



NATIONAL BOARD FOR TECHNICAL EDUCATION

PLOT B BIDA ROAD, P.M.B. 2239, KADUNA, NIGERIA

IN COLLABORATION WITH



NATIONAL OCCUPATIONAL STANDARDS (NOS)

BEEKEEPING PRACTICES LEVELS 4&5

JUNE, 2026



**RENEWED HOPE
IN AGRICULTURE**

PREFACE

The development of the National Occupational Standards (NOS) for the agricultural sector marks another important milestone in Nigeria's commitment to strengthening Technical and Vocational Education and Training (TVET), promoting skills development, and improving workforce productivity. These standards have been developed to provide nationally recognized benchmarks for the knowledge, skills, and competencies required for effective performance in various agricultural occupations.

The National Occupational Standards were developed through a collaborative process involving industry experts, employers, professional bodies, regulatory agencies, training institutions, development partners, and other key stakeholders. Their contributions ensured that the standards reflect current industry practices, emerging technologies, and the competency requirements of the modern agricultural sector.

I wish to express my sincere appreciation to the Honourable Minister of Education for providing the policy direction that made this initiative possible. I also acknowledge the support of the Honourable Minister of Agriculture and Food Security and the Honourable Minister of Livestock Development for their commitment to advancing agricultural skills development in Nigeria.

I extend my profound gratitude to the Tertiary Education Trust Fund (TETFund) for its intervention and support, which facilitated the development of these National Occupational Standards. I also appreciate the invaluable contributions of the Sector Skills Council for Agriculture (SSC4A), members of the Implementation Committee, resource persons, industry practitioners, employers, professional associations, regulatory agencies, the French Embassy in Nigeria, development partners, and all stakeholders who contributed their expertise throughout the development process.

These National Occupational Standards will serve as an important reference for competency-based training, assessment, certification, apprenticeship, Recognition of Prior Learning (RPL), and workforce development within the agricultural sector. It is my expectation that all implementing institutions and industry partners will effectively utilize these standards to enhance the quality, relevance, and competitiveness of agricultural skills development in Nigeria.

I commend all stakeholders for their dedication and commitment to this important national assignment and look forward to the successful implementation of these National Occupational Standards for the benefit of the agricultural sector and the nation as a whole.

Professor Idris M. Bugaje, FNSE
Chairman, Implementation Committee

EXECUTIVE SECRETARY

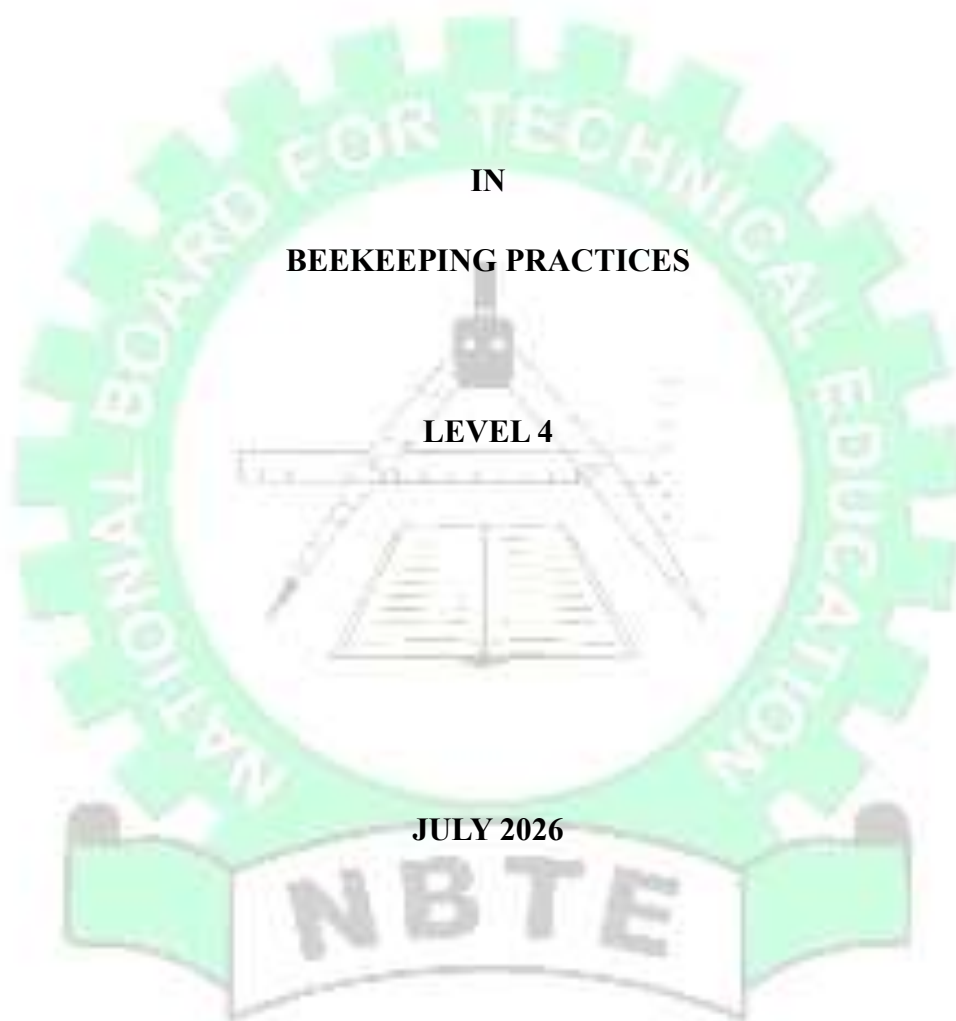
National Board for Technical Education (NBTE), Kaduna

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***NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL STANDARDS
(NSQ/NOS)***



IN

BEEKEEPING PRACTICES

LEVEL 4

JULY 2026

NBTE

NATIONAL SKILLS QUALIFICATION

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Beekeeping Practice** for the award of National Skills Qualification (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to supervise and manage Beekeeping Operations at **NSQ Level 4**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce a competent Beekeeping Practice Foreman with knowledge, skills, and attitude required to manage Beekeeping activities using modern Beekeeping techniques, precision agriculture principles, appropriate tools and equipment.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least eighteen (18) years of age
- Medically fit
- Physically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present International passport, residence permit or Parent work permit.
- Vetted

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

- i. Communicate effectively in the beekeeping practice environment;
- ii. Work effectively in a team in the beekeeping practice environment;
- iii. Observe health and safety in the beekeeping practice environment;
- iv. Explain bee biology and behaviour;
- v. Utilise beekeeping systems and equipment;
- vi. Carry out beehive management;
- vii. Carry out harvesting, processing and packaging of hive products;
- viii. Carry out marketing of hive products.

National Skills Qualification/National Occupation Standard (NSQ/NOS) Unit Table**MANDATORY UNITS**

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours	Practice time	Remark
1	AGR/BKP/001/L4	Communication in Beekeeping Practice Environment	3	30	90	Mandatory
2	AGR/BKP/002/L4	Teamwork in Beekeeping Practice	3	30	90	Mandatory
3	AGR/BKP/003/L4	Health and Safety in Beekeeping Practice Environment	3	30	90	Mandatory
4	AGR/BKP/004/L4	Bee Biology and Behaviour	7	70	270	Mandatory
5	AGR/BKP/005/L4	Beekeeping Systems and Equipment	7	70	330	Mandatory
6	AGR/BKP/006/L4	Beehive Management	8	80	420	Mandatory
7	AGR/BKP/007/L4	Harvesting, Processing and Packaging of Hive Products	8	80	420	Mandatory
8	AGR/BKP/008/L4	Marketing of Hive Products	7	70	240	Mandatory
TOTAL			46	460	1950	

QUALIFICATION STRUCTURE

This qualification comprises a total of eight (8) Mandatory Units, with a credit value of 46 and 460 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE.

Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Skills Qualifications Framework (NSQF).
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit purpose	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Performance criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

Unit 001: Communication in Beekeeping Practice Environment

Unit Reference Number: AGR/BKP/001/L4
NSQ Level: 4
Credit Value: 3
Guided Learning Hours: 30
Practice Time: 90 hours

Unit Purpose: This unit is designed to equip the learner with the knowledge and skills required to ensure effective communication in beekeeping practice Environment

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)

Unit 001: Communication in Beekeeping Practice Environment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Supervise the use of a non-complex communication system in a work environment</i>	1.1	Supervise the use of correct verbal means to pass on necessary information		
	1.2	Supervise the use of non-verbal means to convey necessary information e.g. body language, signs		
	1.3	Supervise the use of symbols, signs		
	1.4	Interpret symbols and signs appropriately		
	1.5	Supervise speaking in a respectful manner		
LO 2: <i>Ensure reliable information is used in work environment</i>	2.1	Verify the source of information in the working environment.		
	2.2	Maintain effective communication with the source of information.		
	2.3	Supervise the use of different information flow systems in the working environment.		
	2.4	Access information to avoid challenges in the line of work.		
	2.5	Analyse findings appropriately in accordance with laid down procedures in the work environment i.e. Cards, Flip Chart.		
	2.6	Supervise the use of ICT for communication.		
LO 3: <i>Understand client needs and concerns in Beekeeping practice</i>	3.1	Observe communication equipment in the work environment.		
	3.2	Supervise the use of various communication equipment in a work environment effectively.		
	3.3	Confirm effective dissemination of information to the right		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
		Personnel.		
	3.4	Provide instruction in line with ethics of the work environment.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	



Unit 002: Teamwork in Beekeeping Practice

Unit Reference Number: AGR/BKP/002/L4
NSQ Level: 4
Credit Value: 3
Guided Learning Hours: 30
Practice Time: 90 hours

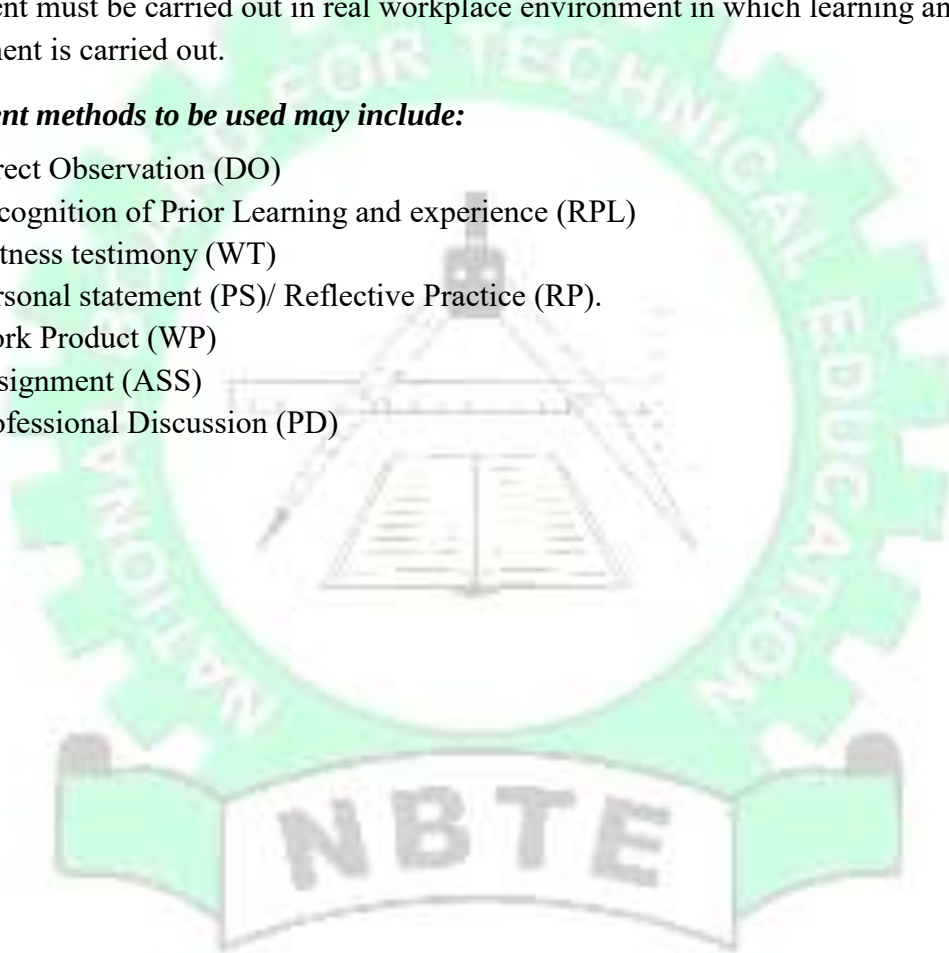
Unit Purpose: This unit is designed to equip learners with the knowledge and skills required to supervise team members and develop spirit of teamwork to achieved common goal.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 002: Teamwork in Beekeeping Practice

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Ensure good working relationship with co- workers</i>	1.1	Supervise team members		
	1.2	Analyse the importance of each team member		
	1.3	Support all the team members to contribute in a given task		
LO 2: <i>Supervise responsibility within the team</i>	2.1	Supervise the roles of each team member.		
	2.2	Supervise tasks in line with the team rules and regulations.		
	2.3	Supervise group task.		
LO 3: <i>Confirm the rules of organization are complied.</i>	3.1	Confirm code of conduct is followed in the work environment		
	3.2	Confirm the use of organizational code of practice		
	3.3	Confirm the work is in line with organizational standard.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 003: Health and Safety in Beekeeping Practice Environment

Unit Reference Number: AGR/BKP/003/L4
NSQ Level: 4
Credit Value: 3
Guided Learning Hours: 30
Practice Time: 90 hours

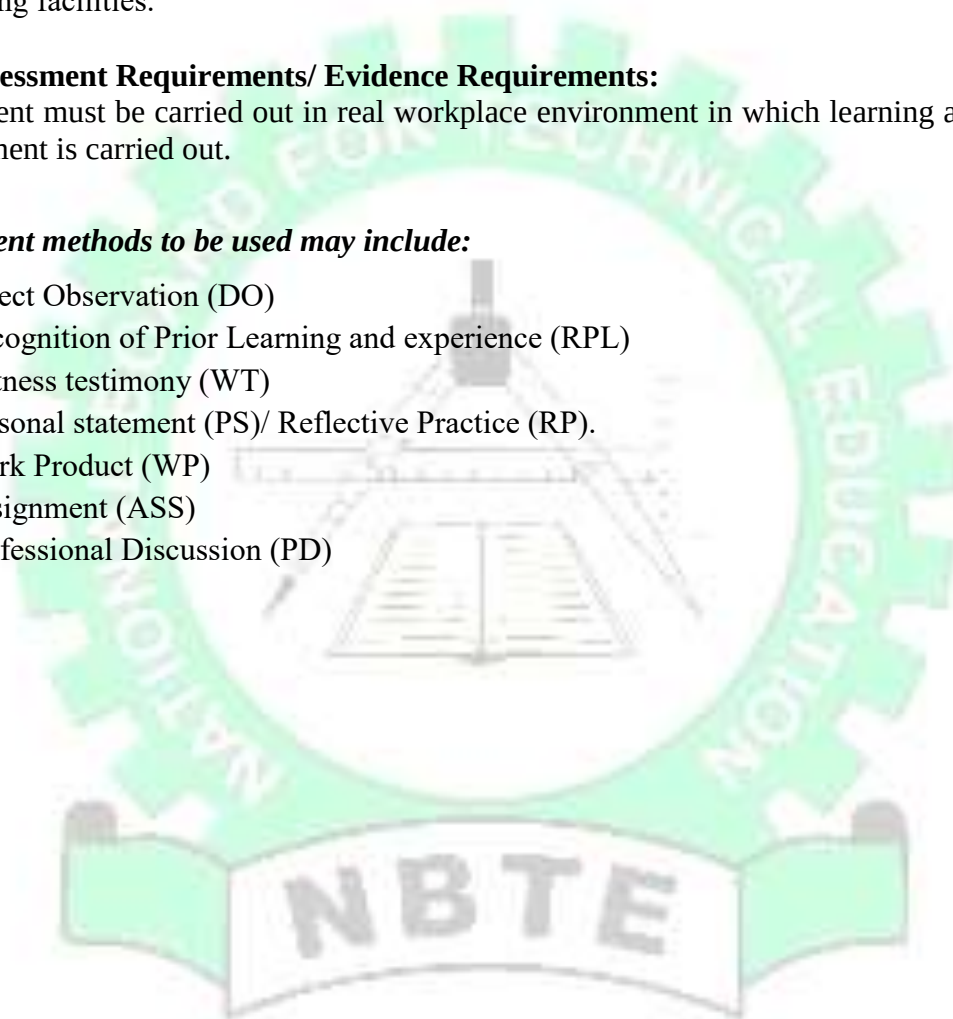
Unit Purpose: This unit is designed to equip learners with the essential knowledge and skills required to supervise and maintain health and safety in the work environment within beekeeping facilities.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 003: Health and Safety in Beekeeping Practice Environment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Maintain safe working environment in beekeeping facilities.</i>	1.1	Observe safe work practices along the beekeeping value chain.		
	1.2	Follow safety signs and symbols in beekeeping processing facilities.		
	1.3	Supervise safe work practices in beekeeping facilities.		
	1.4	Verify tasks are in accordance with health and safety practices.		
LO 2: <i>Supervise the use of safety standards in beekeeping processing facilities</i>	2.1	Assess work environment for hazards in beekeeping processing facilities.		
	2.2	Enforce standard operational procedures in beekeeping processing facilities.		
	2.3	Supervise the use of safety tools and materials in beekeeping processing facilities.		
LO 3: <i>Supervise use of personal Protective equipment (PPE) in beekeeping processing facilities</i>	3.1	Check the types and quality of PPEs.		
	3.2	Select appropriate PPE.		
	3.3	Supervise the use of PPE for a given task.		
	3.4	Maintain PPE before and after use.		
LO 4: <i>Respond promptly to accidents/injury in beekeeping processing</i>	4.1	Locate first aid facility.		
	4.2	Use basic dressing materials.		
	4.3	Respond to instructions given by the Supervisor.		
	4.4	Report accident or injury to the appropriate supervisor.		
LO 5: <i>Organize safe work habit and clean work environment in beekeeping processing.</i>	5.1	Identify safe access and exit routes in the work environment.		
	5.2	Ensure the use of appropriate working tools, materials and equipment.		
	5.3	Supervise the use of tools, materials and equipment safely.		
	5.4	Confirm all tools, equipment and unused materials for appropriate return to storage.		
	5.5	Supervise general housekeeping of work environment.		
	5.6	Organize appropriate wastes disposal to designated waste		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
		facilities.		
LO 6: <i>Maintain safe lifting, loading/offloading and stacking of materials in beekeeping processing facilities</i>	6.1	Verify the selected safe lifting and stacking techniques.		
	6.2	Supervise safe lifting tasks in loading and offloading of materials.		
	6.3	Confirm safe lifting and loading techniques with mechanical assistance.		
	6.4	Ensure materials are stacked correctly.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 004: Bee Biology and Behaviour

Unit Reference Number: AGR/BKP/004/L4

NSQ Level: 4

Credit Value: 6

Guided Learning Hours: 60

Practice Time: 270 hours

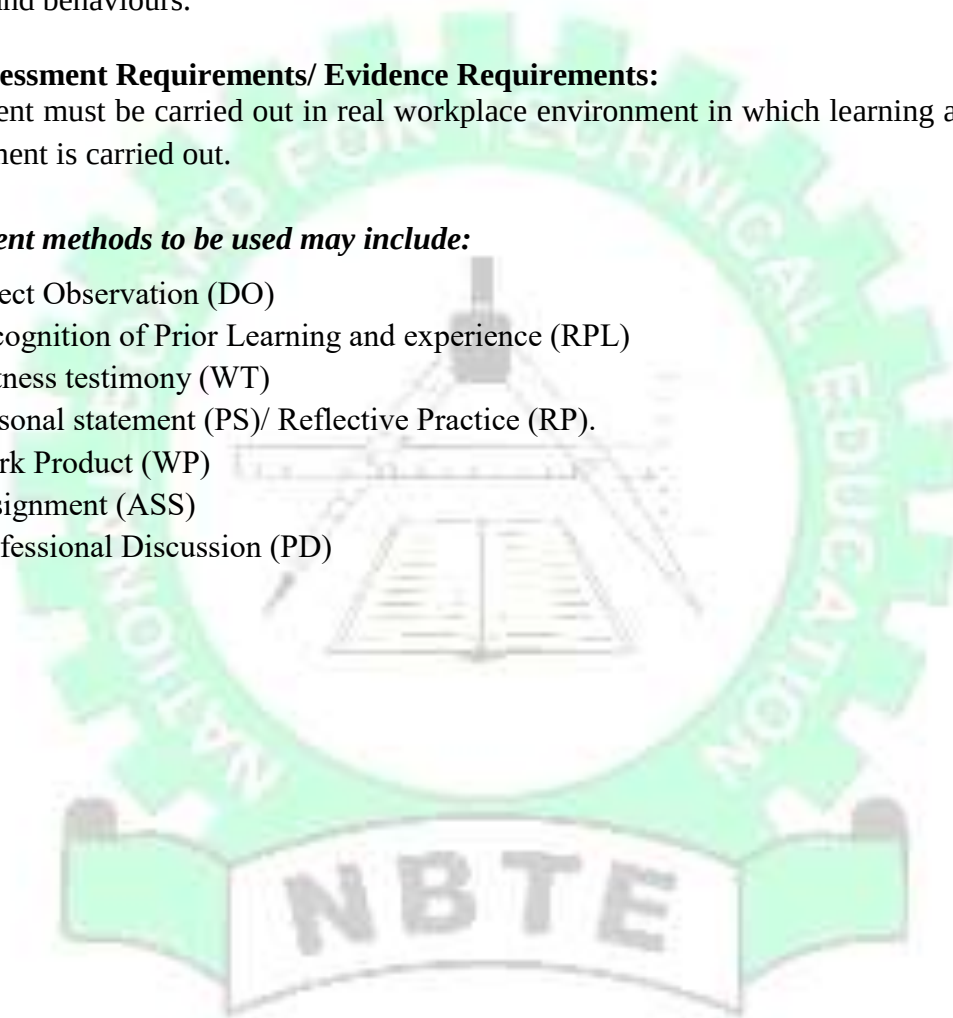
Unit Purpose: This unit is designed to equip learners with the knowledge and skills of bee biology and behaviours.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 004: Bee Biology and Behaviour

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Understand biology, life cycle, behaviour, and ecological importance of honeybees.</i>	1.1	Identify different honeybee species and races.		
	1.2	Differentiate queen, worker and drone bees.		
	1.3	Describe the bee life cycle.		
LO 2: <i>Analyse behaviour, and ecological importance of honeybees.</i>	2.1	Interpret bee communication and behaviour.		
	2.2	Interpret bee swarming/abscondment and foraging behaviour.		
	2.3	Identify nectar and pollen sources.		
	2.4	Identify pollination requirements.		
	2.5	Develop bee calendar for different agro-ecological zones.		
LO 3: <i>Assess the role of colony members for the performance of the colony</i>	3.1	Inspect the presence of queen in the colony.		
	3.2	Describe the functions of the colony members.		
	3.3	Identify levels of feeding in different stages of colony members.		
	3.4	Identify the functions of workers in colony.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 005: Beekeeping Systems and Equipment

Unit Reference Number:	AGR/BKP/005/L4
NSQ Level:	4
Credit Value:	7
Guided Learning Hours:	70
Practice Time:	330 hours

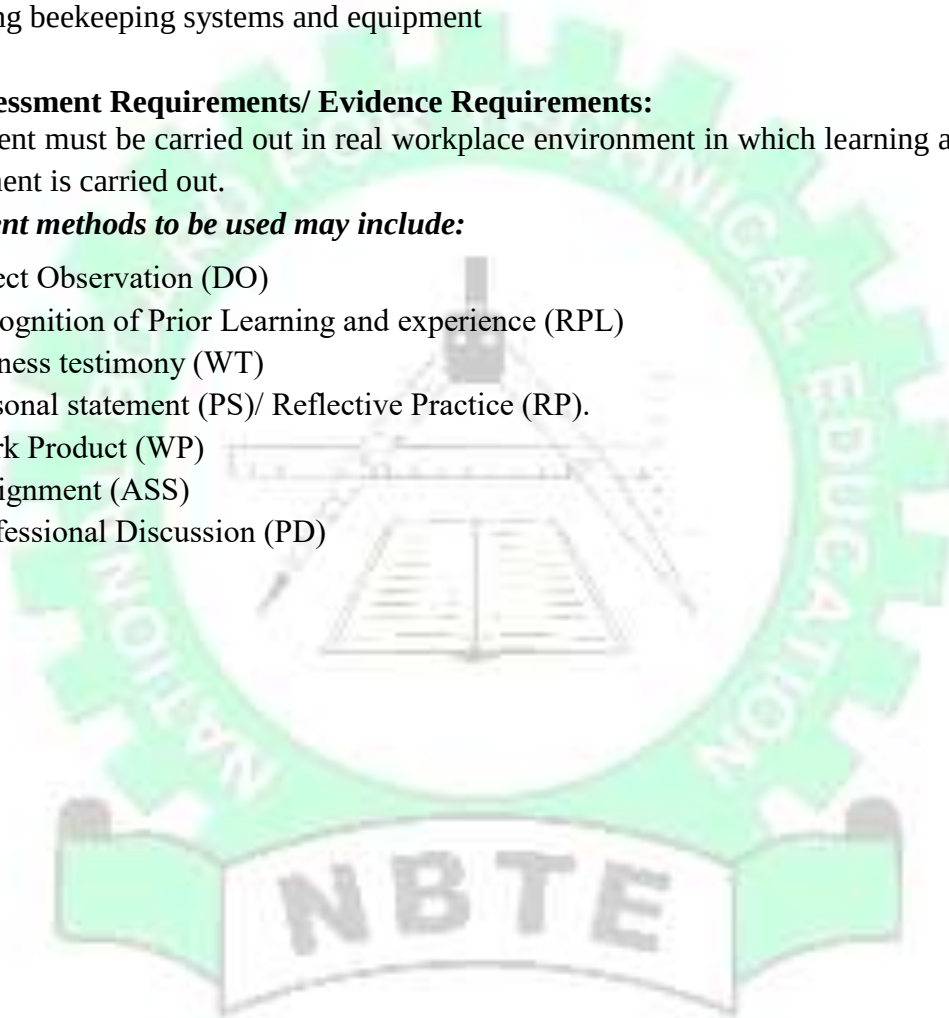
Unit Purpose: This unit is designed to equip the learners with knowledge and skills required in handling beekeeping systems and equipment

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 005: Beekeeping Systems and Equipment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Demonstrate the correct use and maintenance of beekeeping equipment</i>	1.1	Inspect beekeeping tools and equipment.		
	1.2	Assemble hives according to standard.		
	1.3	Assemble smokers, hive tools, feeders and protective clothing correctly.		
	1.4	Maintain equipment in good condition.		
LO 2: <i>Establish an apiary</i>	2.1	Select a suitable apiary site.		
	2.2	Install hives correctly.		
	2.3	Clear the hive location.		
	2.4	Use beekeeping tools.		
	2.5	Inspect colonies regularly.		
	2.6	Maintain colony strength and productivity.		
LO 3: <i>Secure the apiary</i>	3.1	Fence the apiary.		
	3.2	Conduct security surveillance.		
	3.3	Maintain security records.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 006: Beehive Management

Unit Reference Number: AGR/BKP/006/L4
NSQ Level: 4
Credit Value: 8
Guided Learning Hours: 80
Practice Time: 420 hours

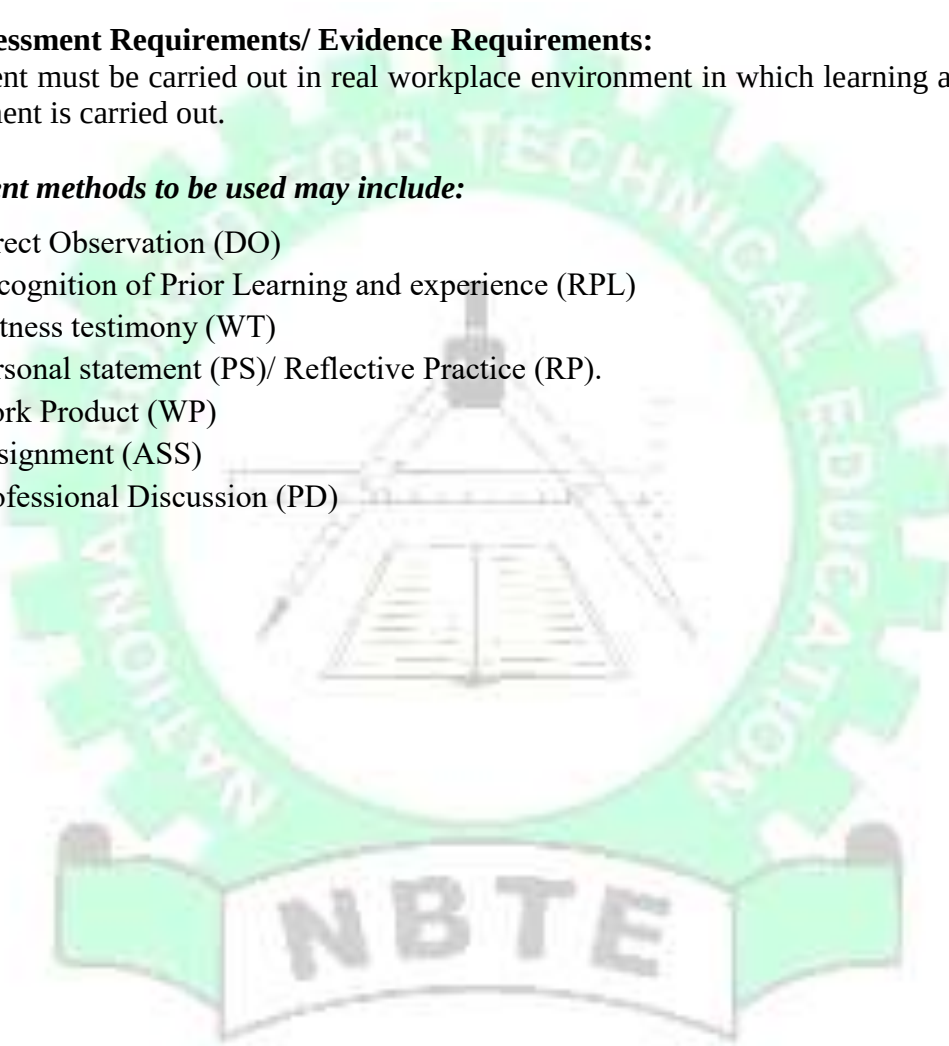
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in managing hives.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 006: Beehive Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Manage bee colonies to ensure healthy growth and optimum honey production.</i>	1.1	Conduct routine hive inspections.		
	1.2	Assess colony strength.		
	1.3	Feed colonies when necessary.		
	1.4	Manage swarming/abscondment.		
	1.5	Maintain colony records.		
	1.6	Prepare colonies for different seasons.		
	1.7	Maintain colony health.		
LO 2: <i>Manage pests, diseases and disturbances in the Beehive</i>	2.1	Identify symptoms of common bee diseases.		
	2.2	Detect hive pests and predators.		
	2.3	Apply Integrated Pest Management (IPM).		
	2.4	Maintain hive sanitation.		
	2.5	Dispose infected materials appropriately.		
	2.6	Observe bio-security measures.		
LO 3: <i>Understand the effect of agrochemicals on apiary performance</i>	3.1	Identify types of agrochemicals		
	3.2	Describe the effect of agrochemicals on apiary performance.		
	3.3	Describe the effect of agrochemicals on hive produce.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 007: Harvesting, Processing and Packaging of Hive Products

Unit Reference Number:	AGR/BKP/007/L4
NSQ Level:	4
Credit Value:	8
Guided Learning Hours:	80
Practice Time:	420 hours

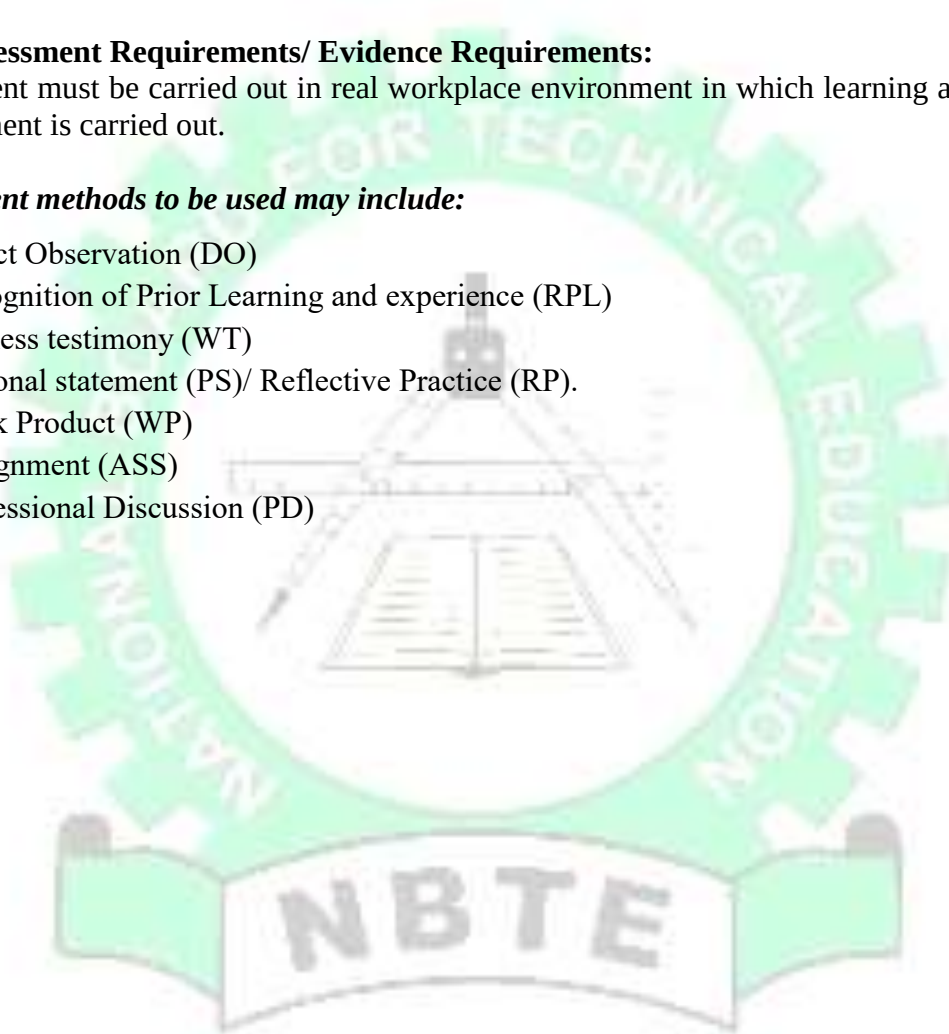
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in harvesting and processing of hive products.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 007: Harvesting, Processing and Packaging of Hive Products

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Harvest hive products</i>	1.1	Determine the correct time/period for harvesting honey.		
	1.2	Identify matured combs (comb honey) ready for harvesting.		
	1.3	Harvest combs hygienically.		
	1.4	Maintain harvesting records		
LO 2: <i>Process hive products</i>	2.1	Extract, filter and process honey.		
	2.2	Process beeswax and other hive products.		
	2.3	Package and label products according to standards.		
	2.4	Store products properly.		
	2.5	Maintain production records		
LO 3: <i>Apply quality assurance, health, safety and environmental practices of hive products processing</i>	3.1	Observe occupational health and safety.		
	3.2	Use protective gear correctly.		
	3.3	Maintain equipment and facilities appropriately.		
	3.4	Keep production records.		
	3.5	Comply with food safety and environmental standards.		
	3.6	Troubleshoot common equipment problems.		
LO 4: <i>Ensure compliance with food safety and quality standards in processing</i>	4.1	Initiate Good Hygiene Practices (GHP).		
	4.2	Implement Good Manufacturing Practices (GMP).		
	4.3	Monitor moisture content and product quality.		
	4.4	Maintain traceability records.		
	4.5	Ensure compliance with regulatory standards.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 008: Marketing of Hive Products

Unit Reference Number:	AGR/BKP/008/L4
NSQ Level:	4
Credit Value:	6
Guided Learning Hours:	60
Practice Time:	240 hours

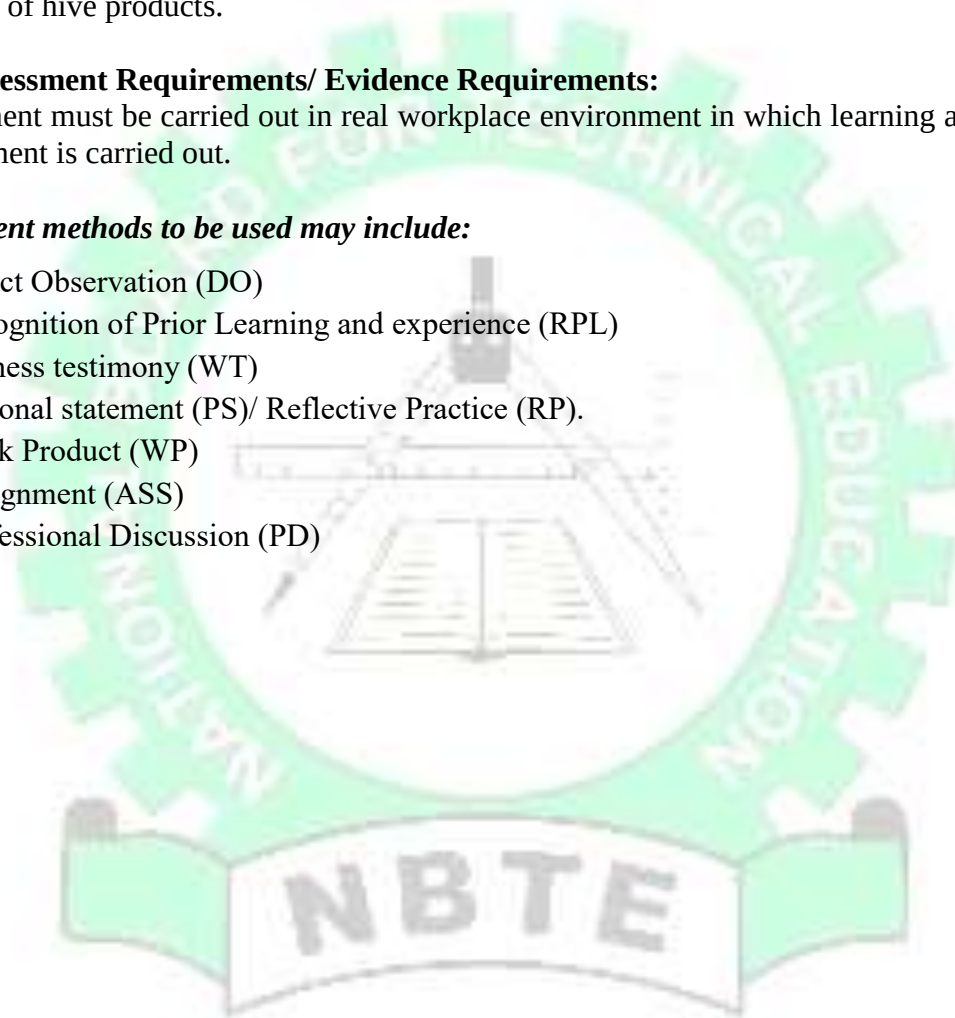
Unit Purpose: This unit is designed to equip learners with knowledge and skills in marketing and sales of hive products.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 008: Marketing of Hive Products

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Market hive products</i>	1.1	Grade hive products.		
	1.2	Price hive products.		
	1.3	Identify markets.		
	1.4	Sell hive products.		
LO 2: <i>Manage hive products records</i>	2.1	Maintain financial records.		
	2.2	Maintain production records.		
	2.3	Maintain customer database.		
LO 3: <i>Develop hive products enterprises</i>	3.1	Apply value addition techniques to hive products.		
	3.2	Prepare a basic business planning for hive products.		
	3.3	Develop a basic hive products enterprise.		
	3.4	Deliver quality customer service to clients.		
	3.5	Promote hive products using appropriate marketing strategies.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	



***NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL STANDARDS
(NSQ/NOS)***



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Beekeeping Practice** for the award of National Skills Qualification (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to supervise, coordinate, and plan Beekeeping Operations at **NSQ Level 5**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce a competent Beekeeping Practice Senior Foreman with knowledge, skills, and attitude required to supervise, coordinate, and evaluate Beekeeping activities using modern Beekeeping techniques, precision agriculture principles, appropriate tools and equipment.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least eighteen (18) years of age
- Medically fit
- Physically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present International passport, residence permit or Parent work permit.
- Vetted

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

- i. Communicate effectively in the beekeeping practice environment;
- ii. Work effectively in a team in the beekeeping practice environment;
- iii. Implement occupational health and safety in the beekeeping practice environment;
- iv. Plan and manage commercial apiary operations;
- v. Establish colonies and manage queens;
- vi. Supervise harvesting, processing and marketing of hive products;
- vii. Manage environmental sustainability in beekeeping practice;
- viii. Apply modern technology and innovation in beekeeping practice;
- ix. Carryout regulatory compliance and certification in beekeeping practice;
- x. Promote pollination, conservation and sustainability;
- xi. Carry out basic beehive construction.

National Skills Qualification/National Occupation Standard (NSQ/NOS) Unit Table**MANDATORY UNITS:**

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours	Practice Time	Remark
1	AGR/BKP/001/L5	Communication in Beekeeping Practice	3	30	90	Mandatory
2	AGR/BKP/002/L5	Teamwork in Beekeeping Practice	3	30	90	Mandatory
3	AGR/BKP/003/L5	Occupational Health and Safety	3	30	90	Mandatory
4	AGR/BKP/004/L5	Commercial Apiary Management	7	70	300	Mandatory
5	AGR/BKP/005/L5	Colony Establishment and Queen Management	7	70	300	Mandatory
6	AGR/BKP/006/L5	Hive Products Harvesting, Processing and Marketing	7	70	300	Mandatory
7	AGR/BKP/007/L5	Environmental Management and Sustainability in Beekeeping Practice	6	60	220	Mandatory
8	AGR/BKP/008/L5	Modern Technology and Innovation in Beekeeping Practice	6	60	220	Mandatory
9	AGR/BKP/009/L5	Regulatory Compliance and Certification in Beekeeping Practice	5	50	180	Mandatory
10	AGR/BKP/010/L5	Pollination, Conservation and Sustainability	7	70	270	Mandatory
11	AGR/BKP/011/L5	Basic Beehive Construction	8	80	200	Mandatory
TOTAL			62	620	2260	

QUALIFICATION STRUCTURE

This qualification comprises a total of eleven (11) Mandatory Units, with a credit value of 62 and 620 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in

a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Skills Qualifications Framework (NSQF).
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit purpose	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Performance criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.

Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.
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Unit 001:**Communication in Beekeeping Practice****Unit Reference Number:** AGR/BKP/001/L5**NSQ Level:** 5**Credit Value:** 3**Guided Learning Hours:** 30**Practice Time:** 90 hours

Unit Purpose: This unit is designed to equip the learners with knowledge and skills required to strategically manage Beekeeping Practice, ensure profitability, compliance and innovation

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 001: Communication in Beekeeping Practice

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Identify sources of communication and information in Beekeeping work environment</i>	1.1	Use different communication flow system in Beekeeping working environment.		
	1.2	Communicate information to mitigate challenges in Beekeeping working environment.		
	1.3	Document findings in accordance with laid down procedures in Beekeeping working environment.		
LO2: <i>Carry out different methods of communication in Beekeeping working environment</i>	2.1	Communicate messages to workers in Beekeeping working environment.		
	2.2	Monitor achievements in Beekeeping working environment.		
	2.3	Coordinate compliance with all communication accessories used in Beekeeping working environment.		
LO3: <i>Implement strategic communication for Beekeeping Practice</i>	3.1	Enforce Beekeeping handling protocols on team members.		
	3.2	Lead meetings that align supply chain actors with quality standards.		
	3.3	Draft clear reports on losses and corrective actions.		
	3.4	Train staff on communication etiquette for handling durables, perishables and semi perishables produce.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 002: Teamwork in Beekeeping Practice

Unit Reference Number:	AGR/BKP/002/L5
NSQ Level:	5
Credit Value:	3
Guided Learning Hours:	30
Practice Time:	90 hours

Unit Purpose: This unit is designed to equip the learners with knowledge and skills required for effective team work and its dynamics within the context of Beekeeping Practice

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)

Unit 002: Teamwork in Beekeeping Practice

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO1: <i>Coordinate team across supply chains in managing Beekeeping Practice system</i>	1.1	Supervise sign in and out of staff Register.		
	1.2	Coordinate the shared use of critical resources to prevent equipment damage.		
	1.3	Create situational awareness in Beekeeping Practice potential hazards.		
LO2: <i>Manage smooth collaboration between different actors in Beekeeping practice</i>	2.1	Collaborate to monitor the rejection of off-grade produce.		
	2.2	Re-assign roles dynamically within the team during peak working hours.		
	2.3	Maintain sorting line with minimal product loss to team.		
LO3: <i>Develop a technical collaboration in Beekeeping practice chain</i>	3.1	Share responsibility for checking and recording quality parameters.		
	3.2	Perform team based calibration of grading equipment to ensure all shifts are working with the same technical specifications.		
	3.3	Arrange team members along processing line based on individual experiences and strength.		
LO4 : <i>Coordinate recruitment, training and retraining</i>	4.1	Recruit diverse teams of Beekeeping handlers, technicians and supervisors.		
	4.2	Train diverse teams of Beekeeping handlers, technicians and supervisors.		
	4.3	Develop clear job descriptions, performance metrics		
	4.4	and conduct effective performances evaluation and review.		
	4.5	Foster culture of safety, quality and professional development among team members.		
	4.6	Manage labour effectively during peak harvest seasons, balancing cost with the need of speed and care in handling.		
Learner's Signature:			Date:	

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	



Unit 003: Occupational Health and Safety

Unit Reference Number:	AGR/BKP/003/L5
NSQ Level:	5
Credit Value:	3
Guided Learning Hours:	30
Practice Time:	90 hours

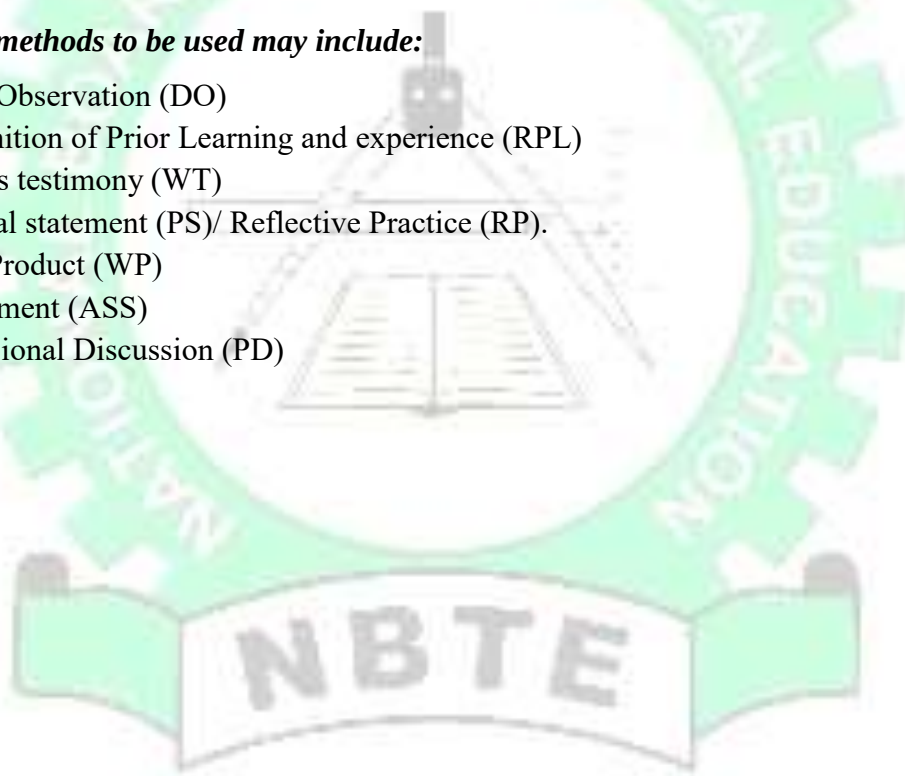
Unit Purpose: This unit is designed to equip learners with knowledge and skills required to identify workplace hazards, assess risk and implement control measures during Beekeeping activities.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 003: Occupational Health and Safety

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO1: <i>Develop a strategy on safety first culture and quality metrics</i>	1.1	Apply safety protocols to influence subordinate behaviours (use of PPE)		
	1.2	Facilitate safety communication actions that address specific Beekeeping risk.		
	1.3	Break down Beekeeping tasks to staff for safety and job performance optimization.		
	1.4	Develop modified duty plans for injured workers while recovering.		
LO2: <i>Establish risk management and hazard control</i>	2.1	Identify risks before accidents occur.		
	2.2	Design processing line for routine activities to reduce strain injuries.		
	2.3	Identify risks during non-routine operations such as maintenance shut down or peak Beekeeping season.		
	2.4	Coordinate an effective response to major Beekeeping emergencies.		
LO3: <i>Enforce regulatory compliance and documentation in Beekeeping practice</i>	3.1	Enforce local and international regulations regarding workers safety in Beekeeping working environment.		
	3.2	Document training records, safety data sheet (SDS), chemicals and incident investigation reports.		
	3.3	Verify that all hazards communications programmes are up-to-date.		
	3.4	Schedule regular inspection of critical safety devices and properly document observations.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 004: Commercial Apiary Management

Unit Reference Number: AGR/BKP/004/L5

NSQ Level: 5

Credit Value: 7

Guided Learning Hours: 70

Practice Time: 300 hours

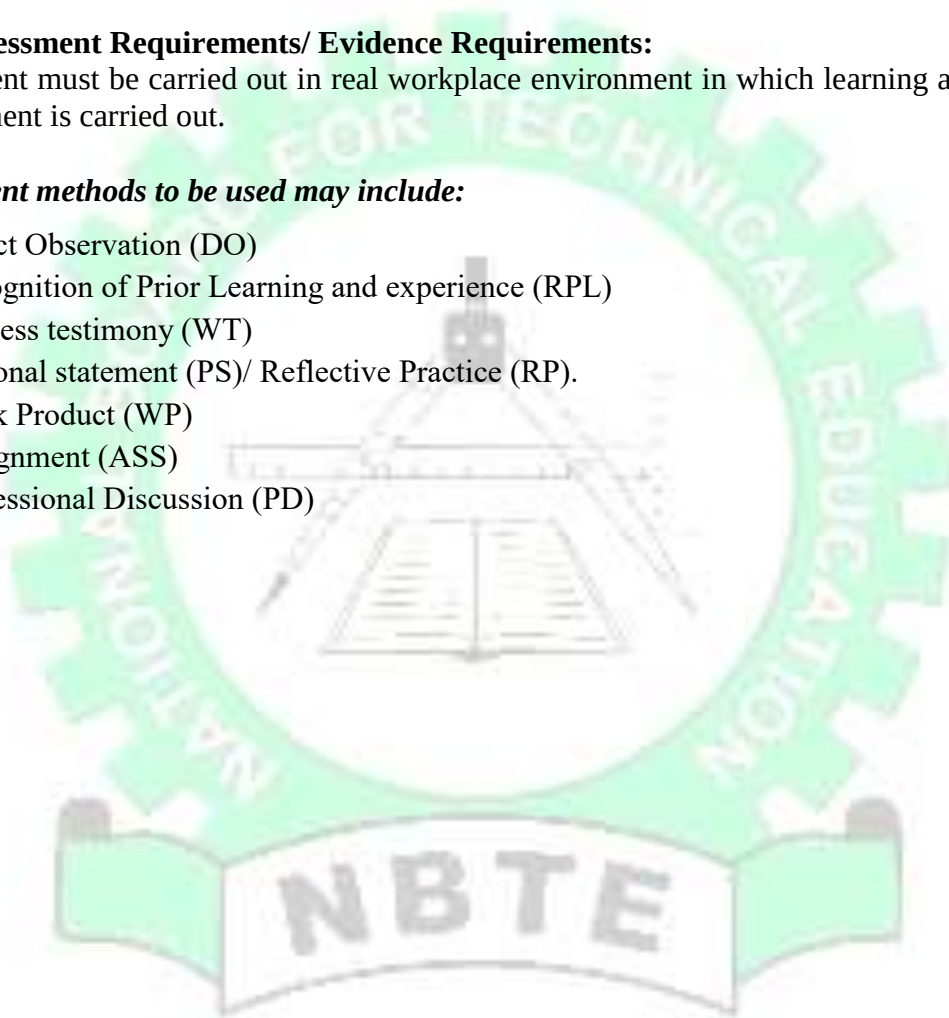
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in planning and managing commercial apiary operations

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 004: Commercial Apiary Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Carry out planning and organization in commercial beekeeping activities.</i>	1.1	Prepare annual and seasonal apiary plans		
	1.2	Select suitable apiary sites based on forage, water and microclimate		
	1.3	Allocate labour, equipment and financial resources		
	1.4	Monitor implementation of operational schedules		
LO 2: <i>Maintain complete enterprise records for decision-making.</i>	2.1	Record production and sales		
	2.2	Prepare enterprise budgets.		
	2.3	Analyse production costs and profitability.		
	2.4	Maintain inventory records.		
	2.5	Prepare financial reports.		
LO 3: <i>Develop and supervise workers.</i>	3.1	Describe worker's responsibilities in apiary operations.		
	3.2	Allocate responsibilities to the workers.		
	3.3	Monitor worker's performance.		
	3.4	Demonstrate how to coach and mentor staff.		
	3.5	Resolve workplace conflicts		
	3.6	Conduct team meetings and performance reviews.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 005: Colony Establishment and Queen Management**Unit Reference Number:** AGR/BKP/005/L5**NSQ Level:** 5**Credit Value:** 7**Guided Learning Hours:** 70**Practice Time:** 300 hours

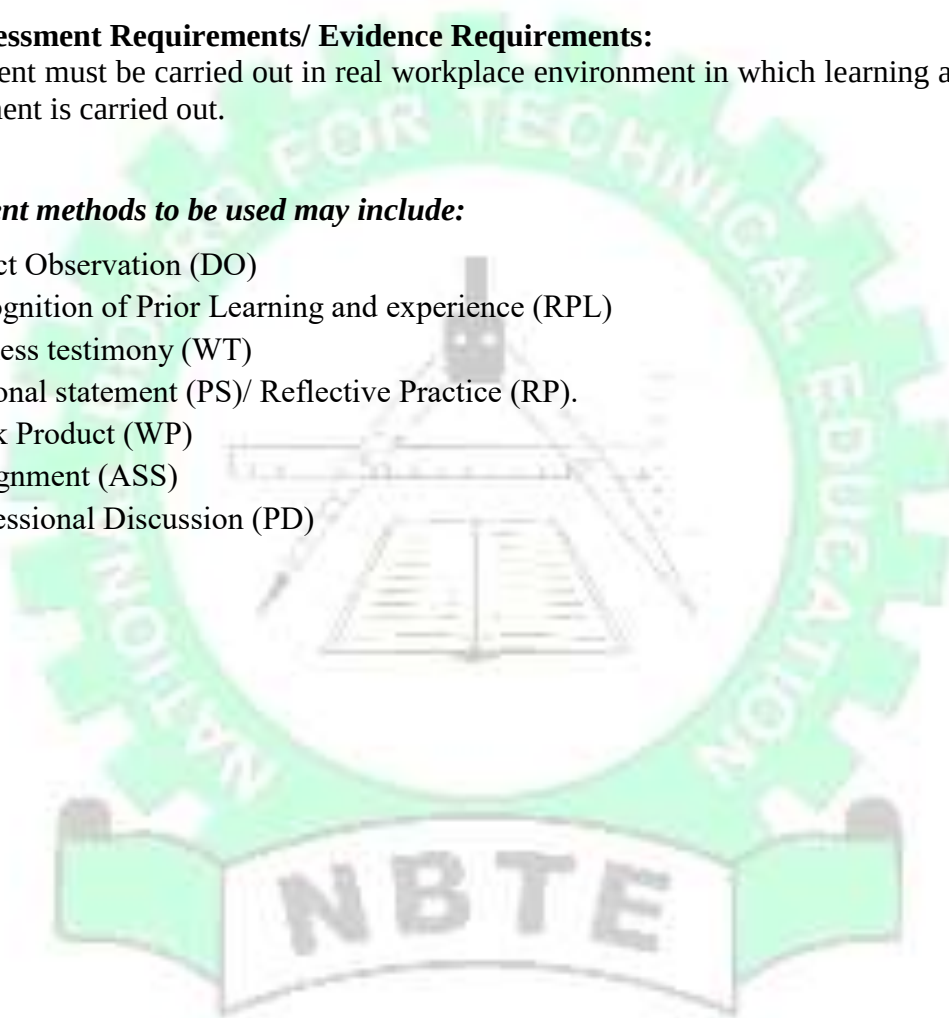
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in establishing colonies and managing queens.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 005: Colony Establishment and Queen Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Establish productive colonies using improved techniques.</i>	1.1	Inspect colonies systematically.		
	1.2	Perform colony splitting and colony unification.		
	1.3	Rear queens.		
	1.4	Introduce queens.		
	1.5	Replace queens.		
	1.6	Evaluate colony strength and productivity.		
	1.7	Supervise workers during colony operations.		
LO 2: <i>Produce queens</i>	2.1	Assess colonies with good queen traits.		
	2.2	Inspect colonies for presence of queen.		
	2.3	Recognize combs with healthy queen cells.		
	2.4	Manage the queen.		
LO 3: <i>Maintain healthy colonies through preventive and corrective management practices.</i>	3.1	Assess presence or absence of pests and diseases.		
	3.2	Use preventive measures for pest and disease control.		
	3.3	Recommend diagnosis and disease treatments.		
	3.4	Use Integrated Pest and Disease Management (IPDM).		
	3.5	Implement biosecurity measures.		
	3.6	Maintain colony health records.		
	3.7	Recommend corrective actions where necessary.		
	3.8	Ensure implementation of the corrective actions.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 006: Hive Products Harvesting, Processing and Marketing

Unit Reference Number:	AGR/BKP/006/L5
NSQ Level:	5
Credit Value:	7
Guided Learning Hours:	70
Practice Time:	300 hours

Unit Purpose: This unit is designed to equip learners with knowledge and skills required in harvesting and marketing hive products.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)

Unit 006: Hive Products Harvesting, Processing and Marketing

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Manage harvesting operations while maintaining product quality.</i>	1.1	Determine appropriate harvesting period.		
	1.2	Supervise hygienic harvesting procedures.		
	1.3	Prevent contamination during harvesting.		
	1.4	Ensure proper handling of comb honey.		
	1.5	Monitor harvesting efficiency.		
LO 2: <i>Ensure compliance with food safety and quality standards in processing</i>	2.1	Initiate Good Hygienic Practices (GHP).		
	2.2	Implement Good Manufacturing Practices (GMP).		
	2.3	Monitor moisture content and product quality.		
	2.4	Maintain traceability records.		
	2.5	Ensure compliance with regulatory standards.		
LO3 <i>Develop market-oriented hive products and marketing strategies.</i>	3.1	Grade products		
	3.2	Package products		
	3.3	Design product labels in line with regulatory compliance.		
	3.4	Develop Marketing Plans.		
	3.5	Identify market opportunities.		
	3.6	Maintain customer relations and sales records i.e. Customer Relationship Management (CRM).		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 007: Environmental Management and Sustainability in Beekeeping Practice

Unit Reference Number: AGR/BKP/007/L5

NSQ Level: 5

Credit Value: 6

Guided Learning Hours: 60

Practice Time: 220 hours

Unit Purpose: This unit is designed to equip learners with knowledge and skills required in environmental management and sustainability in beekeeping

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)

Unit 007: Environmental Management and Sustainability in Beekeeping Practice

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Promote safe working conditions at the apiary</i>	1.1	Conduct workplace risk assessment.		
	1.2	Ensure proper use of PPE.		
	1.3	Implement emergency response procedures.		
	1.4	Observe safe hive placement and spacing.		
	1.5	Observe safety measures and protocols in siting apiaries.		
	1.6	Maintain safe distance from settlements when siting apiaries.		
	1.7	Observe best time for harvest.		
LO 2: <i>Maintain Safe working conditions in the processing facility</i>	2.1	Conduct workplace risk assessments.		
	2.2	Ensure proper use of PPE.		
	2.3	Implement emergency response procedures.		
	2.4	Ensure ergonomics in workplace.		
	2.5	Document critical control points.		
LO 3: <i>Implement sustainable Beekeeping Practice</i>	3.1	Manage apiary waste responsibly.		
	3.2	Promote pollinator conservation.		
	3.3	Ensure environmental sustainability.		
	3.4	Address environmental degradation.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 008: Modern Technology and Innovation in Beekeeping Practice**Unit Reference Number:** AGR/BKP/008/L5**NSQ Level:** 5**Credit Value:** 6**Guided Learning Hours:** 60**Practice Time:** 220 hours

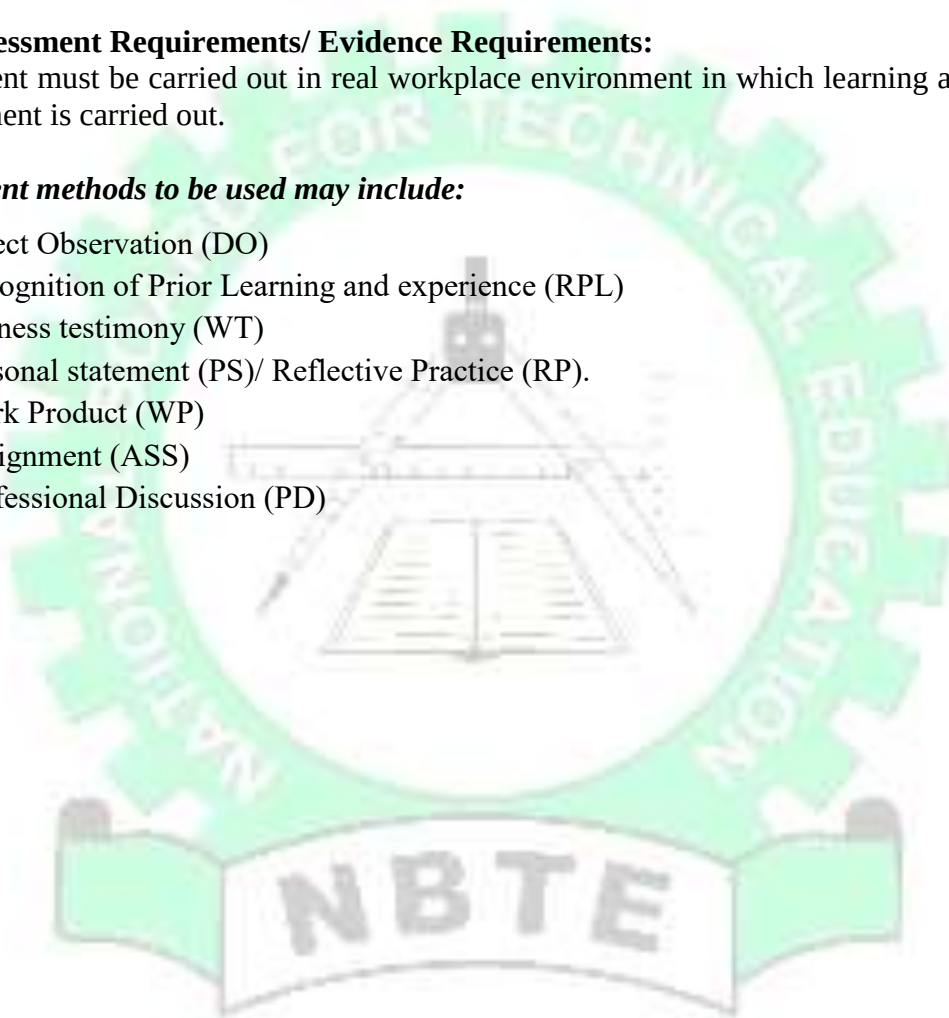
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in applying modern technology and innovation in beekeeping practice

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



UNIT 008: Modern Technology and Innovation in Beekeeping Practice

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO1: <i>Improve productivity through technology adoption</i>	1.1	Use digital record systems.		
	1.2	Monitor hives performance using modern devices.		
	1.3	Analyse production data.		
	1.4	Adopt improved hive technologies.		
	1.5	Evaluate innovations for commercial applications.		
	1.6	Use Internet of Things (IoT)		
	1.7	Initiate transparent data aggregation.		
	1.8	Maintain production database		
LO 2: <i>Improve techniques in processing</i>	2.1	Initiate improved practices for commercial applications.		
	2.2	Operate processing lines using Internet of Things (IoT)		
	2.3	Initiate transparency in data aggregation.		
	2.4	Maintain processing database		
LO 3: <i>Digitalise marketing operations</i>	3.1	Install electronic software to gain consumer perception.		
	3.2	Use internet platforms to communicate product information and benefits to consumers.		
	3.3	Design attractive product packaging using smart technologies.		
	3.4	Explore effective product distribution and visibility		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 009: **Regulatory Compliance and Certification in Beekeeping Practice**

Unit Reference Number: AGR/BKP/009/L5
NSQ Level: 5
Credit Value: 5
Guided Learning Hours: 50
Practice Time: 180 hours

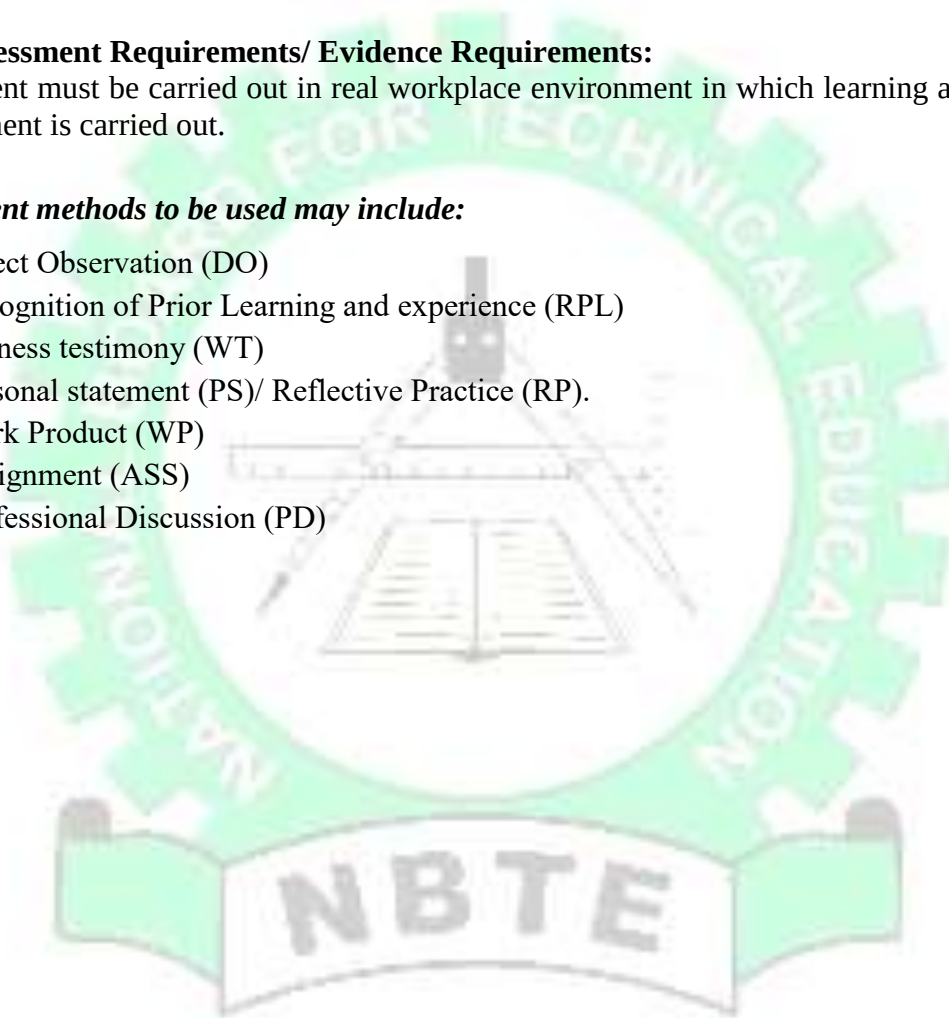
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in Regulatory Compliance and certification in Beekeeping Practice

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



UNIT 009: Regulatory Compliance and Certification

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Comply with national regulations governing beekeeping enterprises</i>	1.1	Implement national beekeeping regulations.		
	1.2	Maintain certification records.		
	1.3	Prepare for inspections and audits.		
	1.4	Ensure product traceability.		
	1.5	Comply with the Nigeria Bees and Apicultural Material Import/Supply Control and Management Act 2025 as amended.		
LO 2: <i>Comply with international standard regulations governing beekeeping enterprises.</i>	2.1	Demonstrate familiarity with international regulations and standards for bee products.		
	2.2	Comply with export requirements where applicable		
	2.3	Ensure product traceability		
	2.4	Implement Residual Monitoring Plan (RMP)		
LO 3: <i>Understand hive products certification processes</i>	3.1	Interpret national and international standards applicable to honey and other hive products.		
	3.2	Classify hive products according to quality grades and certification requirements.		
	3.3	Inspect honey and other hive products for compliance with quality and food safety standards.		
	3.4	Compile representative samples for laboratory analysis using approved procedures.		
	3.5	Interpret laboratory test results against established quality specifications.		
	3.6	Maintain product traceability through proper documentation and batch identification.		
	3.7	Prepare certification documents in accordance with regulatory requirements.		
	3.8	Use good Manufacturing Practices (GMP), Good Hygiene Practices (GHP), and Hazard Analysis and Critical Control Point (HACCP) principles during processing and packaging.		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.				
The learner will:		The learner can:										
	3.9	Liaise with relevant certification and regulatory agencies for product inspection and approval.										
	3.10	Package certified hive products in accordance with legal and market requirements.										
	3.11	Maintain certification records, audit reports, and product documentation.										
	3.12	Implement corrective actions where products fail to meet certification standards.										
Learner's Signature:							Date:					
Assessor's Signature:							Date:					
IQA Signature (if sampled)							Date:					
EQA Signature (if sampled)							Date:					

Unit 010: Pollination, Conservation and Sustainability

Unit Reference Number:	AGR/BKP/010/L5
NSQ Level:	5
Credit Value:	7
Guided Learning Hours:	70
Practice Time:	270 hours

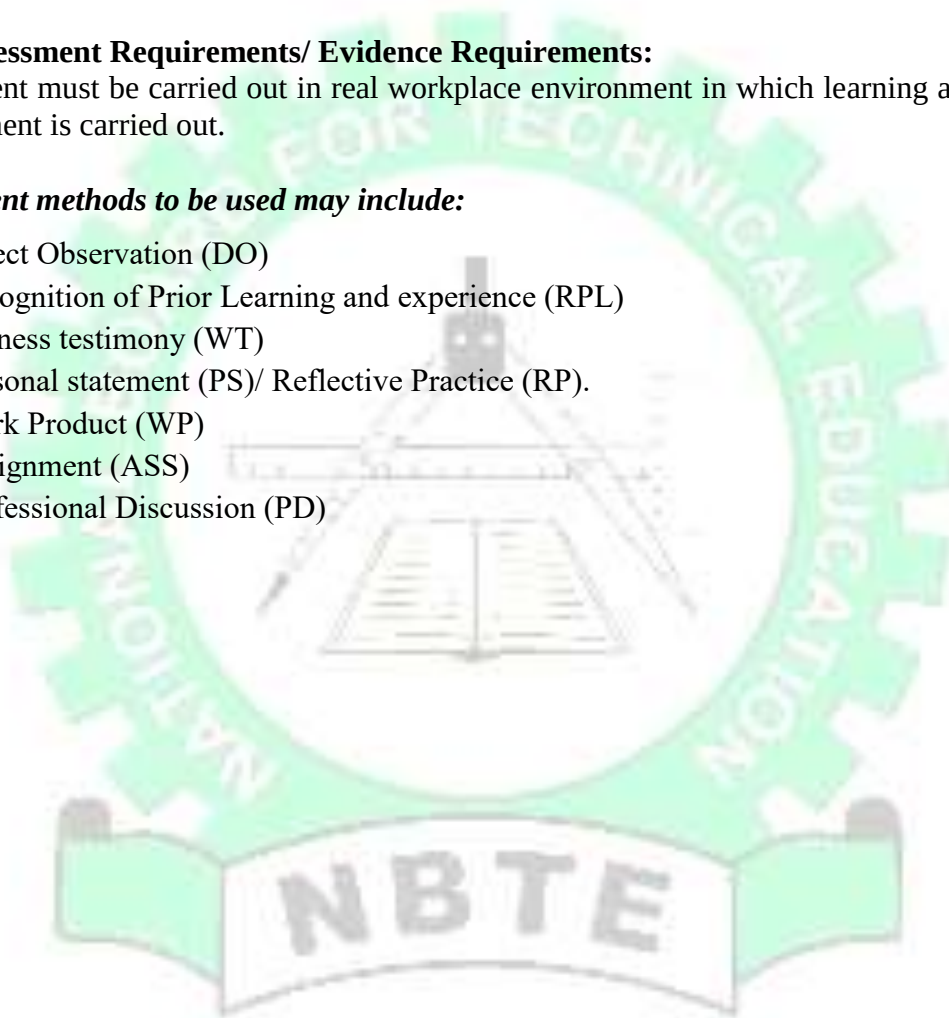
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in pollination, conservation and sustainability in beekeeping practices.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



UNIT 010: Pollination, Conservation and Sustainability

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO1: <i>Understand the role of honeybees in pollination and agricultural productivity</i>	1.1	Describe the process of pollination and fertilization in flowering plants.		
	1.2	Differentiate between self-pollination and cross-pollination.		
	1.3	Describe the contribution of honeybees and other pollinators to crop yield and quality.		
	1.4	Describe major crops that depend on bee pollination.		
	1.5	Assess the economic and ecological importance of pollination services.		
LO2: <i>Manage pollination practices.</i>	2.1	Describe suitable bee colonies for pollination services.		
	2.2	Locate colonies strategically for maximum pollination efficiency.		
	2.3	Monitor colony strength during pollination periods.		
	2.4	Coordinate hive movement according to crop flowering schedules.		
	2.5	Maintain records of pollination activities and outcomes.		
LO3: <i>Comply with bee conservation and biodiversity.</i>	3.1	Determine threats to honeybees and wild pollinators, including pesticides, habitat loss, pests, diseases, and climate change.		
	3.2	Initiate measures for conserving pollinator habitats.		
	3.3	Establish bee-friendly forage plants around apiaries to supplement existing plants.		
	3.4	Apply integrated pest and pesticide management practices that protect pollinators.		
	3.5	Promote biodiversity through sustainable apiary management practices.		
LO4: <i>Apply sustainable beekeeping practices</i>	4.1	Initiate environmentally sustainable apiary management techniques		
	4.2	Manage natural resources responsibly during beekeeping operations.		
	4.3	Minimize environmental pollution from beekeeping activities and		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
		waste.		
	4.4	Initiate climate-smart beekeeping practices to improve colony resilience.		
	4.5	Comply with environmental regulations and good beekeeping practices.		
LO5: <i>Promote community awareness and pollinator protection</i>	5.1	Initiate farmers awareness on the importance of bees in crop production.		
	5.2	Carry out advocacy for reduced pesticide misuse during flowering periods.		
	5.3	Promote participation in community conservation and tree-planting programmes.		
	5.4	Operate with stakeholders to support pollinator conservation initiatives.		
	5.5	Evaluate the impact of conservation and sustainability activities on bee populations and agricultural productivity.		
	5.6	Report conservation and sustainability activities on bee populations.		
Learner's Signature:			Date:	
Assessor's Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

Unit 011: Basic Beehive Construction**Unit Reference Number:** AGR/BKP/011/L5**NSQ Level:** 5**Credit Value:** 8**Guided Learning Hours:** 80**Practice Time:** 200 hours

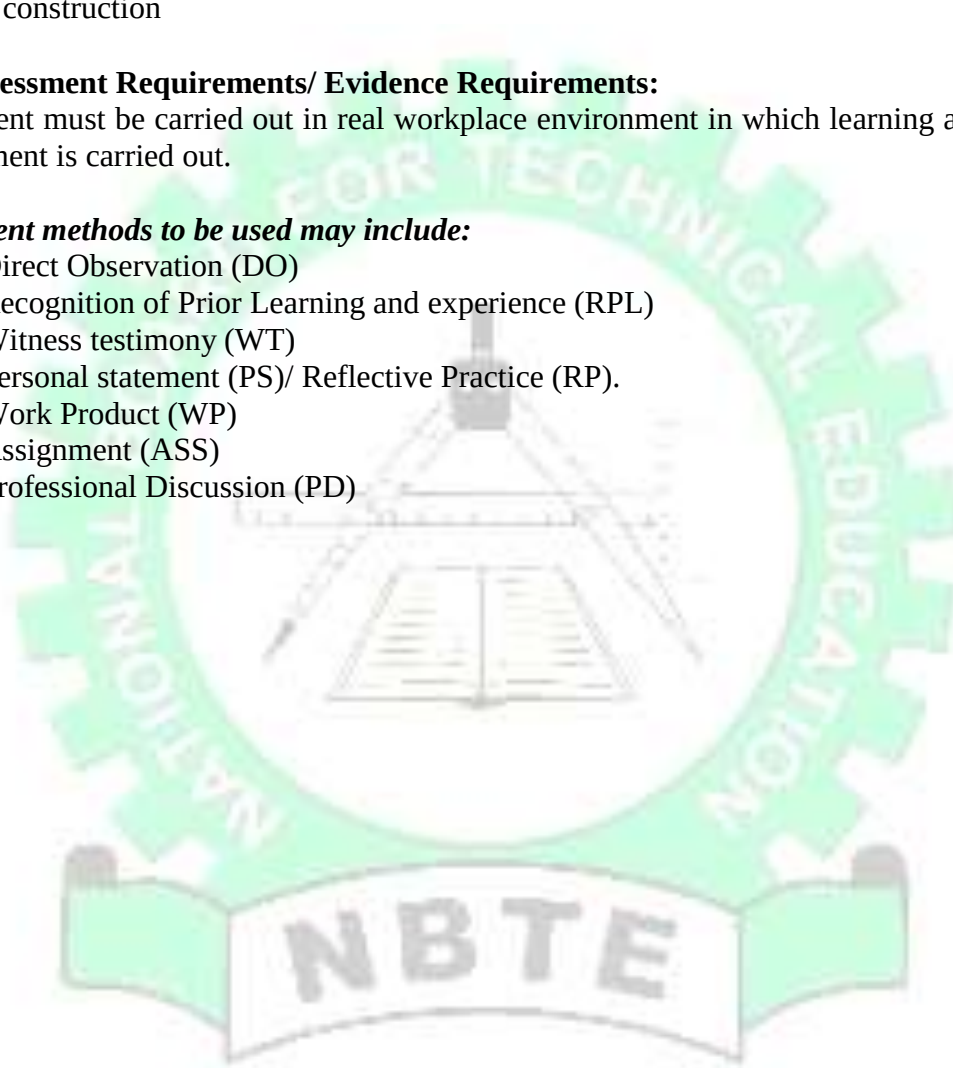
Unit Purpose: This unit is designed to equip learners with knowledge and skills required in beehives construction

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)
7. Professional Discussion (PD)



Unit 011: Basic Beehive Construction

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: <i>Understand the purpose and advantages of standard beehive construction.</i>	1.1	Explain the functions of different hive types of various production systems		
	1.2	Describe the suitability of various production systems		
	1.3	State the advantages of standard beehives		
LO 2: <i>Identify the components and parts of a standard hive.</i>	2.1	Identify all components of a standard beehive correctly		
	2.2	Properly label the components of a beehive		
	2.3	Assign suitable material for coupling		
LO 3: <i>Construct and assemble hive components according to standard specifications.</i>	3.1	Draw hive types with dimensions		
	3.2	Select suitable timber and construction materials free from defects		
	3.3	Select appropriate tools for measuring, cutting, drilling and assembly.		
	3.4	Use appropriate tools for measuring, cutting, drilling and assembly.		
	3.5	Interpret hive drawings and dimensions accurately		
	3.6	Measure and mark material according to specifications.		
	3.7	Cut the material accurately with minimal waste		
	3.8	Assemble the hive body, frames, bottom board, covers and stand correctly.		
	3.9	Maintain the correct bee space throughout the hive construction process.		
	3.10	Fasten hive components securely using appropriate joining methods.		
	3.11	Smooth rough surfaces and remove sharp edges to prevent injury to bees and handlers		
	3.12	Inspect the finished hive to ensure correct dimensions, strength and durability		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.				
The learner will:		The learner can:										
	3.13	Store completed hives properly to prevent damage before use.										
	3.14	Maintain a clean, safe and organized work area and use appropriate PPE throughout the construction process.										
Learner's Signature:			Date:									
Assessor's Signature:			Date:									
IQA Signature (if sampled)			Date:									
EQA Signature (if sampled)			Date:									



LIST OF TOOLS, EQUIPMENT AND FACILITIES REQUIRED IN BEEKEEPING PRACTICE

S/No	Items	Qty
1.	Live bee colonies	15
2.	Charts of bee anatomy and life cycle	4
3.	flowering calendar	2
4.	Field guide	3
5.	Microscope	1
6.	Sprayer	1
7.	Hive tool	15
8.	Queen excluder	5
9.	Demonstration apiary	1
10.	Inspection checklist	15
11.	Disease identification charts	3
12.	Pest traps	5
13.	Honey press	1
14.	Filter	1
15.	Weighing scale	3
16.	Packaging materials (containers, flip cover etc.)	30
17.	Labels	30
18.	First-aid kit	5
19.	Marketing plan templates	Assorted
20.	Sales record books	Assorted
21.	Calculator	4
22.	Computer	1
23.	Smart phone	1
24.	Market information resources	Assorted
25.	Measuring tape	16
26.	Steel rule	16
27.	Carpenter's square	16
28.	Try square	16
29.	Pencil	16
30.	Marking gauge	16
31.	Hand saw	16
32.	Circular saw	16
33.	Jigsaw	16
34.	Hammer	16
35.	Wooden mallet	16
36.	Screwdrivers	Assorted
37.	Drilling machine	3
38.	Drill bits	3 sets
39.	Chisels	16
40.	Wood plane	3
41.	Clamps	16
42.	Bench vice	3
43.	Workbench	3
44.	Nail punch	16
45.	Sanding block	16

46.	Orbital sander	16
47.	Paint brushes	16
48.	Staple gun (for frame assembly)	16
49.	Apiary management manuals	16
50.	Climate data	16
51.	Farm planning template	16
52.	GPS	16
53.	Maps	16
54.	Nucleus colonies,	16
55.	Queen cages	16
56.	Grafting tools	16
57.	Colony health record books	16
58.	Laboratory testing guides	16
59.	Enterprise management manuals	16
60.	Fire extinguishers	3
61.	Supervision manuals	3
62.	Standard Operating Procedures (SOPs)	3
63.	Performance appraisal forms	16
64.	National beekeeping regulations	3
65.	Certification manuals	3
66.	Audit reports	4
67.	Quality management documents	ALL
68.	Beehives (Langstroth, Kenyan Top Bar (KTB), and Traditional hives)	KTB (15), Langstroth (5)
69.	Bee smoker	16
70.	Food grade plastic bucket	16
71.	Honey refractometer	3
72.	Knife	16
73.	Bee protective gear	16
74.	Bee brush	16
75.	Centrifugal honey extractor	1
76.	Swarm Catcher box	16
77.	Solar wax extractor	1
78.	Hive tools	16
79.	Royal jelly extraction kit	1
80.	Boots	16 pairs
81.	Straining cloth	16
82.	Honey settling tank	1
83.	Processing honey room or lab	1
84.	Foundation mold	1
85.	Recording book and calendar	16
86.	Food grade hand gloves	1 packet
87.	Pollen trap	10
88.	Propolis trap	10

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