

## Qualification Pack



# Honey bee Farmer (Small Unit)

QP Code: AGR/Q5303

Version: 1.0

NSQF Level: 2

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### AGR/Q5303: Honey bee Farmer (Small Unit)

#### Brief Job Description

A Honey bee Farmer (Small Unit) is responsible for carrying out beekeeping operations which include preparing for and setting up beehives, procuring and introducing bees in hives, and maintaining the bees and beehives. The individual is also responsible for harvesting, processing and marketing honey and related produce.

#### Personal Attributes

The individual must be physically fit to work for long durations. The person must have attention to detail and the ability to make independent decisions. The individual must also know how to read and write.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [AGR/N5306: Prepare for and initiate beekeeping operations](#)
2. [AGR/N5307: Inspect and maintain beehives](#)
3. [AGR/N5308: Harvest and market honey and related produce](#)
4. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Agriculture Allied Activities
<b>Occupation</b>	Beekeeping
<b>Country</b>	India
<b>NSQF Level</b>	2
<b>Credits</b>	7
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/6123.0101
<b>Minimum Educational Qualification &amp; Experience</b>	No formal education prescribed

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<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	16 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	29/09/2026
<b>NSQC Approval Date</b>	29/09/2023
<b>Version</b>	1.0
<b>Reference code on NQR</b>	QG-02-AG-01001-2023-V1-ASCI
<b>NQR Version</b>	1.0

## Qualification Pack

### AGR/N5306: Prepare for and initiate beekeeping operations

#### Description

This OS unit is about selecting a site for beekeeping, arranging the required resources, preparing and installing beehives, and selecting, procuring and introducing bees in beehives.

#### Scope

The scope covers the following :

- Select the site and system for beekeeping
- Arrange the required resources and plan beekeeping operations
- Prepare and install beehives
- Select, procure and introduce bees in beehives

#### Elements and Performance Criteria

##### *Select the site and system for beekeeping*

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

- PC1.** select a site for beekeeping ensuring it has the required temperature and Relative Humidity (RH), ensuring no dampness at the site
- PC2.** ensure the presence of nectar and pollen yielding flowers in the recommended quantity near the site, along with trees for shading and a source of clean water
- PC3.** ensure the site does not experience waterlogging
- PC4.** carry out cost-benefit analysis and select an appropriate beekeeping system, after considering the economic aspects of different beekeeping systems

##### *Arrange the required resources and plan beekeeping operations*

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

- PC5.** select an approved vendor based on the price and quality of required tools, equipment, Personal Protective Equipment (PPE) and accessories, such as top bar hive/ Langstroth hive, smoker, honey extractor, comb foundation sheet, de-capping knife, bee brush, feeder, etc.
- PC6.** purchase the required resources according to the requirement and store them appropriately
- PC7.** plan the beekeeping operations according to the flowering season to ensure easy availability of nectar and pollen for the optimum growth of bees

##### *Prepare and install beehives*

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

- PC8.** select a location for the installation of beehives within the recommended distance from the flower field/ forest
- PC9.** assemble the beehives using the recommended type of wood and other relevant materials
- PC10.** apply the paint of recommended colour on the beehives according to the temperature of the region, to maintain the temperature in beehives, ensuring not to paint the inside
- PC11.** set up the queen excluder as per the requirement
- PC12.** install the beehives with rectangular frames inside them, and stack them on wooden stands appropriately to ensure stability and easy access for their management

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**PC13.** hang beehives as planned using strong and greased galvanised wires

*Select, procure and introduce bees in beehives*

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

**PC14.** select the appropriate species of bee for apiculture, ensuring it produces the required quality of honey and has the recommended life span

**PC15.** select an approved vendor and purchase the package of selected bee species, ensuring the presence of queen bee, worker bees and male bees in the required number or coordinate with an expert to catch bees from the wild, ensuring the bees are healthy

**PC16.** clean the beehives thoroughly before introducing bees in them

**PC17.** introduce bees in beehives following the recommended procedure, maintaining the recommended number of bees in each beehive

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** different species of bees and their life span

**KU2.** the role played by honeybees in biodiversity conservation and maintaining ecological balance through pollination and plant reproduction

**KU3.** natural habitats of different species of bees

**KU4.** different modern and traditional beekeeping systems, their economic aspects and the ease of management

**KU5.** the criteria for selecting a beekeeping system to be used based on cost-benefit analysis

**KU6.** the appropriate climatic conditions required for beekeeping and healthy growth of bees

**KU7.** different stationary and migratory beekeeping systems

**KU8.** the honey yield obtained from different beekeeping systems

**KU9.** how to conduct a cost-benefit analysis to select an appropriate beekeeping system to be followed

**KU10.** the importance of selecting and using cost-effective and easily available tools and equipment for beekeeping

**KU11.** the importance of planning beekeeping according to the flowering season

**KU12.** the criteria for selecting a site for beekeeping

**KU13.** the importance of selecting a location for beekeeping that consists of diverse vegetation and provides adequate pollen, nectar and water for bee feed

**KU14.** the importance of ensuring the presence of nectar and pollen yielding flowers in the recommended quantity near the site, along with trees for shading and a source of clean water

**KU15.** the importance of ensuring the site selected for beekeeping does not experience intense heat, cold and rains and waterlogging

**KU16.** various tools, equipment, PPE and accessories required for beekeeping, such as top bar hive/ Langstroth hive, smoker, honey extractor, comb foundation sheet, de-capping knife, bee brush, feeder, etc.

**KU17.** the importance of selecting a location for the installation of beehives within the recommended distance from the flower field/ forest

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- KU18.** the process of assembling beehives using the recommended type of wood and other relevant materials
- KU19.** appropriate paint colour to be applied on beehives according to the temperature of the region to maintain the temperature in beehives
- KU20.** the process of setting up the queen excluder in the beehive
- KU21.** the process of installing the beehives with rectangular frames inside them, and stacking them appropriately to ensure stability and easy access
- KU22.** the process of hanging beehives and the importance of using strong and greased galvanised wires for the purpose
- KU23.** the criteria for selecting the appropriate species of bee for apiculture
- KU24.** the process of procuring the package of selected bee species, ensuring the presence of queen bee, worker bees and male bees in the required number
- KU25.** the process of catching bees from the wild
- KU26.** the importance of cleaning the beehives thoroughly before introducing bees in them
- KU27.** the process of introducing bees in beehives following the recommended procedure, maintaining the recommended number of bees in each beehive

## Generic Skills (GS)

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

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



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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and system for beekeeping</i>	<b>8</b>	<b>10</b>	-	<b>6</b>
<b>PC1.</b> select a site for beekeeping ensuring it has the required temperature and Relative Humidity (RH), ensuring no dampness at the site	-	-	-	-
<b>PC2.</b> ensure the presence of nectar and pollen yielding flowers in the recommended quantity near the site, along with trees for shading and a source of clean water	-	-	-	-
<b>PC3.</b> ensure the site does not experience waterlogging	-	-	-	-
<b>PC4.</b> carry out cost-benefit analysis and select an appropriate beekeeping system, after considering the economic aspects of different beekeeping systems	-	-	-	-
<i>Arrange the required resources and plan beekeeping operations</i>	<b>6</b>	<b>8</b>	-	<b>8</b>
<b>PC5.</b> select an approved vendor based on the price and quality of required tools, equipment, Personal Protective Equipment (PPE) and accessories, such as top bar hive/ Langstroth hive, smoker, honey extractor, comb foundation sheet, de-capping knife, bee brush, feeder, etc.	-	-	-	-
<b>PC6.</b> purchase the required resources according to the requirement and store them appropriately	-	-	-	-
<b>PC7.</b> plan the beekeeping operations according to the flowering season to ensure easy availability of nectar and pollen for the optimum growth of bees	-	-	-	-
<i>Prepare and install beehives</i>	<b>8</b>	<b>10</b>	-	<b>6</b>
<b>PC8.</b> select a location for the installation of beehives within the recommended distance from the flower field/ forest	-	-	-	-
<b>PC9.</b> assemble the beehives using the recommended type of wood and other relevant materials	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> apply the paint of recommended colour on the beehives according to the temperature of the region, to maintain the temperature in beehives, ensuring not to paint the inside	-	-	-	-
<b>PC11.</b> set up the queen excluder as per the requirement	-	-	-	-
<b>PC12.</b> install the beehives with rectangular frames inside them, and stack them on wooden stands appropriately to ensure stability and easy access for their management	-	-	-	-
<b>PC13.</b> hang beehives as planned using strong and greased galvanised wires	-	-	-	-
<i>Select, procure and introduce bees in beehives</i>	<b>8</b>	<b>12</b>	-	<b>10</b>
<b>PC14.</b> select the appropriate species of bee for apiculture, ensuring it produces the required quality of honey and has the recommended life span	-	-	-	-
<b>PC15.</b> select an approved vendor and purchase the package of selected bee species, ensuring the presence of queen bee, worker bees and male bees in the required number or coordinate with an expert to catch bees from the wild, ensuring the bees are healthy	-	-	-	-
<b>PC16.</b> clean the beehives thoroughly before introducing bees in them	-	-	-	-
<b>PC17.</b> introduce bees in beehives following the recommended procedure, maintaining the recommended number of bees in each beehive	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	-	<b>30</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N5306
<b>NOS Name</b>	Prepare for and initiate beekeeping operations
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Agriculture Allied Activities
<b>Occupation</b>	Beekeeping
<b>NSQF Level</b>	2
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	29/09/2023
<b>Next Review Date</b>	29/09/2026
<b>NSQC Clearance Date</b>	29/09/2023

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### AGR/N5307: Inspect and maintain beehives

#### Description

This OS unit is about inspecting and maintaining the bees and beehives to ensure optimum production of honey and related produce. It also covers applicable resource optimisation and waste management practices.

#### Scope

The scope covers the following :

- Inspect and manage the beehives
- Perform pest, disease and nuisance management
- Optimise resource utilisation
- Perform waste management

#### Elements and Performance Criteria

##### *Inspect and manage the beehives*

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

- PC1.** inspect the beehives during the conducive weather, using the relevant PPE and ensuring not to disturb the bee colonies
- PC2.** identify the signs of swarming and absconding and take appropriate preventive measures
- PC3.** identify the need and install additional frames and honeycomb foundation in beehives
- PC4.** clean the beehives following the recommended procedure and using the appropriate tools and equipment
- PC5.** ensure the availability of bee pasturage or bee forage in an adequate quantity for the survival and healthy growth of bees
- PC6.** remove unnecessary and deformed honeycombs, ensuring no damage to other honeycombs
- PC7.** ensure easy movement of bees and pollen carrying foragers into beehives
- PC8.** follow the recommended practices to preserve honeycombs during the dearth period
- PC9.** ensure appropriate shading from trees or through artificial means to protect bees from intense heat
- PC10.** cover the beehives with gunny bags or rice straw and sprinkle them with the recommended quantity of water to regulate the temperature in beehives during summer
- PC11.** carry out winter packaging with the recommended material such as tar paper during periods of below normal temperatures, ensuring the bees in hives do not suffocate
- PC12.** prepare sugar syrup and pollen to feed bees during the dearth period
- PC13.** feed the bee colonies with sugar syrup, pollen supplement, water and other recommended feed during the dearth period
- PC14.** unite the smaller colonies to enlarge colonies or divide large colonies to populate new beehives, using the relevant tools and equipment
- PC15.** follow the recommended practices to prevent dampness during the rainy season and ensure no waterlogging at the beekeeping site

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- PC16.** inspect the colonies regularly during the swarming season to ensure no empty space is left in the combs, and add frames and dummy boards as per the requirement
- PC17.** prepare the bee colonies for the production of royal jelly
- PC18.** use a queen excluder to keep the queen out of the super chamber to ensure the quality of honey
- PC19.** identify the signs of colony collapse disorder and take appropriate remedial measures
- PC20.** follow the recommended practices to ensure the bee colonies are healthy and strong

### *Perform pest, disease and nuisance management*

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

- PC21.** follow the relevant preventive practices to prevent pests and disease infestation in beehives
- PC22.** identify the signs of relevant pests and diseases that infest beehives such as wax moth, varroa mite, ant, termites, European foul brood, American foul brood, sac brood, etc.
- PC23.** apply the recommended treatment as per the prescription to beehives to remove the identified pests and disease
- PC24.** maintain the record of inspection of beehives and treatment applied to them
- PC25.** follow the recommended practices to prevent different types of nuisance to bees such as domestic animals, honey badgers, birds, vandals, etc.

### *Optimise resource utilisation*

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

- PC26.** optimise the usage of water and other resources in various tasks and processes
- PC27.** plug water leakages to prevent its wastage

### *Perform waste management*

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

- PC28.** segregate waste into appropriate categories
- PC29.** recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of inspecting beehives using the relevant PPE
- KU2.** the signs of swarming and absconding in beehives and the appropriate preventive measures to be taken
- KU3.** how to identify the need of installing additional frames and honeycomb foundations in beehives
- KU4.** the importance of ensuring effective drainage at the apiary site
- KU5.** the method for mass rearing of the queen bee
- KU6.** the process of cleaning beehives using the appropriate tools and equipment
- KU7.** the importance of ensuring the availability of bee pasturage or bee forage in an adequate quantity for the survival and healthy growth of bees
- KU8.** the process of removing unnecessary and deformed honeycombs, ensuring no damage to other honeycombs

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- KU9.** the recommended practices to be followed to preserve honeycombs during the dearth period
- KU10.** the importance of ensuring appropriate shading from trees or through artificial means to protect bees from intense heat
- KU11.** the practice of covering the beehives with gunny bags or rice straw and sprinkling them with the recommended quantity of water to regulate the temperature in beehives during summer
- KU12.** the practice of winter packaging and the recommended material to be used for that such as tar paper
- KU13.** the process of preparing sugar syrup and pollen to feed bees during the dearth period
- KU14.** the process of feeding the bee colonies with sugar syrup, pollen supplement, water and other recommended feed
- KU15.** the process of uniting the smaller colonies to enlarge colonies and dividing large colonies to populate new beehives, using the relevant tools and equipment
- KU16.** the recommended practices to be followed to prevent dampness during the rainy season
- KU17.** the importance of ensuring no empty space in beehives during the swarming season
- KU18.** the use of a queen excluder to keep the queen out of the super chamber to ensure the quality of honey
- KU19.** the relevant preventive practices to be followed to prevent pests and disease infestation in beehives
- KU20.** the signs of relevant pests and diseases that infest beehives such as wax moth, varroa mite, ant, termites, European foul brood, American foul brood, sac brood, etc.
- KU21.** the process of applying the recommended treatment to beehives as per the prescription, and the use of relevant tools and equipment
- KU22.** the importance of maintaining the record of inspection of beehives and treatment applied to them
- KU23.** the recommended practices to be followed to prevent different types of nuisance to bees such as domestic animals, honey badgers, birds, vandals, etc.
- KU24.** the benefit and methods of resource optimisation
- KU25.** the criteria for segregating waste into appropriate categories
- KU26.** how to recycle and dispose different types of waste
- KU27.** different development stages of different types of bees and the time taken at each stage
- KU28.** different types of raw produce generated by bees during their life cycle
- KU29.** different communication methods used by bees such as producing odour, drumming feet, flapping wings, etc.
- KU30.** how bees locate their food source
- KU31.** the conditions under which bees abandon their existing hives and create new hives
- KU32.** various bee forage plants, and the process and timing of their flowering
- KU33.** various ways to protect bees and beehives during the dearth period, and intense heat and cold
- KU34.** use of the relevant tools and equipment for beekeeping
- KU35.** various recommended practices to be followed for the conservation of bees and beehives
- KU36.** how to fix the radius of apiary location from food sources
- KU37.** the importance of keeping the beehives clean and pest free
- KU38.** the importance of ensuring beehives are stable and easily accessible

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- KU39.** how to reduce drifting and disease transmission
- KU40.** the importance of ensuring effective drainage and no dampness at the site of apiculture
- KU41.** the process of feeding the bee colonies during the dearth period
- KU42.** how to rear the queen bee
- KU43.** the recommended precautions to be taken while dividing and uniting bee colonies
- KU44.** the use of relevant tools and equipment for dividing and uniting bee colonies
- KU45.** how to manage bee colonies during summer, winter and monsoon
- KU46.** the importance of using the relevant PPE while inspecting beehives such as bee suits, gloves and shoes
- KU47.** the signs of healthy growth of bees and optimum production of honey
- KU48.** the signs of pests, disease and abnormal behaviour in bees
- KU49.** the symptoms of swarming and absconding in bees and how to deal with it
- KU50.** the need to install additional frames and honeycomb foundation in beehives
- KU51.** the importance and process of removing unnecessary and deformed honeycombs
- KU52.** the recommended precautions to be taken while applying pesticide or insecticide to beehives
- KU53.** various practices to be followed to prevent infection and contamination at the site of beekeeping
- KU54.** the importance of positioning beehives appropriately
- KU55.** use of different beekeeping equipment used in colony management such as a smoker, hive tool, bee brush, etc.
- KU56.** the importance of protecting beehives from intense heat, cold, strong winds, and various nuisance
- KU57.** the recommended pesticides and insecticides to control pests and disease in beehives and the relevant application methods
- KU58.** the bee colony collapse disorder and how to prevent and deal with it
- KU59.** how to prevent and treat poisoning caused by pesticides, insecticides and other chemicals
- KU60.** various tools and equipment used in insect, diseases and nuisance management
- KU61.** applicable preventive practices to be followed to prevent insects, diseases and nuisance in bee colonies

## Generic Skills (GS)

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

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

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- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies/ accidents



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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Inspect and manage the beehives</i>	<b>18</b>	<b>22</b>	<b>-</b>	<b>20</b>
<b>PC1.</b> inspect the beehives during the conducive weather, using the relevant PPE and ensuring not to disturb the bee colonies	-	-	-	-
<b>PC2.</b> identify the signs of swarming and absconding and take appropriate preventive measures	-	-	-	-
<b>PC3.</b> identify the need and install additional frames and honeycomb foundation in beehives	-	-	-	-
<b>PC4.</b> clean the beehives following the recommended procedure and using the appropriate tools and equipment	-	-	-	-
<b>PC5.</b> ensure the availability of bee pasturage or bee forage in an adequate quantity for the survival and healthy growth of bees	-	-	-	-
<b>PC6.</b> remove unnecessary and deformed honeycombs, ensuring no damage to other honeycombs	-	-	-	-
<b>PC7.</b> ensure easy movement of bees and pollen carrying foragers into beehives	-	-	-	-
<b>PC8.</b> follow the recommended practices to preserve honeycombs during the dearth period	-	-	-	-
<b>PC9.</b> ensure appropriate shading from trees or through artificial means to protect bees from intense heat	-	-	-	-
<b>PC10.</b> cover the beehives with gunny bags or rice straw and sprinkle them with the recommended quantity of water to regulate the temperature in beehives during summer	-	-	-	-
<b>PC11.</b> carry out winter packaging with the recommended material such as tar paper during periods of below normal temperatures, ensuring the bees in hives do not suffocate	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> prepare sugar syrup and pollen to feed bees during the dearth period	-	-	-	-
<b>PC13.</b> feed the bee colonies with sugar syrup, pollen supplement, water and other recommended feed during the dearth period	-	-	-	-
<b>PC14.</b> unite the smaller colonies to enlarge colonies or divide large colonies to populate new beehives, using the relevant tools and equipment	-	-	-	-
<b>PC15.</b> follow the recommended practices to prevent dampness during the rainy season and ensure no waterlogging at the beekeeping site	-	-	-	-
<b>PC16.</b> inspect the colonies regularly during the swarming season to ensure no empty space is left in the combs, and add frames and dummy boards as per the requirement	-	-	-	-
<b>PC17.</b> prepare the bee colonies for the production of royal jelly	-	-	-	-
<b>PC18.</b> use a queen excluder to keep the queen out of the super chamber to ensure the quality of honey	-	-	-	-
<b>PC19.</b> identify the signs of colony collapse disorder and take appropriate remedial measures	-	-	-	-
<b>PC20.</b> follow the recommended practices to ensure the bee colonies are healthy and strong	-	-	-	-
<i>Perform pest, disease and nuisance management</i>	<b>4</b>	<b>6</b>	-	<b>4</b>
<b>PC21.</b> follow the relevant preventive practices to prevent pests and disease infestation in beehives	-	-	-	-
<b>PC22.</b> identify the signs of relevant pests and diseases that infest beehives such as wax moth, varroa mite, ant, termites, European foul brood, American foul brood, sac brood, etc.	-	-	-	-
<b>PC23.</b> apply the recommended treatment as per the prescription to beehives to remove the identified pests and disease	-	-	-	-
<b>PC24.</b> maintain the record of inspection of beehives and treatment applied to them	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC25.</b> follow the recommended practices to prevent different types of nuisance to bees such as domestic animals, honey badgers, birds, vandals, etc.	-	-	-	-
<i>Optimise resource utilisation</i>	<b>2</b>	<b>4</b>	-	<b>2</b>
<b>PC26.</b> optimise the usage of water and other resources in various tasks and processes	-	-	-	-
<b>PC27.</b> plug water leakages to prevent its wastage	-	-	-	-
<i>Perform waste management</i>	<b>6</b>	<b>8</b>	-	<b>4</b>
<b>PC28.</b> segregate waste into appropriate categories	-	-	-	-
<b>PC29.</b> recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>40</b>	-	<b>30</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AGR/N5307
<b>NOS Name</b>	Inspect and maintain beehives
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Agriculture Allied Activities
<b>Occupation</b>	Beekeeping
<b>NSQF Level</b>	2
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	29/09/2023
<b>Next Review Date</b>	29/09/2026
<b>NSQC Clearance Date</b>	29/09/2023

## Qualification Pack

### AGR/N5308: Harvest and market honey and related produce

#### Description

This OS unit is about harvesting, processing and marketing honey and related produce.

#### Scope

The scope covers the following :

- Harvest honey and other bee produce
- Grade and store the produce
- Market the produce

#### Elements and Performance Criteria

##### *Harvest honey and other bee produce*

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

- PC1.** identify the honeycombs containing ripe honey which are sealed, with a fine layer of beeswax
- PC2.** arrange the relevant tools and equipment for extracting honey such as hive tool, smoker, honey extractor, etc.
- PC3.** select an appropriate time for harvesting honey and other raw produce
- PC4.** follow the recommended practices to extract honey, propolis, pollen, royal jelly and bee venom from honeycombs, using the recommended PPE and equipment
- PC5.** ensure no harm to bees during the raw produce extraction process
- PC6.** unfreeze honeycombs with hot water, steam or solar heat, and filter the melted honeycombs to obtain yellow beeswax
- PC7.** bleach the yellow beeswax with the recommended oxidizing agent such as hydrogen peroxide, sulphuric acid, or sunlight to obtain white beeswax
- PC8.** collect the extracted produce in separate and clean containers, protecting it from contamination, ensuring minimum loss

##### *Grade and store the produce*

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

- PC9.** grade honey and other produce based on applicable grading parameters such as ripeness, colour, taste, purity, etc.
- PC10.** sort out the produce based on their shelf-life
- PC11.** pack honey and other produce in suitable packaging and label it with the relevant information in compliance with the applicable regulatory guidelines
- PC12.** store the packed honey at the recommended temperature and humidity, ensuring the storage area is hygienic, dry and protected from direct sunlight

##### *Market the produce*

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

- PC13.** identify the potential buyers and markets for honey and other bee produce such as eMandi, local traders, exporters, etc.

## Qualification Pack

- PC14.** negotiate with the buyers to secure a profitable price for the produce
- PC15.** arrange an appropriate mode of transport to ensure safe and hygienic delivery of produce to the buyer
- PC16.** process the payment using the buyer-preferred e-payment method
- PC17.** 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 importance and process of identifying the honeycombs containing ripe honey which are sealed, with a fine layer of beeswax
- KU2.** use of the relevant tools and equipment for extracting honey and related produce such as hive tool, smoker, honey extractor, etc.
- KU3.** the appropriate time for harvesting honey and other raw produce
- KU4.** the process of extracting honey, propolis, pollen, royal jelly and bee venom from honeycombs safely, using the recommended PPE and equipment
- KU5.** the importance of ensuring no harm to bees during the extraction process
- KU6.** the process of unfreezing honeycombs and filtering the melted honeycombs to obtain yellow beeswax
- KU7.** the process of bleaching the yellow beeswax with the recommended oxidizing agent such as hydrogen peroxide, sulphuric acid, or sunlight to obtain white beeswax
- KU8.** the recommended practices to be followed to protect honey and other produce from contamination during extraction
- KU9.** the applicable grading and sorting parameters such as ripeness, colour, taste, purity for grading honey and other produce
- KU10.** the process of packing and labelling honey and other produce in suitable packaging, in compliance with the applicable regulatory guidelines
- KU11.** appropriate storage requirements for packed honey and other produce
- KU12.** the potential buyers and markets for honey and other bee produce, such as eMandi, local traders, exporters, etc.
- KU13.** the importance and process of negotiating with the buyers to secure a profitable price for the produce
- KU14.** the appropriate mode of transport to be used for safe and hygienic delivery of honey and other produce to the buyer
- KU15.** use of the different e-payment methods
- KU16.** how to maintain various manual and electronic records using the physical registers and the relevant computer application

## Generic Skills (GS)

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

- GS1.** maintain work-related notes and records

## Qualification Pack

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



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest honey and other bee produce</i>	<b>12</b>	<b>16</b>	-	<b>14</b>
<b>PC1.</b> identify the honeycombs containing ripe honey which are sealed, with a fine layer of beeswax	-	-	-	-
<b>PC2.</b> arrange the relevant tools and equipment for extracting honey such as hive tool, smoker, honey extractor, etc.	-	-	-	-
<b>PC3.</b> select an appropriate time for harvesting honey and other raw produce	-	-	-	-
<b>PC4.</b> follow the recommended practices to extract honey, propolis, pollen, royal jelly and bee venom from honeycombs, using the recommended PPE and equipment	-	-	-	-
<b>PC5.</b> ensure no harm to bees during the raw produce extraction process	-	-	-	-
<b>PC6.</b> unfreeze honeycombs with hot water, steam or solar heat, and filter the melted honeycombs to obtain yellow beeswax	-	-	-	-
<b>PC7.</b> bleach the yellow beeswax with the recommended oxidizing agent such as hydrogen peroxide, sulphuric acid, or sunlight to obtain white beeswax	-	-	-	-
<b>PC8.</b> collect the extracted produce in separate and clean containers, protecting it from contamination, ensuring minimum loss	-	-	-	-
<i>Grade and store the produce</i>	<b>8</b>	<b>12</b>	-	<b>8</b>
<b>PC9.</b> grade honey and other produce based on applicable grading parameters such as ripeness, colour, taste, purity, etc.	-	-	-	-
<b>PC10.</b> sort out the produce based on their shelf-life	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> pack honey and other produce in suitable packaging and label it with the relevant information in compliance with the applicable regulatory guidelines	-	-	-	-
<b>PC12.</b> store the packed honey at the recommended temperature and humidity, ensuring the storage area is hygienic, dry and protected from direct sunlight	-	-	-	-
<i>Market the produce</i>	<b>10</b>	<b>12</b>	-	<b>8</b>
<b>PC13.</b> identify the potential buyers and markets for honey and other bee produce such as eMandi, local traders, exporters, etc.	-	-	-	-
<b>PC14.</b> negotiate with the buyers to secure a profitable price for the produce	-	-	-	-
<b>PC15.</b> arrange an appropriate mode of transport to ensure safe and hygienic delivery of produce to the buyer	-	-	-	-
<b>PC16.</b> process the payment using the buyer-preferred e-payment method	-	-	-	-
<b>PC17.</b> maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
<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/N5308
<b>NOS Name</b>	Harvest and market honey and related produce
<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Agriculture Allied Activities
<b>Occupation</b>	Beekeeping
<b>NSQF Level</b>	2
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	29/09/2023
<b>Next Review Date</b>	29/09/2026
<b>NSQC Clearance Date</b>	29/09/2023

## Qualification Pack

### DGT/VSQ/N0101: Employability Skills (30 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
- 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.** understand the significance of employability skills in meeting the job requirements

##### *Constitutional values – Citizenship*

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

**PC2.** identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

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

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

**PC3.** explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

##### *Basic English Skills*

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

**PC4.** speak with others using some basic English phrases or sentences

##### *Communication Skills*

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

**PC5.** follow good manners while communicating with others

**PC6.** work with others in a team

## Qualification Pack

### *Diversity & Inclusion*

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

**PC7.** communicate and behave appropriately with all genders and PwD

**PC8.** report any issues related to sexual harassment

### *Financial and Legal Literacy*

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

**PC9.** use various financial products and services safely and securely

**PC10.** calculate income, expenses, savings etc.

**PC11.** approach the concerned authorities for any exploitation as per legal rights and laws

### *Essential Digital Skills*

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

**PC12.** operate digital devices and use its features and applications securely and safely

**PC13.** use internet and social media platforms securely and safely

### *Entrepreneurship*

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

**PC14.** identify and assess opportunities for potential business

**PC15.** identify sources for arranging money and associated financial and legal challenges

### *Customer Service*

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

**PC16.** identify different types of customers

**PC17.** identify customer needs and address them appropriately

**PC18.** follow appropriate hygiene and grooming standards

### *Getting ready for apprenticeship & Jobs*

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

**PC19.** create a basic biodata

**PC20.** search for suitable jobs and apply

**PC21.** identify and register apprenticeship opportunities as per requirement

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** need for employability skills

**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 basic spoken English language

**KU6.** Do and dont of effective communication

**KU7.** inclusivity and its importance

**KU8.** different types of disabilities and appropriate communication and behaviour towards PwD

**KU9.** different types of financial products and services

## Qualification Pack

- KU10.** how to compute income and expenses
- KU11.** importance of maintaining safety and security in financial transactions
- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

## Generic Skills (GS)

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

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation 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> understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values – Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC2.</b> identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
<b>PC3.</b> explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC4.</b> speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC5.</b> follow good manners while communicating with others	-	-	-	-
<b>PC6.</b> work with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
<b>PC7.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC8.</b> report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>3</b>	<b>4</b>	-	-
<b>PC9.</b> use various financial products and services safely and securely	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> calculate income, expenses, savings etc.	-	-	-	-
<b>PC11.</b> approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	<b>4</b>	<b>6</b>	-	-
<b>PC12.</b> operate digital devices and use its features and applications securely and safely	-	-	-	-
<b>PC13.</b> use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	<b>3</b>	<b>5</b>	-	-
<b>PC14.</b> identify and assess opportunities for potential business	-	-	-	-
<b>PC15.</b> identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	<b>2</b>	<b>2</b>	-	-
<b>PC16.</b> identify different types of customers	-	-	-	-
<b>PC17.</b> identify customer needs and address them appropriately	-	-	-	-
<b>PC18.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>1</b>	<b>3</b>	-	-
<b>PC19.</b> create a basic biodata	-	-	-	-
<b>PC20.</b> search for suitable jobs and apply	-	-	-	-
<b>PC21.</b> identify and register apprenticeship opportunities as per requirement	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0101
<b>NOS Name</b>	Employability Skills (30 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	2
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	18/02/2025
<b>Next Review Date</b>	18/02/2030
<b>NSQC Clearance Date</b>	18/02/2025

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOSs 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 : 50**

## Qualification Pack

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

## Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N5306.Prepare for and initiate beekeeping operations	30	40	-	30	100	30
AGR/N5307.Inspect and maintain beehives	30	40	-	30	100	35
AGR/N5308.Harvest and market honey and related produce	30	40	-	30	100	30
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	5
<b>Total</b>	<b>110</b>	<b>150</b>	<b>-</b>	<b>90</b>	<b>350</b>	<b>100</b>

## 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.