

Qualification Pack



Coconut Grower cum Primary Processor

QP Code: AGR/Q0503

Version: 3.0

NSQF Level: 4

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AGR/Q0503: Coconut Grower cum Primary Processor

Brief Job Description

A Coconut grower is responsible for growing coconut and performs various activities such as selecting a suitable site; raising coconut seedlings in the nursery; transplanting the seedlings and maintaining the crop. The individual is also responsible for harvesting, processing and marketing the coconut produce. The person also carries out the primary processing of coconut and prepares various value-added products

Personal Attributes

The individual must be physically fit to work for long durations. The person must be able to make decisions regarding the area of work and coordinate with others to achieve the work objectives. The individual must know how to read and write.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0515: Prepare for coconut cultivation](#)
2. [AGR/N0516: Transplant the seedlings and maintain the coconut crop](#)
3. [AGR/N0520: Carry out harvesting, post-harvest processing and marketing activities](#)
4. [AGR/N0535: Carry out primary processing of coconut and prepare value-added products](#)
5. [AGR/N9922: Engage in collective farming/activity](#)
6. [AGR/N9903: Maintain health and safety at the workplace](#)
7. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Plantation Crops Cultivation
Country	India
NSQF Level	4

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Credits	13
Aligned to NCO/ISCO/ISIC Code	NCO-2015/0851
Minimum Educational Qualification & Experience	10th Class (Pass) 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, Field Crop/Vegetable) with 6 Months of experience relevant experience
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	24/02/2025
NSQC Approval Date	24/02/2022
Version	3.0
Reference code on NQR	2022/AGR/ASCI/06542
NQR Version	1.0

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AGR/N0515: Prepare for coconut cultivation

Description

This OS unit is about selecting the site for coconut cultivation, arranging the required resources and raising seedlings in the nursery.

Scope

The scope covers the following :

- Select the site for coconut cultivation
- Arrange the necessary resources
- Raise seedlings in the nursery

Elements and Performance Criteria

Select the site for coconut cultivation

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

- PC1.** select a site with conducive agro-climatic conditions for the cultivation of coconut, ensuring it has accessibility to the relevant markets
- PC2.** ensure the site does not have shallow and clay soil with underlying hard rocks, and free from water stagnation
- PC3.** ensure the availability of required inputs at the site such as quality water, electricity, seeds, fertilisers, pesticides, insecticides, etc.
- PC4.** co-ordinate with an approved laboratory for soil-testing to ensure nematodes are not present in the soil

Arrange the necessary resources

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

- PC5.** select the appropriate variety of coconut to be cultivated according to the soil at the site and expected yield
- PC6.** estimate the requirement of various resources such as labour, seed nuts, fertilisers, pesticides, etc.
- PC7.** select an approved vendor based on the quality and price of the planting material, ensuring the seed nuts have a high survival rate
- PC8.** purchase the necessary resources in the required quantity and store them as per their storage requirements, ensuring hygiene along with the recommended temperature and humidity

Raise seedlings in the nursery

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

- PC9.** prepare the nursery bed in the recommended dimensions
- PC10.** arrange to protect the nursery bed from direct sunlight with the help of artificial shading
- PC11.** treat the planting material with the appropriate pesticide, insecticide or fungicide, using them in the dose recommended by the government's agriculture department or relevant agricultural university

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- PC12.** sow seeds in the seedbed at the recommended depth and spacing
- PC13.** carry out nutrition, disease and pest management of seedlings and maintain them in the nursery for the recommended period, ensuring hygienic conditions
- PC14.** check the seedlings to determine their maturity for being harvested
- PC15.** harvest the seedlings using the appropriate tools and implements, and store them under the recommended temperature and humidity
- PC16.** discard the diseased and damaged seedlings in an environment-friendly manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the various parameters to be assessed while selecting a site for coconut cultivation
- KU2.** the suitable soil and climate conditions for coconut cultivation
- KU3.** the various varieties of seeds such as tall, dwarf and hybrid
- KU4.** the various resources required for coconut cultivation
- KU5.** the use of relevant tools and implements
- KU6.** the process of preparing a nursery bed
- KU7.** the water requirements of different types of seedlings
- KU8.** the various practices to be followed for optimum nutrition management and protection of seedlings from pests and diseases
- KU9.** the criteria for selecting the seedlings based on the germination period
- KU10.** the appropriate conditions for storing the resources required for raising seedlings and the harvested seedlings

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 and literature to get the latest information about the field of work
- GS3.** communicate clearly and politely
- GS4.** perform basic calculations
- GS5.** listen attentively to understand the instructions being given
- GS6.** identify solutions to work-related issues
- GS7.** plan and prioritise tasks to ensure timely completion
- GS8.** take quick decision in case of an emergency/ accident

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site for coconut cultivation</i>	12	16	-	14
PC1. select a site with conducive agro-climatic conditions for the cultivation of coconut, ensuring it has accessibility to the relevant markets	-	-	-	-
PC2. ensure the site does not have shallow and clay soil with underlying hard rocks, and free from water stagnation	-	-	-	-
PC3. ensure the availability of required inputs at the site such as quality water, electricity, seeds, fertilisers, pesticides, insecticides, etc.	-	-	-	-
PC4. co-ordinate with an approved laboratory for soil-testing to ensure nematodes are not present in the soil	-	-	-	-
<i>Arrange the necessary resources</i>	6	8	-	4
PC5. select the appropriate variety of coconut to be cultivated according to the soil at the site and expected yield	-	-	-	-
PC6. estimate the requirement of various resources such as labour, seed nuts, fertilisers, pesticides, etc.	-	-	-	-
PC7. select an approved vendor based on the quality and price of the planting material, ensuring the seed nuts have a high survival rate	-	-	-	-
PC8. purchase the necessary resources in the required quantity and store them as per their storage requirements, ensuring hygiene along with the recommended temperature and humidity	-	-	-	-
<i>Raise seedlings in the nursery</i>	12	16	-	12
PC9. prepare the nursery bed in the recommended dimensions	-	-	-	-
PC10. arrange to protect the nursery bed from direct sunlight with the help of artificial shading	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. treat the planting material with the appropriate pesticide, insecticide or fungicide, using them in the dose recommended by the government's agriculture department or relevant agricultural university	-	-	-	-
PC12. sow seeds in the seedbed at the recommended depth and spacing	-	-	-	-
PC13. carry out nutrition, disease and pest management of seedlings and maintain them in the nursery for the recommended period, ensuring hygienic conditions	-	-	-	-
PC14. check the seedlings to determine their maturity for being harvested	-	-	-	-
PC15. harvest the seedlings using the appropriate tools and implements, and store them under the recommended temperature and humidity	-	-	-	-
PC16. discard the diseased and damaged seedlings in an environment-friendly manner	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0515
NOS Name	Prepare for coconut cultivation
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Plantation Crop Cultivation
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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AGR/N0516: Transplant the seedlings and maintain the coconut crop

Description

This OS unit is about preparing the field and transplanting the seedlings. It also covers performing the coconut crop's nutrient and integrated pest management along with resource utilisation, waste management and practising inclusion at work.

Scope

The scope covers the following :

- Prepare the field for transplanting seedlings
- Transplant the seedlings
- Perform nutrient management
- Perform weed management
- Perform integrated pest and disease management
- Perform irrigation management
- Optimise resource utilisation
- Perform waste management

Elements and Performance Criteria

Prepare the field for transplanting seedlings

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

- PC1.** remove all roots, debris and waste materials from the field
- PC2.** check the moisture level in the soil to ensure it is appropriate for tilling
- PC3.** till the field to the required depth using the relevant farm machineries
- PC4.** apply mulch in the field to prevent the growth of weeds
- PC5.** create drains in the field for effective drainage of water
- PC6.** prepare pits of the recommended depth and width for transplanting seedlings and ensure their healthy growth

Transplant the seedlings

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

- PC7.** select the appropriate time for transplanting coconut seedlings according to the agro-climatic zone at the site
- PC8.** fill the pits with the mixture of topsoil and compost up to the recommended level
- PC9.** transplant the seedlings in the pits and apply soil cover on the roots
- PC10.** carry out gene stacking as per the requirement
- PC11.** apply fertilisers to the soil and water the seedlings with the recommended quantity

Perform nutrient management

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

- PC12.** check the soil's pH level using a pH meter and adjust it by applying lime or gypsum in the recommended quantity

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- PC13.** coordinate with an authorised lab to check the soil's macro and micronutrient levels
- PC14.** apply the lab-recommended organic or inorganic fertilisers to the soil in the recommended quantity and as per the prescribed schedule
- PC15.** adopt the recommended cultural practices to enhance the level of soil nutrients
- PC16.** carry out intercropping with the recommended crops for the best utilisation of soil nutrients

Perform weed management

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

- PC17.** apply the recommended weedicides/ herbicides as per instructions from the government's agriculture department or the relevant agricultural university
- PC18.** carry out manual or mechanical weeding according to the size of coconut farm and extent of weed infestation
- PC19.** follow the recommended weeding schedule for effective control of weeds and rogue infected plants

Perform integrated pest and disease management

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

- PC20.** monitor the crop regularly to identify the signs of physiological disorders along with pest and disease infestation such as rhinoceros beetle, black-headed caterpillar, red palm weevil, termites, bud rot, leaf rot, stem bleeding, etc.
- PC21.** determine the stage of pest and disease infestation along with the mode of transmission
- PC22.** follow the recommended practices to control pests such as adopting the natural enemies of coconut crop pests
- PC23.** apply the recommended pesticides/insecticides as per the prescription to remove and control pests and disease
- PC24.** maintain the record of pesticides and insecticides used in the field

Perform irrigation management

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

- PC25.** follow the recommended irrigation method and schedule appropriate for the coconut crop
- PC26.** adopt the relevant precision farming methods for the best utilisation of irrigation water
- PC27.** apply mulch, coconut husk or coir pith to the soil to conserve soil moisture and prevent irrigation water from evaporating

Optimise resource utilisation

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

- PC28.** optimise the usage of water and other resources in various tasks and processes
- PC29.** plug water leakages to prevent its wastage

Perform waste management

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

- PC30.** segregate waste into appropriate categories
- PC31.** recycle the recyclable waste appropriately and dispose non-recyclable waste in an environment-friendly manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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- KU1.** the importance of removing all roots, debris and waste materials from the field before tilling
- KU2.** the recommended soil moisture levels required for tilling
- KU3.** the process of tilling the field and the recommended depth required for transplanting coconut seedlings
- KU4.** the importance of applying mulch during field preparation to prevent the growth of weeds
- KU5.** the process of creating drains in the field for effective drainage of water
- KU6.** the process of preparing pits and the recommended depth and width to be maintained for the healthy growth of seedlings
- KU7.** the process of transplanting coconut seedlings and the immediate care to be provided to the transplanted seedlings
- KU8.** how to check the soil's pH level using a pH meter and use of lime or gypsum for adjusting it
- KU9.** the importance of checking the soil's macro and micronutrient levels through an authorised soil-testing lab
- KU10.** the process of applying different types of organic or inorganic fertilisers to the soil
- KU11.** the appropriate quantity of fertilisers to be applied to the soil and the recommended fertilisation schedule
- KU12.** the importance of checking the crop regularly to identify the signs of pests and disease infestation
- KU13.** the recommended practices to be followed to control coconut pests such as adopting the natural enemies of the crop
- KU14.** the importance and process of applying the recommended pesticides or insecticides as per the prescription
- KU15.** the importance and process of maintaining the weed, pest and insect calendar
- KU16.** applicable documentation requirements
- KU17.** the benefits and ways of resource optimisation
- KU18.** how to recycle and dispose different types of waste appropriately

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
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the information/ instructions being given
- GS5.** identify appropriate 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.** coordinate with the co-workers to achieve the work objectives

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare the field for transplanting seedlings</i>	4	4	-	2
PC1. remove all roots, debris and waste materials from the field	-	-	-	-
PC2. check the moisture level in the soil to ensure it is appropriate for tilling	-	-	-	-
PC3. till the field to the required depth using the relevant farm machineries	-	-	-	-
PC4. apply mulch in the field to prevent the growth of weeds	-	-	-	-
PC5. create drains in the field for effective drainage of water	-	-	-	-
PC6. prepare pits of the recommended depth and width for transplanting seedlings and ensure their healthy growth	-	-	-	-
<i>Transplant the seedlings</i>	2	4	-	4
PC7. select the appropriate time for transplanting coconut seedlings according to the agro-climatic zone at the site	-	-	-	-
PC8. fill the pits with the mixture of topsoil and compost up to the recommended level	-	-	-	-
PC9. transplant the seedlings in the pits and apply soil cover on the roots	-	-	-	-
PC10. carry out gene stacking as per the requirement	-	-	-	-
PC11. apply fertilisers to the soil and water the seedlings with the recommended quantity	-	-	-	-
<i>Perform nutrient management</i>	4	6	-	4
PC12. check the soil's pH level using a pH meter and adjust it by applying lime or gypsum in the recommended quantity	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. coordinate with an authorised lab to check the soil's macro and micronutrient levels	-	-	-	-
PC14. apply the lab-recommended organic or inorganic fertilisers to the soil in the recommended quantity and as per the prescribed schedule	-	-	-	-
PC15. adopt the recommended cultural practices to enhance the level of soil nutrients	-	-	-	-
PC16. carry out intercropping with the recommended crops for the best utilisation of soil nutrients	-	-	-	-
<i>Perform weed management</i>	2	4	-	2
PC17. apply the recommended weedicides/ herbicides as per instructions from the government's agriculture department or the relevant agricultural university	-	-	-	-
PC18. carry out manual or mechanical weeding according to the size of coconut farm and extent of weed infestation	-	-	-	-
PC19. follow the recommended weeding schedule for effective control of weeds and rogue infected plants	-	-	-	-
<i>Perform integrated pest and disease management</i>	6	10	-	10
PC20. monitor the crop regularly to identify the signs of physiological disorders along with pest and disease infestation such as rhinoceros beetle, black-headed caterpillar, red palm weevil, termites, bud rot, leaf rot, stem bleeding, etc.	-	-	-	-
PC21. determine the stage of pest and disease infestation along with the mode of transmission	-	-	-	-
PC22. follow the recommended practices to control pests such as adopting the natural enemies of coconut crop pests	-	-	-	-
PC23. apply the recommended pesticides/insecticides as per the prescription to remove and control pests and disease	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. maintain the record of pesticides and insecticides used in the field	-	-	-	-
<i>Perform irrigation management</i>	2	4	-	2
PC25. follow the recommended irrigation method and schedule appropriate for the coconut crop	-	-	-	-
PC26. adopt the relevant precision farming methods for the best utilisation of irrigation water	-	-	-	-
PC27. apply mulch, coconut husk or coir pith to the soil to conserve soil moisture and prevent irrigation water from evaporating	-	-	-	-
<i>Optimise resource utilisation</i>	6	4	-	2
PC28. optimise the usage of water and other resources in various tasks and processes	-	-	-	-
PC29. plug water leakages to prevent its wastage	-	-	-	-
<i>Perform waste management</i>	4	4	-	4
PC30. segregate waste into appropriate categories	-	-	-	-
PC31. recycle the recyclable waste appropriately and dispose non-recyclable waste in an environment-friendly manner	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0516
NOS Name	Transplant the seedlings and maintain the coconut crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Plantation Crop Cultivation
NSQF Level	4
Credits	2
Version	3.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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AGR/N0520: Carry out harvesting, post-harvest processing and marketing activities

Description

This OS unit is about harvesting, processing and marketing the coconut crop.

Scope

The scope covers the following :

- Harvest the coconuts
- Carry out post-harvest processing
- Prepare the storage area and store the produce
- Market the produce

Elements and Performance Criteria

Harvest the coconuts

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

- PC1.** check the coconuts to ensure their maturity for being harvested
- PC2.** arrange and prepare the relevant tools and equipment for harvesting coconuts such as a climbing machine
- PC3.** harvest the coconuts ensuring minimum loss and damage to them
- PC4.** maintain the record of harvested coconuts

Carry out post-harvest processing

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

- PC5.** carry out sorting and grading of coconuts on appropriate quality parameters such as size and appearance
- PC6.** de-husk the coconuts and extract copra manually or mechanically, ensuring no damage to the copra
- PC7.** dry copra under the sun or mechanically, as appropriate
- PC8.** extract coconut oil from copra manually or mechanically, as required

Prepare the storage area and store the produce

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

- PC9.** clean the storage area before storing the produce
- PC10.** apply the relevant treatment in the storage area to remove any pests, insects and rodents
- PC11.** pack the coconuts and copra in netted polythene or gunny bags
- PC12.** store the produce at the recommended temperature and humidity, ensuring good ventilation
- PC13.** follow the recommended practices to avoid damage to the stored produce

Market the produce

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

- PC14.** identify the market demand and potential buyers for the harvested coconuts, such as e-Mandi, local traders, cooperatives, exporters, etc.

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- PC15.** determine the market rates of the produce considering the seasonal demand
- PC16.** negotiate with the buyer(s) to secure a profitable price for the produce
- PC17.** arrange an appropriate and cost-effective mode of transport to deliver coconuts or copra to the buyer, ensuring hygiene and no damage during transit
- PC18.** use the relevant e-payment method such as Aadhar Enabled Payment System (AEPS), Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD) payment, etc.
- 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 maturity indicators for varieties of coconuts
- KU2.** the use of the relevant harvesting tools and equipment such as tree climbers
- KU3.** the process of harvesting coconuts ensuring minimum loss and damage to them
- KU4.** the criteria for sorting and grading the harvested coconuts
- KU5.** the process of de-husking coconuts, extracting and drying copra under the sun or mechanically
- KU6.** how to extract coconut oil from copra manually or mechanically
- KU7.** the importance of ensuring a hygienic and ventilated storage area for storing the coconut produce
- KU8.** the process of applying the relevant treatment in the storage area to remove any pests, insects and rodents
- KU9.** the recommended temperature and humidity for storing the produce
- KU10.** the process of identifying the market demand for coconut produce, connecting with potential buyers and negotiating with them
- KU11.** the appropriate transport medium for delivering the produce
- KU12.** how to use different types of e-payment methods
- KU13.** how to calculate the benefit-cost (B:C) ratio
- KU14.** the importance and process of maintaining the manual and electronic record of sales and payments

Generic Skills (GS)

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

- GS1.** maintain work-related records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** perform basic calculations
- GS4.** listen attentively to understand the information/ instructions being shared

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- GS5.** communicate clearly and politely with co-workers and clients
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** co-ordinate with the co-workers to achieve the work objectives
- GS9.** identify possible disruptions to work and take appropriate preventive measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the coconuts</i>	8	12	-	6
PC1. check the coconuts to ensure their maturity for being harvested	-	-	-	-
PC2. arrange and prepare the relevant tools and equipment for harvesting coconuts such as a climbing machine	-	-	-	-
PC3. harvest the coconuts ensuring minimum loss and damage to them	-	-	-	-
PC4. maintain the record of harvested coconuts	-	-	-	-
<i>Carry out post-harvest processing</i>	10	6	-	4
PC5. carry out sorting and grading of coconuts on appropriate quality parameters such as size and appearance	-	-	-	-
PC6. de-husk the coconuts and extract copra manually or mechanically, ensuring no damage to the copra	-	-	-	-
PC7. dry copra under the sun or mechanically, as appropriate	-	-	-	-
PC8. extract coconut oil from copra manually or mechanically, as required	-	-	-	-
<i>Prepare the storage area and store the produce</i>	6	12	-	10
PC9. clean the storage area before storing the produce	-	-	-	-
PC10. apply the relevant treatment in the storage area to remove any pests, insects and rodents	-	-	-	-
PC11. pack the coconuts and copra in netted polythene or gunny bags	-	-	-	-
PC12. store the produce at the recommended temperature and humidity, ensuring good ventilation	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. follow the recommended practices to avoid damage to the stored produce	-	-	-	-
<i>Market the produce</i>	6	10	-	10
PC14. identify the market demand and potential buyers for the harvested coconuts, such as e-Mandi, local traders, cooperatives, exporters, etc.	-	-	-	-
PC15. determine the market rates of the produce considering the seasonal demand	-	-	-	-
PC16. negotiate with the buyer(s) to secure a profitable price for the produce	-	-	-	-
PC17. arrange an appropriate and cost-effective mode of transport to deliver coconuts or copra to the buyer, ensuring hygiene and no damage during transit	-	-	-	-
PC18. use the relevant e-payment method such as Aadhar Enabled Payment System (AEPS), Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD) payment, etc.	-	-	-	-
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

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0520
NOS Name	Carry out harvesting, post-harvest processing and marketing activities
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Plantation Crop Cultivation
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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AGR/N0535: Carry out primary processing of coconut and prepare value-added products

Description

This OS unit is about carrying out the primary processing of coconut and preparing various value-added products.

Scope

The scope covers the following :

- Prepare desiccated coconut
- Extract coconut oil traditionally
- Extract coconut oil mechanically
- Prepare Tender Coconut Water (TCW)
- Carry out the processing of tender coconut
- Extract snow ball tender nut
- Prepare fruit juice blended tender coconut water
- Prepare coconut water beverages
- Prepare Nata de Coco
- Prepare coconut vinegar
- Prepare coconut chips
- Extract and use coconut milk

Elements and Performance Criteria

Prepare desiccated coconut

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

- PC1.** dry copra following appropriate drying methods, such as sun drying, smoke drying, kiln drying and indirect hot air drying
- PC2.** check the moisture levels in the dry copra to ensure it has the optimum moisture content for further processing
- PC3.** remove the nut from the hard shell and pare off the thin brown rind, following the recommended practices to prevent contamination by flecks of brown
- PC4.** wash the pared nuts free of milk and skin residues
- PC5.** shred the nuts using the shredding machine to obtain the milled product of the required degree of fineness
- PC6.** carry out steam or hot water treatment of the ground meat to destroy salmonella and lipases and reduce bacteria count to the recommended levels
- PC7.** dry the pasteurized meat on a wire mesh belt using hot air to reduce the moisture content to the recommended levels
- PC8.** carry out sieving to obtain different grades of the desiccated coconut, such as extra fine, macaroon (fine), medium and coarse

Extract coconut oil traditionally

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

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- PC9.** separate coconut meat from the coconut shell to obtain copra, following the recommended practices
- PC10.** carry out sun drying and smoke drying of copra for the recommended duration
- PC11.** chop the copra into small pieces of recommended size and heat them at the recommended temperature for an appropriate duration
- PC12.** squeeze coconut oil out from the cooked copra using the expeller and filter it using the filter press

Extract coconut oil mechanically

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

- PC13.** crack the coconut shells and separate the coconut meat
- PC14.** chop the fresh coconut meat and slice it into thin flakes of the desired size
- PC15.** cook the thin flakes of coconut meat in a cooker, heating them at the recommended temperature for an appropriate duration
- PC16.** extract coconut oil from the heat-treated cooked coconut meat using the oil expeller
- PC17.** use air tight containers for packing the extracted oil and store it in a dark, cool and dry storage area

Prepare Tender Coconut Water (TCW)

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

- PC18.** extract Tender Coconut Water (TCW) following the recommended practices ensuring hygiene
- PC19.** pack the TCW in pouches and aluminium cans using the appropriate technology to retain its flavour for the appropriate period before consumption

Carry out the processing of tender coconut

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

- PC20.** prepare a solution of citric acid and potassium metabisulphite using them in the recommended quantity
- PC21.** carry out the processing of tender coconut in citric acid and potassium metabisulphite solution for the recommended duration to facilitate their storage for appropriate duration and transportation
- PC22.** store the processed tender coconuts at the recommended temperature

Extract snow ball tender nut

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

- PC23.** select coconuts of appropriate maturity suitable for making snow ball tender nut
- PC24.** create a groove on the shell of the coconut using an appropriate tool before scooping out the globular tender
- PC25.** extract round soft kernel/snow ball tender nut from the coconut shell using the appropriate tool, ensuring to maintain the kernel and water intact in it
- PC26.** pack the snow ball tender nut in the appropriate LDPE film packaging and store it at the recommended temperature

Prepare fruit juice blended tender coconut water

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

- PC27.** select appropriate fruits, such as pomegranate, blue grapes, pineapple, mango and lemon juice, to be used for preparing fruit juice blended tender coconut water beverage

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PC28. prepare fruit juice blended tender coconut water beverage using the selected fruits, following the recommended practices

PC29. ensure the prepared fruit juice blended tender coconut water is stored at an appropriate temperature

Prepare coconut water beverages

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

PC30. collect coconut water of mature nuts and carry out filtration

PC31. follow the recommended practices to adjust pH, taste, total soluble sugar and shelf life of coconut water

PC32. carry out pasteurisation and filtration activities

PC33. carry out bottling of coconut water to be used as a carbonated/ non-carbonated beverage

Prepare Nata de Coco

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

PC34. prepare the culture solution by mixing coconut water with sugar and acetic acid at a stipulated proportion

PC35. inoculate the culture solution with Acetobacter and xylinium, using a culture liquid

PC36. store the culture solution in glass jars, covering them with a thin cloth and maintaining them in such condition for the recommended duration

PC37. harvest the white-coloured jelly that forms on the top of the culture medium and cut into pieces of appropriate size

PC38. clean the jelly using pure water to remove all acids and maintain it in flavoured sugar syrup for the appropriate duration and pack it in glass bottles

Prepare coconut vinegar

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

PC39. carry out fortification of coconut water with sugar and fermentation by inoculation of yeast and then mother vinegar, oxidation and acidification

PC40. prepare vinegar from coconut water by using vinegar generators

PC41. use the appropriate packing material to pack coconut vinegar

Prepare coconut chips

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

PC42. prepare intermediate moisture coconut kernel by removing the moisture content of the mature coconut kernel by osmotic dehydration using osmotic mediums, such as sugar syrup

PC43. prepare coconut chips by dehydrating the intermediate moisture coconut kernel and adding different flavours using the required flavour essence in the osmotic medium

PC44. use appropriate packing material, such as laminated aluminium pouches, to pack coconut chips and optimise their shelf life

Extract and use coconut milk

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

PC45. extract oil-protein-water emulsions, i.e. coconut milk, by squeezing freshly grated coconut kernel

PC46. use coconut milk directly or by diluting it with water to make various preparations, such as desserts, puddings, cocktails, cakes, cookies, coconut jam, etc.

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PC47. carry out can packaging of coconut milk in preserve it in the form of cream, milk and dehydrated whole milk

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of raw coconut products, such as nut, coconut water, kernel, copra, husk, and toddy
- KU2.** different uses of raw coconut products
- KU3.** different methods of drying copra, such as sun drying, smoke drying, kiln drying and indirect hot air drying
- KU4.** the optimum moisture content required in copra for processing, i.e. 5-6 per cent
- KU5.** different raw products that can be obtained from coconut, such as grated wet coconut kernel, coconut oil, proteins and carbohydrates to prepare coconut honey, etc
- KU6.** how to avoid undesirable flavour changes in desiccated coconut due to oxidative rancidity of the oil
- KU7.** the use of residual coconut for different purposes, e.g. cattle feed
- KU8.** the use of coconut oil and desiccated coconut for making fats for baking and confectionery
- KU9.** the characteristics of top quality desiccated coconut, i.e. white, free from foreign matter, uniform in granulation against the applicable standard, and expressed oil with a free fatty acid content of less than 0.1 percent
- KU10.** a variety of coconut products available to the chocolate and confectionery trade, such as moist white sweetened coconut, toasted coconut, creamed coconut and tenderized coconut
- KU11.** different elements found in TCW, such as vitamins, minerals, proteins, amino acids, sugars, enzymes and other biological growth factors
- KU12.** the benefits of TCW as a natural isotonic beverage with therapeutic properties and appropriate electrolyte levels
- KU13.** the process of preparing Tender Coconut Water (TCW)
- KU14.** how to carry out the processing of tender coconut
- KU15.** the process of extracting snow ball tender nut
- KU16.** the process of preparing fruit juice blended tender coconut water
- KU17.** the process of preparing coconut water beverages
- KU18.** the process of preparing Nata de Coco
- KU19.** the process of preparing coconut vinegar
- KU20.** the process of preparing coconut chips
- KU21.** the process of extracting and using coconut milk for various purposes
- KU22.** the process of preparing various other value-added products that can be prepared from coconut

Generic Skills (GS)

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

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

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare desiccated coconut</i>	4	6	-	4
PC1. dry copra following appropriate drying methods, such as sun drying, smoke drying, kiln drying and indirect hot air drying	-	-	-	-
PC2. check the moisture levels in the dry copra to ensure it has the optimum moisture content for further processing	-	-	-	-
PC3. remove the nut from the hard shell and pare off the thin brown rind, following the recommended practices to prevent contamination by flecks of brown	-	-	-	-
PC4. wash the pared nuts free of milk and skin residues	-	-	-	-
PC5. shred the nuts using the shredding machine to obtain the milled product of the required degree of fineness	-	-	-	-
PC6. carry out steam or hot water treatment of the ground meat to destroy salmonella and lipases and reduce bacteria count to the recommended levels	-	-	-	-
PC7. dry the pasteurized meat on a wire mesh belt using hot air to reduce the moisture content to the recommended levels	-	-	-	-
PC8. carry out sieving to obtain different grades of the desiccated coconut, such as extra fine, macaroon (fine), medium and coarse	-	-	-	-
<i>Extract coconut oil traditionally</i>	3	4	-	3
PC9. separate coconut meat from the coconut shell to obtain copra, following the recommended practices	-	-	-	-
PC10. carry out sun drying and smoke drying of copra for the recommended duration	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. chop the copra into small pieces of recommended size and heat them at the recommended temperature for an appropriate duration	-	-	-	-
PC12. squeeze coconut oil out from the cooked copra using the expeller and filter it using the filter press	-	-	-	-
<i>Extract coconut oil mechanically</i>	3	4	-	3
PC13. crack the coconut shells and separate the coconut meat	-	-	-	-
PC14. chop the fresh coconut meat and slice it into thin flakes of the desired size	-	-	-	-
PC15. cook the thin flakes of coconut meat in a cooker, heating them at the recommended temperature for an appropriate duration	-	-	-	-
PC16. extract coconut oil from the heat-treated cooked coconut meat using the oil expeller	-	-	-	-
PC17. use air tight containers for packing the extracted oil and store it in a dark, cool and dry storage area	-	-	-	-
<i>Prepare Tender Coconut Water (TCW)</i>	2	3	-	2
PC18. extract Tender Coconut Water (TCW) following the recommended practices ensuring hygiene	-	-	-	-
PC19. pack the TCW in pouches and aluminium cans using the appropriate technology to retain its flavour for the appropriate period before consumption	-	-	-	-
<i>Carry out the processing of tender coconut</i>	2	3	-	2
PC20. prepare a solution of citric acid and potassium metabisulphite using them in the recommended quantity	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. carry out the processing of tender coconut in citric acid and potassium metabisulphite solution for the recommended duration to facilitate their storage for appropriate duration and transportation	-	-	-	-
PC22. store the processed tender coconuts at the recommended temperature	-	-	-	-
<i>Extract snow ball tender nut</i>	3	4	-	3
PC23. select coconuts of appropriate maturity suitable for making snow ball tender nut	-	-	-	-
PC24. create a groove on the shell of the coconut using an appropriate tool before scooping out the globular tender	-	-	-	-
PC25. extract round soft kernel/snow ball tender nut from the coconut shell using the appropriate tool, ensuring to maintain the kernel and water intact in it	-	-	-	-
PC26. pack the snow ball tender nut in the appropriate LDPE film packaging and store it at the recommended temperature	-	-	-	-
<i>Prepare fruit juice blended tender coconut water</i>	2	3	-	2
PC27. select appropriate fruits, such as pomegranate, blue grapes, pineapple, mango and lemon juice, to be used for preparing fruit juice blended tender coconut water beverage	-	-	-	-
PC28. prepare fruit juice blended tender coconut water beverage using the selected fruits, following the recommended practices	-	-	-	-
PC29. ensure the prepared fruit juice blended tender coconut water is stored at an appropriate temperature	-	-	-	-
<i>Prepare coconut water beverages</i>	2	3	-	2
PC30. collect coconut water of mature nuts and carry out filtration	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC31. follow the recommended practices to adjust pH, taste, total soluble sugar and shelf life of coconut water	-	-	-	-
PC32. carry out pasteurisation and filtration activities	-	-	-	-
PC33. carry out bottling of coconut water to be used as a carbonated/ non-carbonated beverage	-	-	-	-
<i>Prepare Nata de Coco</i>	3	4	-	3
PC34. prepare the culture solution by mixing coconut water with sugar and acetic acid at a stipulated proportion	-	-	-	-
PC35. inoculate the culture solution with Acetobacter and xylinium, using a culture liquid	-	-	-	-
PC36. store the culture solution in glass jars, covering them with a thin cloth and maintaining them in such condition for the recommended duration	-	-	-	-
PC37. harvest the white-coloured jelly that forms on the top of the culture medium and cut into pieces of appropriate size	-	-	-	-
PC38. clean the jelly using pure water to remove all acids and maintain it in flavoured sugar syrup for the appropriate duration and pack it in glass bottles	-	-	-	-
<i>Prepare coconut vinegar</i>	2	2	-	2
PC39. carry out fortification of coconut water with sugar and fermentation by inoculation of yeast and then mother vinegar, oxidation and acidification	-	-	-	-
PC40. prepare vinegar from coconut water by using vinegar generators	-	-	-	-
PC41. use the appropriate packing material to pack coconut vinegar	-	-	-	-
<i>Prepare coconut chips</i>	2	2	-	2

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC42. prepare intermediate moisture coconut kernel by removing the moisture content of the mature coconut kernel by osmotic dehydration using osmotic mediums, such as sugar syrup	-	-	-	-
PC43. prepare coconut chips by dehydrating the intermediate moisture coconut kernel and adding different flavours using the required flavour essence in the osmotic medium	-	-	-	-
PC44. use appropriate packing material, such as laminated aluminium pouches, to pack coconut chips and optimise their shelf life	-	-	-	-
<i>Extract and use coconut milk</i>	2	2	-	2
PC45. extract oil-protein-water emulsions, i.e. coconut milk, by squeezing freshly grated coconut kernel	-	-	-	-
PC46. use coconut milk directly or by diluting it with water to make various preparations, such as desserts, puddings, cocktails, cakes, cookies, coconut jam, etc.	-	-	-	-
PC47. carry out can packaging of coconut milk in preserve it in the form of cream, milk and dehydrated whole milk	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0535
NOS Name	Carry out primary processing of coconut and prepare value-added products
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Plantation Crops Cultivation
NSQF Level	4
Credits	3
Version	1.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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

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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

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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:

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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

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	-	-	-	-

Qualification Pack

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

Qualification Pack

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	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

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

Qualification Pack

Assessment Criteria

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

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

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	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (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

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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/N0515.Prepare for coconut cultivation	30	40	-	30	100	20
AGR/N0516.Transplant the seedlings and maintain the coconut crop	30	40	-	30	100	20
AGR/N0520.Carry out harvesting, post-harvest processing and marketing activities	30	40	-	30	100	25
AGR/N0535.Carry out primary processing of coconut and prepare value-added products	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
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	0	0	50	5
Total	210	255	0	0	650	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.