of damage and economic threshold levels (ETL) of the pests
- KU17.** use of IPM methods such as light and pheromone traps to identify the presence and population of insects and vectors
- KU18.** the process of determining the causal organism for the disease and its treatment

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- KU19.** natural enemies of the pest such as ladybird, ground beetles, hoverfly and the benefits of adopting them for pest control
- KU20.** the importance of applying the recommended treatment as per the prescription and maintaining the record of their use
- KU21.** the importance of using the recommended PPE while applying harmful chemicals
- KU22.** ways to minimise pollution caused due to overuse of pesticides
- KU23.** applicable record-keeping practices for effective pest and disease management such as the preparation of pest calendar
- KU24.** the process of preparing various bio-pesticides
- KU25.** the use of appropriate tools and equipment for pest and disease management

Generic Skills (GS)

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

- GS1.** write work-related notes
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the information/ instructions being shared
- GS4.** communicate politely and professionally
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one
- GS7.** co-ordinate with the co-workers to achieve the work objectives
- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies/ accidents

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow the relevant preventive measures</i>	12	16	-	8
PC1. use pest and disease-resistant varieties of pulses	-	-	-	-
PC2. carry out crop rotation with suitable crops	-	-	-	-
PC3. follow the recommended practices to restrict the entry of pathogens into the field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly	-	-	-	-
PC4. follow the relevant preventive techniques according to the cultivar such as light trap, bird perch, sticky traps, etc.	-	-	-	-
PC5. identify and remove the diseased crop to prevent the spread of pest and disease to healthy crop	-	-	-	-
PC6. use the recommended combination of biological, mechanical and chemical control methods for effective pest and disease prevention	-	-	-	-
<i>Identify pests and disease in pulses</i>	8	14	-	12
PC7. follow the recommended Integrated Pest Management (IPM) methods such as light and pheromone traps to identify the presence and population of pests, insects and vectors such as pod borers, hairy caterpillar, aphids, stem fly, whitefly, thrips, beetles, nematodes, etc.	-	-	-	-
PC8. conduct regular field visits to identify major pulse diseases such as leaf spot, leaf blight, anthracnose, Powdery mildew, root rot, rust, yellow mosaic, etc.	-	-	-	-
PC9. identify the symptoms of pests and disease and determine the mode of pest and disease transfer	-	-	-	-
PC10. identify the part of the crop affected by pests and disease	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. determine the stage of pest and disease incidence along with the extent of damage and economic threshold levels (ETL) of the pests	-	-	-	-
PC12. check and document the pest	-	-	-	-
PC13. co-ordinate with the agricultural extension service agents and diagnostic clinics to determine the causal organism for the disease and its treatment	-	-	-	-
<i>Identify and apply the necessary treatment</i>	10	10	-	10
PC14. identify natural enemies of the pulses pests such as ladybird, ground beetles, hoverfly, parasitoids and adopt them for pest control according to the advice of agricultural extension service workers, Krishi Vigyan Kendra (KVK), diagnostic clinics, etc.	-	-	-	-
PC15. select the appropriate Integrated Pest Management (IPM) techniques for removing the identified pests and disease such as trash mulching, de-trashing, egg destruction, bund freeing, water draining, usage of bio-control agents, etc.	-	-	-	-
PC16. apply the recommended treatment as per the prescription to remove pests and disease	-	-	-	-
PC17. follow the recommended safety practices while applying any treatment, such as using the relevant PPE	-	-	-	-
PC18. maintain the record of the use of any pesticides, insecticides and any other treatment	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0110
NOS Name	Perform integrated pest and disease management for pulses
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N0111: Perform irrigation management for field crops

Description

This OS unit is about performing irrigation management of field crops.

Scope

The scope covers the following :

- Prepare for field irrigation
- Irrigate the field
- Manage the water usage

Elements and Performance Criteria

Prepare for field irrigation

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

- PC1.** collect a water sample from the source of irrigation and coordinate with an authorised lab to get it tested
- PC2.** follow the measures recommended by the lab to improve the water quality
- PC3.** set up an appropriate irrigation system such as surface irrigation, drip irrigation, sub-surface irrigation system based on the requirement of the specific field crop

Irrigate the field

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

- PC4.** irrigate the field according to the recommended irrigation schedule for the crop, ensuring there is adequate water supply at various stages of crop's growth
- PC5.** maintain the record of field irrigation to ensure irrigation as per the schedule
- PC6.** follow the recommended practices to prevent over and under-irrigation, ensuring there is no waterlogging at any stage of the crop's growth

Manage the water usage

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

- PC7.** follow the recommended practices for effective drainage of excess water from the field
- PC8.** maintain the recommended level of water in the soil to prevent the harmful effects of inappropriate levels of moisture in it
- PC9.** plug water spills and leakages to prevent its wastage

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the timing and method of irrigation appropriate for a given soil type and climatic conditions
- KU2.** the quantity of water required for different types of crops and its effect on the yield
- KU3.** the importance of sampling and testing irrigation water through an authorised lab to determine its quality

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- KU4.** various measures to be followed to improve the water quality
- KU5.** the process of setting up different types of irrigation systems such as surface irrigation, drip irrigation, sub-surface irrigation system, etc.
- KU6.** the advantages and disadvantages of using different types of irrigation systems
- KU7.** the importance of irrigating the field according to the recommended irrigation schedule for the crop and the factors to be considered in scheduling irrigation
- KU8.** the recommended practices to be followed to prevent over and under-irrigation
- KU9.** the recommended practices to be followed for effective drainage of excess water from the field
- KU10.** the importance of maintaining the recommended level of water in the soil to prevent the harmful effects caused by inappropriate levels of moisture
- KU11.** various practices to be followed to optimise the usage of water and prevent its wastage

Generic Skills (GS)

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

- GS1.** write work-related notes
- GS2.** read the relevant guides, manuals and literature to get the latest information about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for field irrigation</i>	12	16	-	10
PC1. collect a water sample from the source of irrigation and coordinate with an authorised lab to get it tested	-	-	-	-
PC2. follow the measures recommended by the lab to improve the water quality	-	-	-	-
PC3. set up an appropriate irrigation system such as surface irrigation, drip irrigation, sub-surface irrigation system based on the requirement of the specific field crop	-	-	-	-
<i>Irrigate the field</i>	8	12	-	12
PC4. irrigate the field according to the recommended irrigation schedule for the crop, ensuring there is adequate water supply at various stages of crop's growth	-	-	-	-
PC5. maintain the record of field irrigation to ensure irrigation as per the schedule	-	-	-	-
PC6. follow the recommended practices to prevent over and under-irrigation, ensuring there is no waterlogging at any stage of the crop's growth	-	-	-	-
<i>Manage the water usage</i>	10	12	-	8
PC7. follow the recommended practices for effective drainage of excess water from the field	-	-	-	-
PC8. maintain the recommended level of water in the soil to prevent the harmful effects of inappropriate levels of moisture in it	-	-	-	-
PC9. plug water spills and leakages to prevent its wastage	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0111
NOS Name	Perform irrigation management for field crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

Qualification Pack

AGR/N0120: Carry out harvesting, post-harvest processing and marketing of pulses

Description

This OS unit is about harvesting, post-harvest processing and marketing pulses.

Scope

The scope covers the following :

- Harvest the pulses
- Thresh and pack the pulses
- Market the pulses

Elements and Performance Criteria

Harvest the pulses

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

- PC1.** check the maturity indicators of the pulse crop to ensure its readiness for being harvested
- PC2.** ascertain the moisture content in the crop to see if it is appropriate for harvesting
- PC3.** select the manual or mechanised harvesting method according to the quantity of crop to be harvested
- PC4.** arrange the necessary tools, equipment and machinery for harvesting pulses and prepare them for use
- PC5.** treat the crop with the appropriate chemicals such as defoliants before harvesting, as applicable
- PC6.** harvest the pulses crop at the appropriate stage and time, avoiding pod opening and ensuring minimum loss

Thresh and pack the pulses

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

- PC7.** thresh the harvested pulses to obtain the seeds and ensure pulses don't catch moisture
- PC8.** carry out pre-cleaning of the harvested pulses using appropriate methods and dry them under the sun or mechanically
- PC9.** sort and grade the cleaned pulses on the basis of applicable parameters
- PC10.** select a dry storage area with the recommended temperature and humidity for storing pulses
- PC11.** prepare the storage area, ensuring it is hygienic, pest and rodent-free
- PC12.** select appropriate packing material for packing pulses such as jute bags, Polypropylene (PP) pouches High-Density Polyethylene (HDPE) packaging, etc.
- PC13.** pack pulses following the recommended measures to prevent the absorption of moisture

Market the pulses

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

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- PC14.** select an appropriate time for selling pulses based on the periodical demand of the produce and profitability
- PC15.** identify the buyers of pulses such as eMandi, procurement agencies, traders, co-operatives, etc.
- PC16.** coordinate and negotiate with the buyer to secure a profitable price for the produce
- PC17.** arrange an appropriate mode of transport to deliver pulses to the buyer
- PC18.** process the payments using the buyer-preferred e-payment method
- PC19.** calculate the benefit-cost (B:C) ratio
- PC20.** maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the ideal climate and conditions for harvesting pulses
- KU2.** how to assess the maturity of pulses to ensure their readiness for being harvested
- KU3.** the manual and mechanical methods of harvesting pulses and the use of relevant tools, implements and equipment
- KU4.** the importance and ways of protecting the harvested pulses from catching moisture
- KU5.** different crop cleaning and threshing techniques
- KU6.** the process of threshing harvested pulses to obtain the seeds
- KU7.** the appropriate temperature and humidity required for storing the harvested pulses
- KU8.** the criteria for sorting and grading pulses
- KU9.** the relevant methods to avoid crop loss due to moisture
- KU10.** various methods of storage, their cost dynamics and influence on the quality of pulses
- KU11.** the chemical-based and other relevant methods to prevent losses from pests and rodents in the storage area
- KU12.** various storage pests, their behaviour and management
- KU13.** the appropriate packing material to pack pulses such as jute bags, Polypropylene (PP) pouches High-Density Polyethylene (HDPE) packaging, etc.
- KU14.** the process of identifying and negotiating with potential buyers
- KU15.** the appropriate mode of transport for transporting pulses
- KU16.** how to use various e-payment methods
- KU17.** how to calculate the benefit-cost (B:C) ratio
- KU18.** how to maintain manual and electronic records

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work

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- GS3.** communicate clearly and politely
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify appropriate solutions to work-related problems
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies/ accidents
- GS8.** plan effective use of time and resources

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the pulses</i>	8	16	-	8
PC1. check the maturity indicators of the pulse crop to ensure its readiness for being harvested	-	-	-	-
PC2. ascertain the moisture content in the crop to see if it is appropriate for harvesting	-	-	-	-
PC3. select the manual or mechanised harvesting method according to the quantity of crop to be harvested	-	-	-	-
PC4. arrange the necessary tools, equipment and machinery for harvesting pulses and prepare them for use	-	-	-	-
PC5. treat the crop with the appropriate chemicals such as defoliants before harvesting, as applicable	-	-	-	-
PC6. harvest the pulses crop at the appropriate stage and time, avoiding pod opening and ensuring minimum loss	-	-	-	-
<i>Thresh and pack the pulses</i>	8	10	-	10
PC7. thresh the harvested pulses to obtain the seeds and ensure pulses don't catch moisture	-	-	-	-
PC8. carry out pre-cleaning of the harvested pulses using appropriate methods and dry them under the sun or mechanically	-	-	-	-
PC9. sort and grade the cleaned pulses on the basis of applicable parameters	-	-	-	-
PC10. select a dry storage area with the recommended temperature and humidity for storing pulses	-	-	-	-
PC11. prepare the storage area, ensuring it is hygienic, pest and rodent-free	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. select appropriate packing material for packing pulses such as jute bags, Polypropylene (PP) pouches High-Density Polyethylene (HDPE) packaging, etc.	-	-	-	-
PC13. pack pulses following the recommended measures to prevent the absorption of moisture	-	-	-	-
<i>Market the pulses</i>	14	14	-	12
PC14. select an appropriate time for selling pulses based on the periodical demand of the produce and profitability	-	-	-	-
PC15. identify the buyers of pulses such as eMandi, procurement agencies, traders, co-operatives, etc.	-	-	-	-
PC16. coordinate and negotiate with the buyer to secure a profitable price for the produce	-	-	-	-
PC17. arrange an appropriate mode of transport to deliver pulses to the buyer	-	-	-	-
PC18. process the payments using the buyer-preferred e-payment method	-	-	-	-
PC19. calculate the benefit-cost (B:C) ratio	-	-	-	-
PC20. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0120
NOS Name	Carry out harvesting, post-harvest processing and marketing of pulses
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N9922: Engage in collective farming/activity

Description

This OS unit is about working collectively in Producer Groups (PGs), Farmers Interest Groups (FIGs), Self-Help Groups (SHGs) and other similar groups to attain a common objective.

Scope

The scope covers the following :

- Create PGs/ FIGs/ SHGs
- Prepare for the PG/ FIG/ SHG operations
- Conduct group meetings and training sessions
- Carry out collective farming/ activities

Elements and Performance Criteria

Create PGs/ FIGs/ SHGs

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

- PC1.** identify farmers/ groups with the common interests in the area
- PC2.** create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations

Prepare for the PG/ FIG/ SHG operations

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

- PC3.** organise fundraising activities to support the functioning of the group
- PC4.** establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds
- PC5.** induct subject matter experts (SMEs) in the group
- PC6.** assist in arranging the required Information and Communication Technology (ICT) products for the group
- PC7.** plan the commodity convergence with the relevant developmental programmes
- PC8.** plan optimal production to meet the market and household food security needs

Conduct group meetings and training sessions

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

- PC9.** conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.
- PC10.** assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings
- PC11.** organise capacity building exercises such as skill development and training programmes

Carry out collective farming/ activities

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

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- PC12.** organise field trials to identify and resolve problems encountered by group members in the field operations
- PC13.** procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members
- PC14.** establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.
- PC15.** use the group's credit facility as per the applicable terms and conditions
- PC16.** carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.
- PC17.** co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.
- PC18.** assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs
- PC19.** identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.
- PC20.** arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.
- PC21.** connect and partner with other groups to expand the network and address common problems at a large scale

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of preparing for the PG/ FIG/ SHG operations such as fundraising, induction of SMEs, investing in ICT products, etc.
- KU2.** how to establish links with the local government at the panchayat level to obtain access to the relevant development programmes and funds
- KU3.** the process of commodity convergence with the relevant developmental programmes
- KU4.** the importance of planning optimal production to meet the market and household food security needs
- KU5.** the importance of setting the group objectives and deciding the group income-generating enterprises/ activities, methods of operation, benefits, etc.
- KU6.** the importance of organising the PG/FIG/ SHG meetings and training sessions to resolve common concerns and get information about the latest developments in the field of work
- KU7.** the benefits of various capacity building exercises such as skill development and training programmes
- KU8.** the importance and process of conducting field trials to identify and resolve problems encountered by farmers in the field operations
- KU9.** the concept of group-owned bank to provide quality seeds, fertilisers, pesticides, tools and equipment to the member farmers
- KU10.** the process of using the group's credit facility
- KU11.** core collective farming activities such as procuring inputs in bulk, large-scale farming, packing, transportation and marketing of the produce, etc.
- KU12.** the concept and benefits of forming forward and backward linkages

Qualification Pack

KU13. relevant value addition practices such as processing, packing, upgrading the quality, etc.

KU14. the benefits of connecting with similar groups to address common problems at a large scale

Generic Skills (GS)

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

GS1. write relevant notes and reports

GS2. read the relevant literature to get latest updates about the field of work

GS3. communicate politely and professionally

GS4. listen attentively to understand the information being shared

GS5. plan tasks for effective use of time

GS6. identify possible disruptions to work and take appropriate preventive measures

GS7. evaluate all possible solutions to a problem to select the best one

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Create PGs/ FIGs/ SHGs</i>	6	8	-	6
PC1. identify farmers/ groups with the common interests in the area	-	-	-	-
PC2. create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations	-	-	-	-
<i>Prepare for the PG/ FIG/ SHG operations</i>	6	10	-	6
PC3. organise fundraising activities to support the functioning of the group	-	-	-	-
PC4. establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds	-	-	-	-
PC5. induct subject matter experts (SMEs) in the group	-	-	-	-
PC6. assist in arranging the required Information and Communication Technology (ICT) products for the group	-	-	-	-
PC7. plan the commodity convergence with the relevant developmental programmes	-	-	-	-
PC8. plan optimal production to meet the market and household food security needs	-	-	-	-
<i>Conduct group meetings and training sessions</i>	8	6	-	8
PC9. conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.	-	-	-	-
PC10. assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings	-	-	-	-
PC11. organise capacity building exercises such as skill development and training programmes	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out collective farming/ activities</i>	10	16	-	10
PC12. organise field trials to identify and resolve problems encountered by group members in the field operations	-	-	-	-
PC13. procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members	-	-	-	-
PC14. establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.	-	-	-	-
PC15. use the group's credit facility as per the applicable terms and conditions	-	-	-	-
PC16. carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.	-	-	-	-
PC17. co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.	-	-	-	-
PC18. assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs	-	-	-	-
PC19. identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.	-	-	-	-
PC20. arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.	-	-	-	-
PC21. connect and partner with other groups to expand the network and address common problems at a large scale	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9922
NOS Name	Engage in collective farming/activity
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

Qualification Pack

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:

Qualification Pack

- 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

Qualification Pack

- 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

Qualification Pack

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

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:

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

Career Development & Goal Setting

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

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

Communication Skills

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

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

Diversity & Inclusion

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

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

Financial and Legal Literacy

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

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

Essential Digital Skills

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

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

Entrepreneurship

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

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

Customer Service

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

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

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PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

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- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

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Assessment Criteria

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

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

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

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National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	28/02/2026
NSQC Clearance Date	28/02/2023

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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

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subsequent assessment on the balance NOS's to pass the Qualification Pack.

6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0118.Select and prepare the site and sow the pulse seeds	30	40	-	30	100	15
AGR/N0108.Carry out macro and micronutrient management of field crops	30	40	-	30	100	15
AGR/N0109.Manage weed growth in crop fields	30	40	-	30	100	10
AGR/N0110.Perform integrated pest and disease management for pulses	30	40	-	30	100	15
AGR/N0111.Perform irrigation management for field crops	30	40	-	30	100	10
AGR/N0120.Carry out harvesting, post-harvest processing and marketing of pulses	30	40	-	30	100	20
AGR/N9922.Engage in collective farming/activity	30	40	-	30	100	5
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	5

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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	0	0	50	5
Total	270	335	0	0	850	100

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
PPE	Personal Protective Equipment

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Glossary

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

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