

## Qualification Pack



# Mariculture Farmer

Options: Pearl Culture

QP Code: AGR/Q4909

Version: 3.0

NSQF Level: 4

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## Qualification Pack

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### AGR/Q4909: Mariculture Farmer

#### Brief Job Description

A Mariculture Farmer is responsible for managing the overall operations of a mariculture farm including the fabrication and installation of pens/ rafts/ cages, procuring and stocking seeds, maintaining the stocked organisms and harvesting them on maturity. The person may also carry out pearl culture to produce pearls by rearing pearl oysters.

#### Personal Attributes

The person must be physically fit to work for long hours and know how to swim. The individual must have finger dexterity along with good eyesight and the ability to co-ordinate with others to achieve the work objectives.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [AGR/N4933: Install the pen/ raft/ cage and stock the seeds](#)
2. [AGR/N4934: Carry out post-stocking management](#)
3. [AGR/N4923: Harvest, process and market the aquaculture organisms](#)
4. [AGR/N4955: Follow the hygiene and safety practices in culture operations](#)
5. [AGR/N9922: Engage in collective farming/activity](#)
6. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

##### Options(Not mandatory):

##### Option : Pearl Culture

This individual specialises in producing pearls by culturing pearl oysters in marine water.

1. [AGR/N4945: Carry out marine water pearl culture](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Agriculture
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<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	15
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/2132.0900
<b>Minimum Educational Qualification &amp; Experience</b>	12th grade Pass OR Completed 2nd year of the 3-year diploma after 10 (and pursuing regular diploma) OR 10th grade pass (plus 2-year NTC) OR 10th grade pass (plus 1-year NTC plus 1 year NAC) OR 8th grade pass with 2 year NTC plus 1 year NAC plus 1 year CITS OR 10th grade pass and pursuing continuous schooling OR 10th grade pass with 2 Years of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 3.0 with minimum education as 8th Grade pass) with 3 Years of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 3.5 with 1.5- year relevant experience)
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	30/04/2025
<b>NSQC Approval Date</b>	24/02/2022
<b>Version</b>	3.0

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<b>Reference code on NQR</b>	QG-04-AG-00331-2023-V1.1-ASCI
<b>NQR Version</b>	1.1

## Qualification Pack

### AGR/N4933: Install the pen/ raft/ cage and stock the seeds

#### Description

This OS unit is about selecting a suitable site for mariculture, fabricating and installing the pen/ raft/ cage and stocking the seeds.

#### Scope

The scope covers the following :

- Select a suitable site for mariculture
- Procure seeds of organisms for culture activities
- Fabricate and install the pen/ raft/ cage
- Stock the seeds

#### Elements and Performance Criteria

##### *Select a suitable site for mariculture*

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

- PC1.** select a site that contains clear seawater, receives moderate rainfall throughout the year, and has suitable climatic conditions
- PC2.** check the site has the recommended depth and quality of water for mariculture activities
- PC3.** ensure that the site is not covered with coral reefs, seagrass, mangrove, etc.
- PC4.** ensure that the site is located far from sewage and industrial discharge and doesn't experience strong water currents

##### *Procure seeds of organisms for culture activities*

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

- PC5.** identify the species and type of seeds required for the specific marine aquaculture system
- PC6.** select a source of quality seeds
- PC7.** procure the seeds in the required quantity
- PC8.** arrange for stress and damage-free transportation and storage of the seeds

##### *Fabricate and install the pen/ raft/ cage*

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

- PC9.** procure cost-effective and durable material for fabricating the pen/ raft/ cage
- PC10.** co-ordinate with a fabricator for the fabrication of pen/ raft/ cage
- PC11.** install the pen/ raft/ cage at the selected site and secure it using anchors and ropes
- PC12.** install nets of the recommended mesh size

##### *Stock the seeds*

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

- PC13.** acclimatise the seeds before stocking them
- PC14.** follow the recommended prophylactic measures before stocking the seeds to protect them from diseases and ectoparasites
- PC15.** stock the seeds at the recommended temperature, ensuring no damage to them

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**PC16.** maintain the recommended stocking density for the selected species

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for mariculture such as clear seawater, moderate rainfall, suitable climatic conditions, recommended depth, etc.
- KU2.** the importance of ensuring the mariculture site is located away from sewage and industrial discharge
- KU3.** various species cultured in marine water such as hairtail, sargo, queen angelfish, etc.
- KU4.** the process of procuring quality seeds, their safe transportation and storage
- KU5.** the process of fabrication and installation of mariculture pens/ rafts/ cages
- KU6.** the process of stocking seeds in a mariculture pen/ raft/ cage
- KU7.** the importance and process of acclimatising the seeds before stocking
- KU8.** recommended stocking density and temperature for various marine water fish/ crustacean species
- KU9.** appropriate prophylactic measures to protect the seeds from diseases and ectoparasites

### 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 stay updated about the latest development in the field of work
- GS3.** plan and schedule tasks for effective time management
- GS4.** identify possible hazards and disruptions and take appropriate preventive measures
- GS5.** communicate politely and professionally
- GS6.** listen attentively to understand the information being shared
- GS7.** take quick decisions to deal with workplace emergencies
- GS8.** evaluate all possible solutions to a problem to select the best one

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select a suitable site for mariculture</i>	<b>8</b>	<b>12</b>	-	<b>8</b>
<b>PC1.</b> select a site that contains clear seawater, receives moderate rainfall throughout the year, and has suitable climatic conditions	-	-	-	-
<b>PC2.</b> check the site has the recommended depth and quality of water for mariculture activities	-	-	-	-
<b>PC3.</b> ensure that the site is not covered with coral reefs, seagrass, mangrove, etc.	-	-	-	-
<b>PC4.</b> ensure that the site is located far from sewage and industrial discharge and doesn't experience strong water currents	-	-	-	-
<i>Procure seeds of organisms for culture activities</i>	<b>6</b>	<b>8</b>	-	<b>6</b>
<b>PC5.</b> identify the species and type of seeds required for the specific marine aquaculture system	-	-	-	-
<b>PC6.</b> select a source of quality seeds	-	-	-	-
<b>PC7.</b> procure the seeds in the required quantity	-	-	-	-
<b>PC8.</b> arrange for stress and damage-free transportation and storage of the seeds	-	-	-	-
<i>Fabricate and install the pen/ raft/ cage</i>	<b>10</b>	<b>12</b>	-	<b>6</b>
<b>PC9.</b> procure cost-effective and durable material for fabricating the pen/ raft/ cage	-	-	-	-
<b>PC10.</b> co-ordinate with a fabricator for the fabrication of pen/ raft/ cage	-	-	-	-
<b>PC11.</b> install the pen/ raft/ cage at the selected site and secure it using anchors and ropes	-	-	-	-
<b>PC12.</b> install nets of the recommended mesh size	-	-	-	-
<i>Stock the seeds</i>	<b>6</b>	<b>8</b>	-	<b>10</b>



### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> acclimatise the seeds before stocking them	-	-	-	-
<b>PC14.</b> follow the recommended prophylactic measures before stocking the seeds to protect them from diseases and ectoparasites	-	-	-	-
<b>PC15.</b> stock the seeds at the recommended temperature, ensuring no damage to them	-	-	-	-
<b>PC16.</b> maintain the recommended stocking density for the selected species	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N4933
<b>NOS Name</b>	Install the pen/ raft/ cage and stock the seeds
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>NSQF Level</b>	4
<b>Credits</b>	3
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022

## Qualification Pack

### AGR/N4934: Carry out post-stocking management

#### Description

This OS unit is about carrying out nutrition and health management of the seeds stocked in the mariculture cages.

#### Scope

The scope covers the following :

- Maintain the mariculture cages and water quality
- Carry out feed management
- Carry out health and disease management
- Optimise resource utilisation and manage waste

#### Elements and Performance Criteria

##### *Maintain the mariculture cages and water quality*

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

- PC1.** maintain the required temperature, pH, dissolved oxygen, alkalinity and salinity levels in the mariculture cages
- PC2.** maintain an adequate exchange of water in the cages to ensure the quality of water
- PC3.** identify and remove predators from the cages
- PC4.** remove algae, aquatic weeds, and uneaten feed from the cages regularly
- PC5.** check the cages to ensure they are anchored in the correct position
- PC6.** carry out regular repair and maintenance of the cages

##### *Carry out feed management*

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

- PC7.** feed the stocked organisms with the recommended feed such as wet feed, pellets, floating feed, ensuring the required level of nutrients
- PC8.** follow the recommended feeding schedule for the stocked species
- PC9.** apply appropriate changes to the feed according to the stages of growth of the organisms to ensure their optimum growth

##### *Carry out health and disease management*

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

- PC10.** follow the recommended practices to prevent the outbreak of pathogens and disease such as application of chlorine/ approved disinfectants
- PC11.** monitor the organisms in the mariculture cages for signs of stress and disease such as reduced feeding, erratic behaviour, spots and lesions, etc.
- PC12.** sample the organisms and water, and co-ordinate with an approved lab to identify the problem
- PC13.** identify and quarantine the diseased organisms

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- PC14.** select an appropriate treatment according to the identified disease/ infection or consult an expert
- PC15.** apply the prescribed treatment in the recommended dose
- PC16.** monitor the quarantined organisms for signs of improvements and stock with the healthy organisms once cured

### *Optimise resource utilisation and manage waste*

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

- PC17.** optimise the usage of water and other resources in various tasks and processes
- PC18.** segregate waste into appropriate categories
- PC19.** dispose the non-recyclable waste in an environment-friendly manner and recycle the recyclable waste appropriately

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** how to maintain the required temperature, pH, dissolved oxygen, alkalinity and salinity levels in the mariculture cages
- KU2.** the importance of maintaining the adequate exchange of water in the cages to ensure the quality of water
- KU3.** the process of identifying and removing predators from the mariculture cages
- KU4.** the importance of cleaning the cages and carrying out their maintenance regularly
- KU5.** different types of feed for different species of mariculture organisms such as wet feed, pellets, floating feed, etc.
- KU6.** the process of feeding the mariculture organisms and the recommended feeding schedule for different species
- KU7.** changes required in the feed of mariculture organisms according to the stages of their growth
- KU8.** recommended practices to prevent the outbreak of pathogens and disease in the water body such as application of chlorine/ approved disinfectants
- KU9.** signs of stress and disease among the organisms such as reduced feeding, erratic behaviour, spots and lesions, etc.
- KU10.** the process of sampling the organisms and co-ordinating with an approved lab to identify the disease/ problem among the organisms
- KU11.** the process of identifying, quarantining and treating the diseased organisms
- KU12.** commonly prescribed treatment to treat mariculture organisms along with the recommended dose
- KU13.** the importance of following environmental and ecological best practices
- KU14.** benefits of resource optimisation and ways of efficiently managing various materials
- KU15.** different methods of recycling and disposing different types of waste
- KU16.** common sources of pollution and ways to minimise it

## Generic Skills (GS)

## Qualification Pack

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

- GS1.** write work-related records
- GS2.** communicate clearly and politely with co-workers and clients
- GS3.** read the relevant literature to get information about the latest developments in the field of work
- GS4.** plan and prioritise tasks to ensure timely completion
- GS5.** take quick decisions to deal with workplace emergencies/ accidents
- GS6.** listen attentively to understand the information/ instructions being shared by the speaker
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** co-ordinate with co-workers to achieve work objectives
- GS9.** 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>Maintain the mariculture cages and water quality</i>	<b>8</b>	<b>12</b>	-	<b>6</b>
<b>PC1.</b> maintain the required temperature, pH, dissolved oxygen, alkalinity and salinity levels in the mariculture cages	-	-	-	-
<b>PC2.</b> maintain an adequate exchange of water in the cages to ensure the quality of water	-	-	-	-
<b>PC3.</b> identify and remove predators from the cages	-	-	-	-
<b>PC4.</b> remove algae, aquatic weeds, and uneaten feed from the cages regularly	-	-	-	-
<b>PC5.</b> check the cages to ensure they are anchored in the correct position	-	-	-	-
<b>PC6.</b> carry out regular repair and maintenance of the cages	-	-	-	-
<i>Carry out feed management</i>	<b>6</b>	<b>12</b>	-	<b>8</b>
<b>PC7.</b> feed the stocked organisms with the recommended feed such as wet feed, pellets, floating feed, ensuring the required level of nutrients	-	-	-	-
<b>PC8.</b> follow the recommended feeding schedule for the stocked species	-	-	-	-
<b>PC9.</b> apply appropriate changes to the feed according to the stages of growth of the organisms to ensure their optimum growth	-	-	-	-
<i>Carry out health and disease management</i>	<b>8</b>	<b>10</b>	-	<b>8</b>
<b>PC10.</b> follow the recommended practices to prevent the outbreak of pathogens and disease such as application of chlorine/ approved disinfectants	-	-	-	-
<b>PC11.</b> monitor the organisms in the mariculture cages for signs of stress and disease such as reduced feeding, erratic behaviour, spots and lesions, etc.	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> sample the organisms and water, and co-ordinate with an approved lab to identify the problem	-	-	-	-
<b>PC13.</b> identify and quarantine the diseased organisms	-	-	-	-
<b>PC14.</b> select an appropriate treatment according to the identified disease/ infection or consult an expert	-	-	-	-
<b>PC15.</b> apply the prescribed treatment in the recommended dose	-	-	-	-
<b>PC16.</b> monitor the quarantined organisms for signs of improvements and stock with the healthy organisms once cured	-	-	-	-
<i>Optimise resource utilisation and manage waste</i>	<b>8</b>	<b>6</b>	-	<b>8</b>
<b>PC17.</b> optimise the usage of water and other resources in various tasks and processes	-	-	-	-
<b>PC18.</b> segregate waste into appropriate categories	-	-	-	-
<b>PC19.</b> dispose the non-recyclable waste in an environment-friendly manner and recycle the recyclable waste appropriately	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	-	<b>30</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N4934
<b>NOS Name</b>	Carry out post-stocking management
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022



## Qualification Pack

### AGR/N4923: Harvest, process and market the aquaculture organisms

#### Description

This OS unit is about carrying out harvesting, sorting, grading and marketing of aquaculture organisms.

#### Scope

The scope covers the following :

- Harvest the aquaculture organisms
- Sort, grade and store the aquaculture organisms
- Market the aquaculture organisms

#### Elements and Performance Criteria

##### *Harvest the aquaculture organisms*

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

- PC1.** check the aquaculture organisms to ensure they have attained the marketable size and are ready for being harvested
- PC2.** select an appropriate time of the day and method to harvest the aquaculture organisms such as ring seine, hook and line, traps and pots, trawling, purse seining, etc.
- PC3.** use the appropriate tools and equipment such as dip net, cast net, portable lift net, gill nets according to the selected method
- PC4.** harvest the aquaculture organisms partially or completely according to the local demand and proximity to the relevant markets/ buyers
- PC5.** protect the aquaculture organisms from stress, damage and contamination during harvesting
- PC6.** maintain the record of harvested organisms

##### *Sort, grade and store the aquaculture organisms*

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

- PC7.** carry out sorting of organisms as per the relevant criteria such as species and maturity
- PC8.** grade the organisms manually or mechanically on the basis of appropriate quality parameters such as size and appearance
- PC9.** store the organisms in hygienic conditions at the recommended temperature and humidity before and after processing

##### *Market the aquaculture organisms*

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

- PC10.** identify the market demand and potential buyers of the harvested aquaculture organisms
- PC11.** negotiate the price with the buyer(s)
- PC12.** pack the aquaculture organisms in appropriate containers for being transported to the market/ buyer
- PC13.** maintain the optimum density while packing to ensure minimum stress to the organisms during transit

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- PC14.** follow the recommended practices to save the produce from contamination during packing and transit
- PC15.** arrange an appropriate mode of transport to deliver the organisms to the buyer
- PC16.** use the relevant e-payment method such as Aadhaar Enabled Payment System (AEPS), Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD) payment, etc.
- PC17.** maintain the record of sales and payments
- PC18.** calculate the benefit-cost (B:C) ratio

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** maturity indicators of various aquaculture organisms
- KU2.** appropriate time and method to harvest the aquaculture organisms safely such as ring seine, shore seine, hook and line, traps and pots, trawling, purse seining, hook and line, etc.
- KU3.** use of the relevant harvesting tools and equipment such as stake net, Chinese dip net, cast net, mini trawls, gill nets, trammel net, cast net and portable lift net to harvest the aquaculture organisms
- KU4.** applicable documentation requirements
- KU5.** the process and various criteria for sorting and grading harvested aquaculture organisms
- KU6.** appropriate conditions to store the harvested aquaculture organisms
- KU7.** various activities in the process of marketing the produce such as identifying the market demand, connecting with buyers and negotiating the price, processing order and payments etc.
- KU8.** recommended practices for packing and transporting aquaculture organisms safely while protecting them from contamination
- KU9.** use of various e-payment methods such as Aadhaar Enabled Payment System (AEPS), Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD) payment, etc.
- KU10.** how to calculate the benefit-cost (B:C) ratio

## Generic Skills (GS)

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

- GS1.** write work-related records
- GS2.** communicate clearly and politely with co-workers and clients
- GS3.** read the relevant literature to get information about the latest developments in the field of work
- GS4.** plan and prioritise tasks to ensure timely completion
- GS5.** take quick decisions to deal with workplace emergencies/ accidents
- GS6.** listen attentively to understand the information/ instructions being shared by the speaker
- GS7.** identify possible disruptions to work and take appropriate preventive measures

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- GS8.** co-ordinate with co-workers to achieve work objectives
- GS9.** evaluate all possible solutions to a problem to select the best one

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the aquaculture organisms</i>	<b>14</b>	<b>14</b>	-	<b>10</b>
<b>PC1.</b> check the aquaculture organisms to ensure they have attained the marketable size and are ready for being harvested	-	-	-	-
<b>PC2.</b> select an appropriate time of the day and method to harvest the aquaculture organisms such as ring seine, hook and line, traps and pots, trawling, purse seining, etc.	-	-	-	-
<b>PC3.</b> use the appropriate tools and equipment such as dip net, cast net, portable lift net, gill nets according to the selected method	-	-	-	-
<b>PC4.</b> harvest the aquaculture organisms partially or completely according to the local demand and proximity to the relevant markets/ buyers	-	-	-	-
<b>PC5.</b> protect the aquaculture organisms from stress, damage and contamination during harvesting	-	-	-	-
<b>PC6.</b> maintain the record of harvested organisms	-	-	-	-
<i>Sort, grade and store the aquaculture organisms</i>	<b>8</b>	<b>14</b>	-	<b>12</b>
<b>PC7.</b> carry out sorting of organisms as per the relevant criteria such as species and maturity	-	-	-	-
<b>PC8.</b> grade the organisms manually or mechanically on the basis of appropriate quality parameters such as size and appearance	-	-	-	-
<b>PC9.</b> store the organisms in hygienic conditions at the recommended temperature and humidity before and after processing	-	-	-	-
<i>Market the aquaculture organisms</i>	<b>8</b>	<b>12</b>	-	<b>8</b>
<b>PC10.</b> identify the market demand and potential buyers of the harvested aquaculture organisms	-	-	-	-
<b>PC11.</b> negotiate the price with the buyer(s)	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> pack the aquaculture organisms in appropriate containers for being transported to the market/ buyer	-	-	-	-
<b>PC13.</b> maintain the optimum density while packing to ensure minimum stress to the organisms during transit	-	-	-	-
<b>PC14.</b> follow the recommended practices to save the produce from contamination during packing and transit	-	-	-	-
<b>PC15.</b> arrange an appropriate mode of transport to deliver the organisms to the buyer	-	-	-	-
<b>PC16.</b> use the relevant e-payment method such as Aadhaar Enabled Payment System (AEPS), Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD) payment, etc.	-	-	-	-
<b>PC17.</b> maintain the record of sales and payments	-	-	-	-
<b>PC18.</b> calculate the benefit-cost (B:C) ratio	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N4923
<b>NOS Name</b>	Harvest, process and market the aquaculture organisms
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022

## Qualification Pack

### AGR/N4955: Follow the hygiene and safety practices in culture operations

#### Description

This OS unit is about following various hygiene and safety practices during culture operations.

#### Scope

The scope covers the following :

- Maintain the water body and its hygiene
- Maintain the health of cultured organisms
- Maintain personal health and safety

#### Elements and Performance Criteria

##### *Maintain the water body and its hygiene*

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

- PC1.** follow the recommended practices to protect the aquaculture farm from different types of threats such as storms, predatory birds, harmful organisms, poachers, etc.
- PC2.** carry out regular maintenance of the dykes and fences in the culture pond
- PC3.** identify and remove the preying organisms from the culture pond or tank
- PC4.** remove sludge, algae, uneaten feed and any other waste materials from the culture pond or tank
- PC5.** apply the necessary disinfectants or preventive treatment in the culture pond or tank to prevent disease outbreak and the growth of harmful organisms

##### *Maintain the health of cultured organisms*

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

- PC6.** follow the recommended practices to protect the cultured organisms from the air, water or fomite-borne contamination and diseases
- PC7.** sample the cultured organisms regularly to identify the signs of stress/ disease/ phenotypic disorders and the presence of parasites and pathogens
- PC8.** identify, quarantine and treat the unhealthy organisms following the recommended practices
- PC9.** monitor the quarantined organisms for signs of improvement and restock them in the culture pond or tank on complete recovery
- PC10.** remove the dead and moribund organisms and dispose them in an environment-friendly manner

##### *Maintain personal health and safety*

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

- PC11.** check the relevant Personal Protective Equipment (PPE) before use and repair or replace it, as required
- PC12.** use the relevant PPE during various aquaculture operations such as the application of hazardous chemicals
- PC13.** use the recommended soap or sanitiser to keep hands sanitised

## Qualification Pack

- PC14.** store hazardous chemicals, tools and equipment in the safe storage area to avoid personal harm or injury
- PC15.** administer first-aid to the injured personnel and co-ordinate with the emergency services for further medical attention

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** how to protect the aquaculture farm and cultured species from various threats
- KU2.** the process of identifying and removing predators or preying organisms from the culture pond or tank
- KU3.** the importance and process of carrying out regular cleaning of the culture pond or tank to remove sludge, algae, uneaten feed, etc.
- KU4.** the recommended disinfectants for water bodies and the process of applying them to prevent disease outbreak and growth of harmful organisms
- KU5.** recommended practices to protect the cultured organisms from air/ water/ fomite-borne contamination and diseases during and after harvesting
- KU6.** the process of sampling the cultured organisms to identify disease, disorders and presence of parasites and pathogens
- KU7.** the signs of stress or disease in the cultured organisms such as spots, lesions, erratic movement, etc.
- KU8.** the process of identifying, quarantining and treating the unhealthy organisms
- KU9.** the signs of improvement in the quarantined organisms
- KU10.** the importance of removing the dead and moribund organisms from the water body promptly and disposing them safely
- KU11.** the importance of using the relevant PPE and ensuring it is damage-free
- KU12.** appropriate practices to be followed to maintain personal hygiene and prevent infections
- KU13.** the importance of storing hazardous chemicals, tools and equipment safely
- KU14.** how to administer first-aid and co-ordinate with emergency services

## Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant guidelines and safety instruction in the local language/ English
- GS3.** listen attentively to understand the information/ instructions being given
- GS4.** communicate politely and professionally
- GS5.** co-ordinate with the co-workers to achieve the work objectives
- GS6.** evaluate all the possible solutions to a problem to select the best one
- GS7.** take quick decisions within the limits of authority to resolve work-related issues
- GS8.** plan and schedule tasks to ensure timely completion



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain the water body and its hygiene</i>	<b>10</b>	<b>15</b>	-	<b>10</b>
<b>PC1.</b> follow the recommended practices to protect the aquaculture farm from different types of threats such as storms, predatory birds, harmful organisms, poachers, etc.	-	-	-	-
<b>PC2.</b> carry out regular maintenance of the dykes and fences in the culture pond	-	-	-	-
<b>PC3.</b> identify and remove the preying organisms from the culture pond or tank	-	-	-	-
<b>PC4.</b> remove sludge, algae, uneaten feed and any other waste materials from the culture pond or tank	-	-	-	-
<b>PC5.</b> apply the necessary disinfectants or preventive treatment in the culture pond or tank to prevent disease outbreak and the growth of harmful organisms	-	-	-	-
<i>Maintain the health of cultured organisms</i>	<b>10</b>	<b>15</b>	-	<b>10</b>
<b>PC6.</b> follow the recommended practices to protect the cultured organisms from the air, water or fomite-borne contamination and diseases	-	-	-	-
<b>PC7.</b> sample the cultured organisms regularly to identify the signs of stress/ disease/ phenotypic disorders and the presence of parasites and pathogens	-	-	-	-
<b>PC8.</b> identify, quarantine and treat the unhealthy organisms following the recommended practices	-	-	-	-
<b>PC9.</b> monitor the quarantined organisms for signs of improvement and restock them in the culture pond or tank on complete recovery	-	-	-	-
<b>PC10.</b> remove the dead and moribund organisms and dispose them in an environment-friendly manner	-	-	-	-
<i>Maintain personal health and safety</i>	<b>10</b>	<b>10</b>	-	<b>10</b>

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> check the relevant Personal Protective Equipment (PPE) before use and repair or replace it, as required	-	-	-	-
<b>PC12.</b> use the relevant PPE during various aquaculture operations such as the application of hazardous chemicals	-	-	-	-
<b>PC13.</b> use the recommended soap or sanitiser to keep hands sanitised	-	-	-	-
<b>PC14.</b> store hazardous chemicals, tools and equipment in the safe storage area to avoid personal harm or injury	-	-	-	-
<b>PC15.</b> administer first-aid to the injured personnel and co-ordinate with the emergency services for further medical attention	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N4955
<b>NOS Name</b>	Follow the hygiene and safety practices in culture operations
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>NSQF Level</b>	4
<b>Credits</b>	1
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	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:

## Qualification Pack

- 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>	<b>6</b>	<b>8</b>	-	<b>6</b>
<b>PC1.</b> identify farmers/ groups with the common interests in the area	-	-	-	-
<b>PC2.</b> 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>	<b>6</b>	<b>10</b>	-	<b>6</b>
<b>PC3.</b> organise fundraising activities to support the functioning of the group	-	-	-	-
<b>PC4.</b> establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds	-	-	-	-
<b>PC5.</b> induct subject matter experts (SMEs) in the group	-	-	-	-
<b>PC6.</b> assist in arranging the required Information and Communication Technology (ICT) products for the group	-	-	-	-
<b>PC7.</b> plan the commodity convergence with the relevant developmental programmes	-	-	-	-
<b>PC8.</b> plan optimal production to meet the market and household food security needs	-	-	-	-
<i>Conduct group meetings and training sessions</i>	<b>8</b>	<b>6</b>	-	<b>8</b>
<b>PC9.</b> conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.	-	-	-	-
<b>PC10.</b> 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	-	-	-	-
<b>PC11.</b> 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>	<b>10</b>	<b>16</b>	<b>-</b>	<b>10</b>
<b>PC12.</b> organise field trials to identify and resolve problems encountered by group members in the field operations	-	-	-	-
<b>PC13.</b> procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members	-	-	-	-
<b>PC14.</b> establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.	-	-	-	-
<b>PC15.</b> use the group's credit facility as per the applicable terms and conditions	-	-	-	-
<b>PC16.</b> carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.	-	-	-	-
<b>PC17.</b> co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.	-	-	-	-
<b>PC18.</b> assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs	-	-	-	-
<b>PC19.</b> identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.	-	-	-	-
<b>PC20.</b> arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.	-	-	-	-
<b>PC21.</b> connect and partner with other groups to expand the network and address common problems at a large scale	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>



## Qualification Pack

### National Occupational Standards (NOS) Parameters

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

## Qualification Pack

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

#### Description

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

#### Scope

The scope covers the following :

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

#### Elements and Performance Criteria

##### *Introduction to Employability Skills*

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

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

##### *Constitutional values – Citizenship*

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

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

##### *Becoming a Professional in the 21st Century*

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

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

##### *Basic English Skills*

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

## Qualification Pack

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

### *Career Development & Goal Setting*

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

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

### *Communication Skills*

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

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

### *Diversity & Inclusion*

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

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

### *Financial and Legal Literacy*

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

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

### *Essential Digital Skills*

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

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

### *Entrepreneurship*

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

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

### *Customer Service*

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

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

## Qualification Pack

**PC28.** follow appropriate hygiene and grooming standards

*Getting ready for apprenticeship & Jobs*

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

**PC29.** create a professional Curriculum vitae (Résumé)

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

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

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

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

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

**KU2.** various constitutional and personal values

**KU3.** different environmentally sustainable practices and their importance

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

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

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

**KU7.** about effective communication

**KU8.** POSH Act

**KU9.** Gender sensitivity and inclusivity

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

**KU11.** how to compute income and expenditure

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

**KU13.** different legal rights and laws

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

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

**KU16.** how to identify business opportunities

**KU17.** types and needs of customers

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

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

## Generic Skills (GS)

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

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

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

## Qualification Pack

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

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> 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.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	18/02/2025
<b>Next Review Date</b>	18/02/2028
<b>NSQC Clearance Date</b>	18/02/2025

## Qualification Pack

### AGR/N4945: Carry out marine water pearl culture

#### Description

This OS unit is about carrying out pearl culture in marine water and includes various activities such as selecting a site, procuring and conditioning the oysters and setting up a pearl farm, etc.

#### Scope

The scope covers the following :

- Check feasibility and select a site for pearl culture
- Procure and condition the pearl oysters
- Set up the marine water pearl culture farm
- Graft and transfer pearl oysters to the pearl farm
- Maintain the water body
- Maintain the pearl oysters
- Harvest and market the pearl oysters

#### Elements and Performance Criteria

##### *Check feasibility and select a site for pearl culture*

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

- PC1.** conduct a feasibility study to determine profitability in carrying out pearl culture such as costs involved in the maintenance of a pearl culture farm, labour, hiring a grafting technician, etc.
- PC2.** select a suitable site for pearl culture with the prior presence of pearl oysters, recommended temperature and salinity levels, clean water away from industrial discharge and sewage, recommended depth, mild water currents and winds, etc.

##### *Procure and condition the pearl oysters*

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

- PC3.** select the appropriate species of oysters considering the type of pearl to be produced and the local climate, their stages of development, etc.
- PC4.** check the availability of a reliable source of pearl oysters
- PC5.** procure hatchery-produced pearl oysters or collect from the wild in the required quantity
- PC6.** use disinfected water or recommended chemicals to condition the oysters and prevent bacterial/ fungal/ protozoan infections

##### *Set up the marine water pearl culture farm*

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

- PC7.** arrange the material required for setting the pearl culture farm such as bamboo/ lightweight timber for rafts and sealed plastic drums/ mild steel barrels for floats, coir or synthetic ropes, anchors, etc.
- PC8.** prepare the rafts and floats in the recommended size and tie them using ropes
- PC9.** apply anti-saline/ anti-corrosive paint if using steel barrels as floats
- PC10.** install the rafts and floats in the water body according to the wind direction

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**PC11.** moor the rafts in the water using anchors to prevent them from breaking free

### *Graft and transfer pearl oysters to the pearl farm*

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

**PC12.** select healthy oysters of the required characteristics for grafting

**PC13.** ensure the oysters starve for the recommended period before the grafting operation

**PC14.** co-ordinate with a grafting technician to prepare the grafts

**PC15.** check that grafting is done as per the required quality standards

**PC16.** create a scalpel slit in the soft tissue near the reproductive organ of the host oyster

**PC17.** insert the graft into the slit after opening the host oyster using the necessary tools and equipment such as wedges and pliers

**PC18.** insert nucleus in the scalpel slit to provoke the host oyster to cover the nucleus with pearl nacre

**PC19.** maintain the oyster in water for the recommended period

**PC20.** carry out x-ray examination of the oysters to check if the implant has been successful

**PC21.** transfer the oysters with the successful implant to the pearl farm ensuring no damage to them

**PC22.** place the oysters in lantern baskets/ pocket nets attached to the rafts and suspend into water

**PC23.** maintain the recommended spacing among the lantern baskets/ pocket nets to ensure healthy growth of pearl oysters

### *Maintain the water body*

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

**PC24.** carry out regular cleaning to remove fouling organisms from the water body and oyster shells, ensuring no damage to the oysters

**PC25.** filter the recommended quantity of water in the water body regularly to provide adequate feed to pearl oysters in the form of algae and other small organisms

**PC26.** inspect the floats regularly to ensure they are anchored firmly in the correct position

**PC27.** identify and remove predators from the water body

**PC28.** protect the pearl farm from exposure to extreme temperatures, dirt, chemicals, vandalism and theft

### *Maintain the pearl oysters*

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

**PC29.** monitor the pearl oysters regularly to identify the signs of stress and disease

**PC30.** apply the appropriate treatment in the recommended dose to cure the unhealthy pearl oysters

**PC31.** maintain the record of treatment used in the water body

**PC32.** identify, remove and dispose the dead pearl oysters and other waste safely as per the recommended practices

**PC33.** maintain the oysters in the water body for the recommended duration

### *Harvest and market the pearl oysters*

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

**PC34.** check the pearls oysters to ensure the pearls have achieved the sufficient coating for being harvested

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- PC35.** collect the lantern baskets/ pocket nets from the water body and retrieve the pearl oysters
- PC36.** transport the pearl oysters to the processing unit in a cool and moist environment
- PC37.** use the appropriate equipment to split open the oysters and cut the pearl bags to remove the pearls
- PC38.** dry the harvested pearls to the recommended level to protect against loss of lustre
- PC39.** sort and grade the harvested pearls on the applicable parameters
- PC40.** market the pearls and maintain the records of sales and payments

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for pearl culture such as the recommended temperature and salinity levels, clean water, recommended depth, mild water currents, etc.
- KU2.** the process of conducting a feasibility study to determine profitability in carrying out pearl culture
- KU3.** the criteria for selecting a variety of oyster for pearl culture
- KU4.** the process of procuring and conditioning the pearl oysters
- KU5.** various material required for setting up a pearl culture farm such as bamboo/ lightweight timber, sealed plastic drums/ mild steel barrels, coir or synthetic ropes, anchors, etc.
- KU6.** the process of setting up a pearl culture farm
- KU7.** the process of grafting pearl oysters and the applicable quality standards
- KU8.** the process of implanting nucleus into the host oyster and checking if the implant is successful
- KU9.** the process of transferring the successful implants into the pearl culture farm
- KU10.** the importance and process of maintaining the pearl culture water body
- KU11.** how to protect the pearl culture farm from extreme temperatures, dirt, chemicals, vandalism and theft
- KU12.** health and disease management of the pearl oysters
- KU13.** the process of harvesting and marketing the pearls
- KU14.** the process of drying the harvested pearls to the recommended level to preserve their lustre
- KU15.** relevant parameters for sorting and grading the harvested pearls
- KU16.** marketing of cultured pearls and the applicable record-keeping requirements

## Generic Skills (GS)

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

- GS1.** read the relevant literature to get updated information about the field of work
- GS2.** plan and prioritise tasks to ensure timely completion
- GS3.** take quick decisions to resolve work-related issues
- GS4.** communicate politely and professionally
- GS5.** identify possible disruptions to work and take appropriate preventive measures

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**GS6.** take quick decisions to deal with any emergencies/ accidents

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check feasibility and select a site for pearl culture</i>	2	4	-	2
<b>PC1.</b> conduct a feasibility study to determine profitability in carrying out pearl culture such as costs involved in the maintenance of a pearl culture farm, labour, hiring a grafting technician, etc.	-	-	-	-
<b>PC2.</b> select a suitable site for pearl culture with the prior presence of pearl oysters, recommended temperature and salinity levels, clean water away from industrial discharge and sewage, recommended depth, mild water currents and winds, etc.	-	-	-	-
<i>Procure and condition the pearl oysters</i>	4	6	-	4
<b>PC3.</b> select the appropriate species of oysters considering the type of pearl to be produced and the local climate, their stages of development, etc.	-	-	-	-
<b>PC4.</b> check the availability of a reliable source of pearl oysters	-	-	-	-
<b>PC5.</b> procure hatchery-produced pearl oysters or collect from the wild in the required quantity	-	-	-	-
<b>PC6.</b> use disinfected water or recommended chemicals to condition the oysters and prevent bacterial/ fungal/ protozoan infections	-	-	-	-
<i>Set up the marine water pearl culture farm</i>	2	4	-	4
<b>PC7.</b> arrange the material required for setting the pearl culture farm such as bamboo/ lightweight timber for rafts and sealed plastic drums/ mild steel barrels for floats, coir or synthetic ropes, anchors, etc.	-	-	-	-
<b>PC8.</b> prepare the rafts and floats in the recommended size and tie them using ropes	-	-	-	-
<b>PC9.</b> apply anti-saline/ anti-corrosive paint if using steel barrels as floats	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> install the rafts and floats in the water body according to the wind direction	-	-	-	-
<b>PC11.</b> moor the rafts in the water using anchors to prevent them from breaking free	-	-	-	-
<i>Graft and transfer pearl oysters to the pearl farm</i>	<b>6</b>	<b>6</b>	-	<b>6</b>
<b>PC12.</b> select healthy oysters of the required characteristics for grafting	-	-	-	-
<b>PC13.</b> ensure the oysters starve for the recommended period before the grafting operation	-	-	-	-
<b>PC14.</b> co-ordinate with a grafting technician to prepare the grafts	-	-	-	-
<b>PC15.</b> check that grafting is done as per the required quality standards	-	-	-	-
<b>PC16.</b> create a scalpel slit in the soft tissue near the reproductive organ of the host oyster	-	-	-	-
<b>PC17.</b> insert the graft into the slit after opening the host oyster using the necessary tools and equipment such as wedges and pliers	-	-	-	-
<b>PC18.</b> insert nucleus in the scalpel slit to provoke the host oyster to cover the nucleus with pearl nacre	-	-	-	-
<b>PC19.</b> maintain the oyster in water for the recommended period	-	-	-	-
<b>PC20.</b> carry out x-ray examination of the oysters to check if the implant has been successful	-	-	-	-
<b>PC21.</b> transfer the oysters with the successful implant to the pearl farm ensuring no damage to them	-	-	-	-
<b>PC22.</b> place the oysters in lantern baskets/ pocket nets attached to the rafts and suspend into water	-	-	-	-
<b>PC23.</b> maintain the recommended spacing among the lantern baskets/ pocket nets to ensure healthy growth of pearl oysters	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain the water body</i>	<b>4</b>	<b>6</b>	-	<b>4</b>
<b>PC24.</b> carry out regular cleaning to remove fouling organisms from the water body and oyster shells, ensuring no damage to the oysters	-	-	-	-
<b>PC25.</b> filter the recommended quantity of water in the water body regularly to provide adequate feed to pearl oysters in the form of algae and other small organisms	-	-	-	-
<b>PC26.</b> inspect the floats regularly to ensure they are anchored firmly in the correct position	-	-	-	-
<b>PC27.</b> identify and remove predators from the water body	-	-	-	-
<b>PC28.</b> protect the pearl farm from exposure to extreme temperatures, dirt, chemicals, vandalism and theft	-	-	-	-
<i>Maintain the pearl oysters</i>	<b>6</b>	<b>8</b>	-	<b>4</b>
<b>PC29.</b> monitor the pearl oysters regularly to identify the signs of stress and disease	-	-	-	-
<b>PC30.</b> apply the appropriate treatment in the recommended dose to cure the unhealthy pearl oysters	-	-	-	-
<b>PC31.</b> maintain the record of treatment used in the water body	-	-	-	-
<b>PC32.</b> identify, remove and dispose the dead pearl oysters and other waste safely as per the recommended practices	-	-	-	-
<b>PC33.</b> maintain the oysters in the water body for the recommended duration	-	-	-	-
<i>Harvest and market the pearl oysters</i>	<b>6</b>	<b>6</b>	-	<b>6</b>
<b>PC34.</b> check the pearls oysters to ensure the pearls have achieved the sufficient coating for being harvested	-	-	-	-
<b>PC35.</b> collect the lantern baskets/ pocket nets from the water body and retrieve the pearl oysters	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC36.</b> transport the pearl oysters to the processing unit in a cool and moist environment	-	-	-	-
<b>PC37.</b> use the appropriate equipment to split open the oysters and cut the pearl bags to remove the pearls	-	-	-	-
<b>PC38.</b> dry the harvested pearls to the recommended level to protect against loss of lustre	-	-	-	-
<b>PC39.</b> sort and grade the harvested pearls on the applicable parameters	-	-	-	-
<b>PC40.</b> market the pearls and maintain the records of sales and payments	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N4945
<b>NOS Name</b>	Carry out marine water pearl culture
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Fisheries
<b>Occupation</b>	Aquaculture
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

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.

The assessment for the theory part will be based on the knowledge bank of questions created by the SSC.

Individual assessment agencies will create unique question papers for the theory part for each candidate at each examination/training center (as per the assessment criteria below).

Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

In case of successfully passing only a certain number of NOSs, the trainee is eligible to take a subsequent assessment on the balance NOS's to pass the Qualification Pack.

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

## 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/N4933.Install the pen/ raft/ cage and stock the seeds	30	40	-	30	100	30
AGR/N4934.Carry out post-stocking management	30	40	-	30	100	25
AGR/N4923.Harvest, process and market the aquaculture organisms	30	40	-	30	100	25
AGR/N4955.Follow the hygiene and safety practices in culture operations	30	40	-	30	100	10
AGR/N9922.Engage in collective farming/activity	30	40	-	30	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
<b>Total</b>	<b>170</b>	<b>230</b>	<b>-</b>	<b>150</b>	<b>550</b>	<b>100</b>

Optional: 1 Pearl Culture

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N4945.Carry out marine water pearl culture	30	40	-	30	100	20
<b>Total</b>	<b>30</b>	<b>40</b>	<b>-</b>	<b>30</b>	<b>100</b>	<b>20</b>



## Qualification Pack

## Qualification Pack

### Acronyms

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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

## Qualification Pack

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