



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training



**Assessment and
Training Package
For a
VEGETABLE
PROCESSOR**

Qualification Level: 1

**Occupational Cluster: Nutrition and Food
Technology**

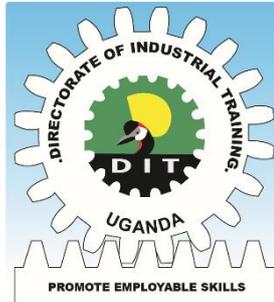
September 2020

Developed by:

**Qualifications Standards Department
Directorate of Industrial Training**

Funded by:

Government of Uganda



Assessment and Training Package

For a

VEGETABLE PROCESSOR

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Technology**

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Under BTVET Act, 2008, the functions of the Directorate of Industrial Training are:

- (a) To identify the needs of the labour market for occupational competencies that fall under the UVQF.
- (b) To regulate apprenticeship schemes.
- (c) To foster and promote entrepreneurial values and skills, as an integral part of the UVQF.
- (d) To secure adequate and sustainable financing for the efficient operations of the Directorate.
- (e) To accredit training institutions or companies as assessment centres.
- (f) To determine fees payable under the Act.
- (g) To develop, apply, expand and improve the purposeful application of Uganda vocational qualifications defined in the UVQF.
- (h) To assess and award Uganda Vocational Qualifications.
- (i) To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading.
- (j) To prescribe the procedure for the making of training schemes.

Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that:

The purpose of the UVQF is to;

- (a) Define occupational standards in the world of work.
- (b) Define assessment standards.
- (c) Award vocational qualifications of learners who meet the set standards of different studies.
- (d) Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:

- (a) Flexible training or learning modules.
- (b) Positive assessment and certification.
- (c) Assessment of prior learning.
- (d) Recognition of formal and non-formal training.
- (e) Self-paced or individual learning.
- (f) Work place learning.

For award and recognition of certificates, the BTVET Act, 2008 provides that:

- (1) The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational Education and Training under the UVQF.
- (2) The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council.
- (3) The Certificates and Diplomas awarded under the Act shall be recognised in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:

- (a) Regulating Industrial Training and Trainers.
- (b) Developing Industrial Training Curricula.
- (c) Harmonising Curricula and Certificates of competence.
- (d) Assessing Industrial Training.
- (e) Development of Occupational Standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work.
- (f) Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organises and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

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Word from Permanent Secretary

The Kajubi Report (1989) and the Uganda Government White Paper on Education Review (1992) emphasised that the Uganda Secondary School Education should be vocationalised.

The World Bank Report on education in Uganda 2007 observed that although Uganda was experiencing steady economic growth on one hand, the secondary education curriculum was inadequately addressing the social and economic needs of the country on the other. The Report further noted that it is not the very top academic cadres that contribute most to the growth of the GDP but rather the competent middle level technicians that are flexible and technologically literate that the economy needs in the labour market at all levels.

Correspondingly, the NDP III 2020/21- 2024/5 highlights (i) low labour productivity (ii) high youth unemployment (38%) (iii) low transition rates from training to employment (35%) as some of the key challenges to Human Capital Development in Uganda.

In order to overcome these challenges, NDP III 2020/21- 2024/5, under objective 2 peaks the need to train the learners for the urgently needed skills and mainstream a dual education and training system. This paved way for the development of the lower secondary school vocational curriculum which supports both academic and vocational training.

The afore is in line with the Uganda Vision 2040. Under section 261, it emphasises that learners will be accorded opportunities to excel in the skills areas they are placed into. These will range from sports and cut to technical and vocational training. Hitherto, section 262 clearly states that the entire education system will be changed to emphasise practical skills, attitude and moral values.

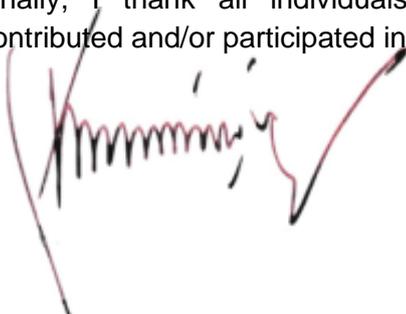
Government of Uganda through the Ministry of Education and Sports rolled out the New Lower Secondary Curriculum in secondary schools countrywide during the first term of the academic year 2020. The overall goal of this curriculum is to produce graduates with employable skills and who are competitive in the labour market. It should be emphasised that vocational training will produce graduates who are employable. In the New curriculum, emphasis will be on equipping learners with employable skills and competencies. This will enable learners perform the requisite duties of the specified occupations. This is the reason why the lower secondary school vocational curriculum was tailored to the assessment requirements of the world of work.

Reading from the Curriculum Framework page 12, it is stated that the learners will be assessed by DIT. Upon assessment and certification, the graduates will be employable and competitive in the labour market. It's against this background that DIT, within its mandate vested in the BTVET Act, 2008 comes on board to take the lead in the development of the requisite Assessment and Training Packages (ATPs) for the various occupations that will be assessed under the Lower Secondary Curriculum.

The ATPs can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the Assessment and Training Package for training, assessment and certification of a **VEGETABLE PROCESSOR QUALIFICATION LEVEL 1**.

Finally, I thank all individuals, organisations and review partners who have contributed and/or participated in the review of this noble document.



Alex Kakooza
Permanent Secretary

Executive Summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts:

- 0.1 **PART I: The Occupational Profile (OP) of a VEGETABLE PROCESSOR.**
This Occupational Profile which was reviewed by Vegetable Processors practicing in the world of work mirrors the duties and tasks that Vegetable Processors are expected to perform.
- 0.2 **PART II: Training Modules** in the form of guidelines to train Vegetable Processors both on the job as well as in training centres (or combinations of both venues of learning). The Training Modules herein have been reviewed basing on the Occupational Profile and hence are directly relevant for employment.
- 0.3 **PART III: Assessment Instruments** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as a VEGETABLE PROCESSOR. These assessment instruments were reviewed jointly by job practitioners (Vegetable Processors) and instructors based on the occupational profile and training modules.
- 0.4 While the Occupational Profile (OP) contained in PART I of this document provides the information on **WHAT a person is expected to do** competently in the world of work, the test items, - including performance criteria- of PART III qualify the **HOW and/or HOW WELL a person must do the job.**
- 0.5 The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centres as well as companies can accommodate more learners in a given period of time.
- 0.6 In addition to improved access, equity and relevance of BTJET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).

0.7 The parts of this Assessment and Training Package were sequentially reviewed as follows:

- i Part 1: Occupational Profile: **August 2020**
- ii Part 2: Training Modules: **August 2020**
- iii Part 3: Assessment Instruments (initial bank): **August 2020**

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

DIT takes responsibility of any shortcomings that might be identified in this publication and welcomes suggestions for effectively addressing the inadequacies. The suggestion can be communicated to DIT through P.O. Box 20050, Kampala or through email uvaf.dit@gmail.com.



Patrick Byakatonda
Ag Director

Acknowledgement

The Qualifications Standards Department of DIT acknowledges the valuable contributions to the review of this Assessment and Training Package by the following persons, Institutions and organisations:

- Members of the DIT Industrial Training Council.
- The Director and staff of DIT.
- Ministry of Education and Sports.
- The practitioners from the world of work.
- Teachers and instructors of Vegetable Processor from various secondary schools.
- Nutrition and Food Technology Curriculum Specialists from NCDC.
- Examination specialists from UNEB.
- The facilitators involved in guiding the development panels in their activities.
- The Government of Uganda for financing the development of this ATP.

Abbreviations and Acronyms

A&C	Assessment and Certification
ATP	Assessment and Training Packages
CBET	Competency Based Education and Training
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical, Vocational Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item

Key Definitions

Assessment	Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.
Certification	Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.
Competence	Integration of skills, knowledge, attitudes, attributes and expertise in doing/ performing tasks in the world of work to a set standard.
Competency	(Occupational) competence is understood as the ability to perform tasks common to an occupation at an acceptable level.
CBET	Competence-based education and training means that programmes: <ol style="list-style-type: none">1. have content directly related to work2. focus is on 'doing something well'3. assessment is based upon industry work standards, and4. curricula are developed in modular form
Duty	A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).
Learning-Working Assignment (LWA)	LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWAs are real work situations /assignments.
Modules	Modules are part(s) of a curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.
Occupational Profile (OP)	<p>An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment.</p> <p>Occupational Profiles developed by practitioners from the world of work enhance the relevance of training and learning to the requirements of the world of work.</p>

Occupational Profiles define what a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behavior, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards

Qualification A qualification is a formal recognition for demonstrating competence, based on formal assessment against set standards. A qualification is provided to the individual in form of a certificate specifying the nature of the competence.

Task Job tasks represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be observed and measured. (*Also see: Duty*)

1.0 ATP-PART I

OCCUPATIONAL PROFILE FOR A VEGETABLE PROCESSOR

- 1.1 The OCCUPATIONAL PROFILE (OP) for “VEGETABLE PROCESSOR” below defines the **Duties** and **Tasks** a competent Vegetable Processor is expected to perform in the world of work (on the job) in Uganda and the East African region today.
- 1.2 Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.
- 1.3 To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of “occupational/job profiling.

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panelists defined the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

- 1.4 The panelists, facilitators and coordinators who participated in developing this Occupational Profile are listed on the following page.

Job Expert Panel

Oryem Raphael
UNEB

Namayengo Prossy
NCDC

Mugabe Brian
Makerere Business School and
Innovation Centre

Catherine Davis Kisakye
Jackie Davis Farming World

Obwol Tom Ametto
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Nahirya Brenda
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Isma Kirunda
Kibuli secondary School

Gloria Mwebaza
Nabisunsa Girls School

Kibirango Rennie
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Directorate of industrial Training

Funded by
Government of Uganda



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Occupational Profile for a

"VEGETABLE PROCESSOR"

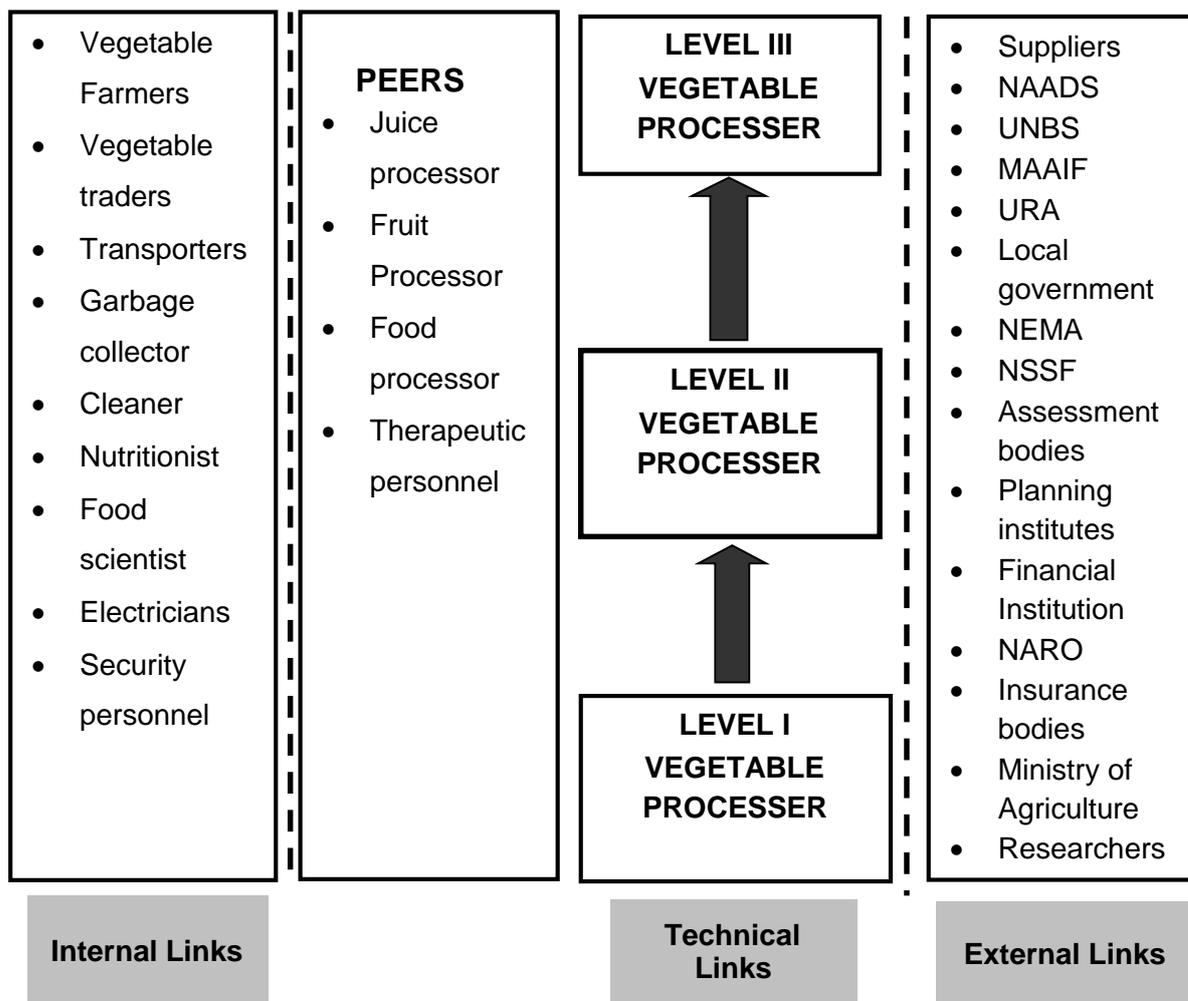
Developed by: (Qualifications Standards)
Directorate of Industrial Training

Dates of workshop: 14th -18th September 2020

NOMENCLATURE FOR THE OCCUPATION OF VEGETABLE PROCESSOR

Definition: A Vegetable Processor is a person who adds value to vegetables for domestic and commercial purposes.

JOB ORGANISATION CHART FOR A VEGETABLE PROCESSOR



Description for the levels in the occupation of "Vegetable processor"

UVQF Level I vegetable processor: Is a person who is able to add value to vegetables with minimum preservation methods like drying, freezing, chemicals (sodium benzoate, vinegar, salt) to extend shelf-life.

UVQF level II vegetable processor: Is a person who is able to add value to vegetables with moderate preservation methods like oil packing, chemicals (sodium benzoate, vinegar, salt, potassium sorbate, sorbic acid and benzoic acid) to extend shelf life.

UVQ Level III Vegetable Processor: Is a person who is able to add value to vegetables with advanced technology like pressure canning, use of various chemicals, fermentation to extend shelf life.

Duties and Tasks

A. PLAN VEGETABLE PROCESSING BUSINESS	A1 Prepare business plan	A2 Prepare budget	A3 Determine source of funding
	A4 Determine business location	A5 Register business	A6 Determine production method
	A7 Determine human capital		

B. ESTABLISH VEGETABLE PROCESSING PLANTS	B1 Acquire land	B2 Erect plant structures	B3 Acquire machinery
	B4 Demarcate processing plant	B5 Procure raw materials	B6 Store raw materials
	B7 Provide security		

C. PROCESS VEGETABLES	C1 Sort vegetables	C2 Grade vegetables	C3 Weigh vegetables
	C4 Clean vegetables	C5 Add additives	C6 Preserve products
	C7 Package products	C8 Store products	

D. PERFORM QUALITY CONTROL	D1 Maintain hygiene	D2 Observe product specifications	D3 Sanitise packaging materials
	D4 Store vegetable products	D5 Control pests and rodents	D6 Perform sensory evaluation

E. MARKET VEGETABLE PRODUCTS	F1 Price products	F2 Brand products	F3 Label products
	F4 Pack products	F5 Offer sales promotions	F6 Offer after sales services
	F7 Advertise products		

F. MAINTAIN TOOLS AND EQUIPMENTS	G1 Service tools and equipment	G2 Calibrate tools and equipment	G3 Repair tools and equipment
	G4 Replace tools and equipment	G5 Disinfect tools and equipment	G6 Manage back ups
	G7 Store tools and equipment	G8 Sterilise tools and equipment	

G. PERFORM ADMINISTRATIVE TASKS	H1 Develop organisational policies	H2 Mobilise resource	H3 Provide security
	H4 Orient workers	H5 Keep records	H6 Remunerate workers
	H7 Appraise workers		

H. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PRACTICES	I1 Wear protective gear	I2 Carryout routine safety drills	I3 Carryout regular health check ups
	I4 Perform firefighting	I5 Dispose waste	I6 Administer first aid
	I7 Observe hygiene	I8 Display safety signs	I9 Sensitise workers on key health issues

Additional Information

Generic Knowledge & Skills

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Type of vegetables 2. Proper use of tools and equipment 3. Maintenance of tools and equipment 4. Sorting 5. Preservation 6. Vegetable handling 7. Freezing/chilling 8. Marketing | <ol style="list-style-type: none"> 9. Human resource management 10. Dispose of waste 11. Storage 12. Grading 13. Drying 14. Weighing 15. Packaging 16. Record keeping 17. Methods of processing 18. Waste management |
|--|--|

Tools, Materials and Equipment

- | | | |
|---|--|---|
| <ol style="list-style-type: none"> 1. Knives 2. Containers 3. Grater 4. Grinder 5. Blender 6. Slicers 7. Jars 8. Labels 9. Troughs 10. Preservatives 11. Additives 12. Food color 13. Thermometer 14. Flavor enhancers 15. Juicers 16. Millers 17. Fridges | <ol style="list-style-type: none"> 18. Vegetable peelers 19. Sieves 20. Wax boxes 21. Saucepans 22. Weighing scales 23. Aluminum foil 24. Water 25. Vegetables 26. Refractometer 27. PH meter 28. Gumboots 29. Face masks 30. Gloves 31. Aprons 32. Overalls 33. Overcoats | <ol style="list-style-type: none"> 34. Head caps 35. Fire extinguishers 36. Stoves 37. Cling films 38. Disinfectants 39. Freezers 40. Spoons |
|---|--|---|

Attitudes/Traits/Behavior

- | | | |
|------------------|--------------------|-------------------|
| 1. Self-driven | 16. Exemplary | 31. Hygienic |
| 2. Hardworking | 17. Knowledgeable | 32. Honest |
| 3. Trustworthy | 18. Understandable | 33. Accurate |
| 4. Respectful | 19. Clarity | 34. Reliable |
| 5. Patience | 20. Team player | 35. Analytical |
| 6. Integrity | 21. Reliable | 36. Professional |
| 7. Trainability | 22. Kind | 37. Disciplined |
| 8. Self esteem | 23. Creative | 38. Compliant |
| 9. Ethical | 24. Innovative | 39. Influential |
| 10. Enterprising | 25. Loyal | 40. Skilled |
| 11. Empathetic | 26. Analytical | 41. Objective |
| 12. Approachable | 27. A listener | 42. Flexible |
| 13. Tolerant | 28. Competent | 43. Resilient |
| 14. Realistic | 29. Flexible | 44. Presentable |
| 15. Practical | 30. Committed | 45. Accommodative |

Future trends and Concerns

1. Competition
2. Climatic and weather changes
3. Labour mobility
4. Instability
5. Outbreak of pests and diseases
6. Sustainable supply
7. Nutritional awareness
8. Population changes
9. Pandemic outbreak
10. Cultural dynamics
11. Multisector collaborations
12. Technological changes

2.0 ATP – PART II

TRAINING MODULES FOR A VEGETABLE PROCESSOR

- 2.1 A curriculum is a “guide /plan for teaching and learning” which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile that provides the benchmark for Curriculum development as well as assessment.
- 2.2 This modular format of the curriculum allows learners of Vegetable Processor to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centers, as well as companies can accommodate more learners in a given period of time.
- 2.3 The modules were developed jointly by both instructors and job practitioners. They were developed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes.
- 2.4 The modules contain “Learning-Working Assignments” (LWAs) and related “Practical Exercises” (PEXs) as key elements.

LWAs are simulated or real job situations/assignments that are suitable for learning in a training environment (e.g. “small projects”). In a working environment, LWAs are real work situations.

PEXs are therefore sub-sets of a LWA.

- 2.5 In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training Centre, at the workplace; or a combination of both.

WHO IS A VEGETABLE PROCESSOR QUALIFICATION LEVEL 1?

A **VEGETABLE PROCESSOR LEVEL 1** is a person who is able to add value to vegetables with minimum preservation methods like drying freezing uses of chemicals (sodium benzoate, vinegar, salt) to extend shelf life.

TRAINING MODULES FOR A VEGETABLE PROCESSOR UVQ LEVEL 1

Code	Module Title	Average Duration	
		Contact hours	Weeks
UE/VP/M 1.1	Process Vegetables	240	6
UE/VP/M 1.2	Maintain Vegetable Processing Enterprise	120	3
UE/VP/M 1.3	Perform Entrepreneurial Tasks	200	5
Summary	3 Training Modules	560 Hours	14 Weeks

Note: Average duration is contact time but NOT calendar duration

It is assumed that:

- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 160hours of nominal learning

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their Practical exercises and attached theoretical instructions, as the minimum exposure.

Prior to summative assessment by recognised agencies, the users of these Modules Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP.

Code	UE/VP /M1.1
Module title	M1.1: Process Vegetables
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (VEGETABLE PROCESSOR UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to process vegetables
Learning-Working Assignments (LWAs)	<p>LWA 1/1: Prepare Vegetables LWA 1/2: Preserve Vegetables LWA 1/3: Package Vegetables LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices</p> <p><u>Note:</u></p> <p>1. The learning exercises may be repeated until the trainee acquires targeted competence; 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 1/1: Prepare Vegetables PEX 1.1: Sort vegetables PEX 1.2: Grade vegetables PEX 1.3: Clean vegetables PEX 1.4: Drain vegetables PEX 1.5: Peel vegetables</p>
	<p>LWA 1/2: Preserve Vegetables PEX 2.1: Add preservative PEX 2.2: Dry vegetables PEX 2.3: Re-fridge vegetables PEX 2.4: Pickle vegetables PEX 2.5: Blanch vegetables PEX 2.6: Ferment vegetables PEX 2.7: Freeze vegetables</p>
	<p>LWA 1/3: Package Vegetables PEX 3.1: Select tools, equipment & materials PEX 3.2: Prepare packing materials PEX 3.3: Pack vegetables PEX 3.4: Store vegetables</p>
	<p>LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices PEX 4.1: Observe hygiene</p>

	PEX 4.2: Manage waste PEX 4.3: Wear protective gear PEX 4.4: Perform firefighting PEX 4.6: Administer first aid
Occupational health and safety	Precautions, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Customer requirements • Computer literacy • Numeracy • Literacy • Environmental awareness • Financial literacy • Mentoring skills • Food safety and hygiene • Classification of vegetables and vegetables • Raw materials storage • Preservation technologies • Good manufacturing practices and general health practices • Legal framework • Raw material physiology • Vegetable processing methods • Tools and equipment handling • Business management • Assets handling • Waste disposal and management • Information technology and communication skills • Communication skills • Occupational health and safety at work
Average duration of learning	240 hours (30 days of nominal learning) suggested to include; <ul style="list-style-type: none"> • 10 days of occupational theory • 20 days of occupational practice.
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training center or its equivalent provided all equipment and materials required for training are in place.

Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	storage facilities, fire extinguisher, first aid kit, personnel protective equipment, knives, sauce pans, weighing scale, thermometer, heat source, filters, personnel protective gear, working table, chopping boards, garbage bins, crushing machines, blender.
Minimum required materials and consumables or equivalent	sanitisers, cleaning detergents, vegetable materials, stationery, water, preservatives, ingredients, liquid soap, hand driers.
Special notes	<ul style="list-style-type: none"> • There should not be laxity in time between steps taken in vegetable preparation. • All specifications should conform to good manufacturing practices and good hygiene practices. • Basic vegetable formula should be introduced to the learners • Use digital machines • Students should be supervised. • This module can be modified to suit special needs/abilities

Code	UE/VP /M1.2
Module title	M1.2: Maintain Vegetable Processing Enterprise
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (VEGETABLE PROCESSOR UVQ 1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to maintain and manage a vegetable processing enterprise.
Learning-Working Assignments (LWAs)	<p>LWA 2/1: Manage Raw Materials</p> <p>LWA 2/2: Maintain Tools and Equipment</p> <p>LWA 2/3: Control Pests and Vices</p> <p>LWA 2/4: Perform Quality Control</p> <p>LWA 2/5: Perform Occupational Health, Safety and Environmental Protection Practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises may be repeated until the trainee acquires targeted competence; 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.
Related Practical Exercises (PEXs)	<p>LWA 2/1: Manage Raw Materials</p> <p>PEX 1.1: Receive vegetables</p> <p>PEX 1.2: Clean vegetables</p> <p>PEX 1.3: Store vegetables</p> <hr/> <p>LWA 2/2: Maintain Tools and Equipment</p> <p>PEX 2.1: Prepare maintenance schedule</p> <p>PEX 2.2: Repair tools and equipment</p> <p>PEX 2.3: Replace tools and equipment</p> <p>PEX 2.4: Train workers on use of equipment</p> <p>PEX 2.5: Engrave tools and equipment</p> <hr/> <p>LWA 2/3: Control Pests and Vices</p> <p>PEX 3.1: Select tools, equipment and materials</p> <p>PEX 3.2: Fumigate the premises</p> <p>PEX 3.3: Clean premises</p> <p>PEX 3.4: Dispose waste</p> <hr/> <p>LWA 2/4: Perform Quality Control</p> <p>PEX 4.1: Select tools, equipment and material</p> <p>PEX 4.2: Sort vegetables</p> <p>PEX 4.3: Perform physical tests</p> <p>PEX 4.4: Perform organoleptic tests</p> <p>PEX 4.5: Correct defect</p>

	PEX 4.6: Dispose rejects PEX 4.7: Control temperature PEX 4.8: Monitor production PEX 4.9: Check packaging PEX 4.10: Perform FIFO (First in first out)
	LWA 2/5: Perform Occupational Health, Safety and Environmental Protection Practices PEX 5.1: Administer first aid PEX 5.2: Wear personnel protective equipment PEX 5.3: Dispose waste PEX 5.4: Practice safe use of tools PEX 5.5: Display safety signs PEX 5.6: Maintain hygiene
Occupational health and safety	Precautions, rules and regulations on occupational health, safety and environmental protection, included in the listed of `related knowledge should be observed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None
Related knowledge/ theory	<i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i> <ul style="list-style-type: none"> • Environmental awareness • Financial literacy • Safety and hygiene • Store keeping • Procurement cycle • Waste disposal and management • Asset disposal and management • Operation and maintenance of tools and equipment • Simple repair of tools and equipment
Average duration of learning	120 hours (15days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 5 days of occupational theory and • 10 days of occupational practice
Suggestions on Organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training center or in an establishment provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank

Minimum required tools/ equipment/ implements or equivalent	storage facility, weighing scale, buckets, first aid kit, marbles, saucepan, measuring jars, personnel protective gear, sieves, carriers, trolleys, pasteurisers, blenders, boilers, cutting board, spoons, packaging machine, fuel source, thermometers, disposal bins, scrubbing brushes, mopes, clock, towels and cloths, vegetable filling machine measuring cylinders, generator
Minimum required materials and consumables or equivalent	cleaning detergent, water, polythene bags, sanitisers, lubricators,
Special notes	Safety precautions must be followed at all time This module can be modified to suit special needs/abilities.

Code	UE/FP/M1.3
Module title	M1.3: Perform Entrepreneurial Tasks
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (VEGETABLE PROCESSOR UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to perform entrepreneurial tasks
Learning-Working Assignments (LWAs)	<p>LWA 3/1: Prepare a Business Plan LWA 3/2: Cost Finished Product LWA 3/3: Market Vegetable Products LWA 3/4: Generate Records LWA 3/5: Perform Administrative Tasks LWA 3/6: Perform Occupational Health, Safety and Environmental Protection Practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises may be repeated until the trainee acquires targeted competence. 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment
Related Practical Exercises (PEXs)	<p>LWA 3/1: Prepare a Business Plan PEX 1.1: Make a budget PEX 1.2: Make a production plan PEX 1.3: Prepare company profile PEX 1.4: Make a financial plan PEX 1.5: Make a SWOT analysis PEX 1.6: Prepare work schedules</p> <p>LWA 3/2: Cost Finished Product PEX 2.1: Calculate cost of production PEX 2.2: Determine net profit PEX 2.3: Price products</p> <p>LWA 3/3: Market Vegetable Products PEX 3.1: Cost resources PEX 3.2: Price product PEX 3.3: Sell product PEX 3.4: Label products PEX 3.5: Advertise vegetable products PEX 3.6: Perform customer care services PEX 3.7: Communicate with stake holders PEX 3.8: Negotiate price with stake holders</p>

	<p>PEX 3.9: Distribute vegetable products PEX 3.10: Handle returns recalls and damages PEX 3.11: Offer sales promotion</p> <p>LWA 3/4: Generate Records PEX 4.1: Prepare financial records PEX 4.2: Prepare inventory records PEX 4.3: Keep compliancy records PEX 4.4: Prepare production records PEX 4.5: Prepare human resource records</p> <p>LWA 3/5: Perform Administrative Tasks PEX 5.1: Assign work PEX 5.2: Supervise work PEX 5.3: Pay workers PEX 5.4: Motivate workers PEX 5.5: Participate in meetings PEX 5.6: Manage finances</p> <p>LWA 3/6: Perform Occupational Health, Safety and Environmental Protection Practices PEX 6.1: Sensitise workers on key health issues. PEX 6.2: Wear personal protective equipment PEX 6.3: Administer first aid PEX 6.4: Train workers in health issues PEX 6.5: Comply legal requirements</p>
Occupational health and safety	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs. e.g. wear protective gear
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case related knowledge/theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Knowledge on how to plan a business • Knowledge on how to plan a legal entity • Knowledge on taxes knowledge on how to open a bank account • How to obtain permits • How to conduct market survey • Communication skills • Key elements on human capital • Team work and team building • Know how to market fruit products • Ways of distributing products in the market

	<ul style="list-style-type: none"> • Know how to cost advertisement expenditure • Know how to handle products returns and recalls • Basic recording practices • Basic book keeping practices • Know to how to coordinate meetings • Know how to evaluate work performances • Know how to administer first aid • Know how to wear PPE's • Know to handle vegetables during production • Knowledge of different warp of advertisement • Knowledge of ICT • Idea pitching
Average duration of learning	200 hours (25days) of nominal learning suggested to include: <ul style="list-style-type: none"> • <i>7 day of occupational theory and</i> • <i>23 days of occupational practice</i>
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to the established regulations by a recognised assessment body using related practical and written test items from item bank
Minimum required tools/ equipment/ implements or equivalent	scissors, PPE kits, signage, firefighting equipment, first aid box,
Minimum required materials and consumables or equivalent	stationery, cleaning materials, food grade disinfectants
Special notes	This module is also applicable to people with special needs

3.0 ATP- PART III

ASSESSMENT INSTRUMENTS FOR A VEGETABLE PROCESSOR

- 3.1 Assessment of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards or not. In this ATP the **standards** to assess occupational competences are reflected in the form of the Occupational Profile and related Test Items.
- 3.2 Assessment of occupational competence should comprise both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the Occupational Profile, a combined panel of job practitioners and Instructors developed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at Directorate of Industrial Training.
- 3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business and manufacturing enterprises. They comprise a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.
- 3.5 Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
- Short answer test items.
 - Multiple choice test items and,
 - Matching test items, These WTIs herein focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.
- 3.6 Composition of assessment / test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.
- 3.7 The test items contained in the Test Item Bank may be used for continuous / formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally/or informally.
- 3.8 In this document, samples of test items for assessing both performance (practical) and occupational knowledge (theory) of VEGETABLE PROCESSOR are included.

3.9 Overview of test item samples included:

	Type of test item	Number included
1.	Written (theory) - short answer	3
2.	Written (theory) - multiple choice	3
3.	Written (theory) - matching Item – (generic)	2
4.	Written (theory) - matching item – (work sequence)	1
5.	Performance (Practical) test items	2
	TOTAL	11

WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 1		
Occupational Title:	Vegetable Processor		
Competence level:	1		
Code no.			
Test Item type:	Short answer	√	
	Multiple choice		
	Matching item	Generic	Cause- Effect
			Work-sequence
Complexity level:	C2		
Date of OP:	September 2020		
Related model:	M 1.4		
Time allocation:	2 minutes		

Test Item	Give four reasons for processing vegetables.
Answer spaces	(i) (ii) (iii) (iv)
Expected key (answers)	(i) Avoid decay (ii) Reduce bulk (iii) Add value (iv) Make ready for consumption (v) Increase shelf life (vi) Maintain colour (vii) Maintain texture

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 2			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C2			
Date of OP:	September 2020			
Related model:	M1.2			
Time allocation:	2 minutes			

Test Item	State four ways of disposing off waste during vegetable processing.
Answer spaces	(i) (ii) (iii) (iv)
Expected key (answers)	(i) Make brickets (ii) Use as manure (iii) Use as feeds (iv) Watering garden (v) Make biogas (vi) Put in bin

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 3			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	September 2020			
Related model:	M1.4			
Time allocation:	2 minutes			

Test Item	Give three sensory evaluation methods used in vegetable processing.
Answer spaces	(i) (ii) (iii)
Expected key (answers)	(i) Taste (ii) Colour (iii) Aroma (iv) Texture

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 4			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	September 2020			
Related module:	M1.6			
Time allocation:	2 minutes			

Test Item	Which one of the following is used to drain vegetables during processing?
Distracters and correct answer	A. Forks B. Grater C. Colander D. Refractometer

Key (answer)	C
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 5																		
Occupational Title:	Vegetable Processor																		
Competence level:	1																		
Code no.																			
Test Item type:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; padding: 5px;">Short answer</td> <td colspan="3" style="padding: 5px;"></td> </tr> <tr style="background-color: #f4a460;"> <td style="padding: 5px;">Multiple choice</td> <td colspan="3" style="padding: 5px; text-align: center;">√</td> </tr> <tr> <td style="padding: 5px;">Matching item</td> <td style="padding: 5px;">Generic</td> <td style="padding: 5px;">Cause- Effect</td> <td style="padding: 5px;">Work-sequence</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </table>			Short answer				Multiple choice	√			Matching item	Generic	Cause- Effect	Work-sequence				
Short answer																			
Multiple choice	√																		
Matching item	Generic	Cause- Effect	Work-sequence																
Complexity level:	C1																		
Date of OP:	September 2020																		
Related module:	M1.6																		
Time allocation:	1 minute																		

Test Item	Which of the following is used to check for sugar level in vegetable products?
Distracters and correct answer	<ul style="list-style-type: none"> A. Burette B. PH Meter C. Lactometer D. Refractometer

Key (answer)	D
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 6			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C2			
Date of OP:	September 2020			
Related module:	M1.6			
Time allocation:	1 minute			

Test Item	Blanching in vegetable processing helps in the following EXCEPT?
Distracters and correct answer	A. Clean germs B. Controls pests C. Inactivates enzymes D. Retains colour in vegetables

Key (answer)	B
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DIT/QS	Test Item Database Written (Theory) Test Item- no. 7			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
		√		
Complexity level:	C2			
Date of OP:	September 2020			
Related tasks:	M 1.3			
Time allocation:	2 minutes			

Test Item	Match the following tools and equipment in column A to their function in column B.
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Column A	
1	Chopping board
2	Blender
3	Colander
4	Grater

Column B	
A	Puree vegetables
B	Slice bread
C	Cutting vegetables
D	Provides surface for copping vegetables
E	Drain vegetables
F	Prevent fire outbreak
G	To protect workers from burns

Key (answer)	1: D, 2: A, 3: E, 4: C
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DIT/QS	Test Item Database Written (Theory) Test Item- no. 8			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
		√		
Complexity level:	C2			
Date of OP:	September 2020			
Related tasks:	M 1.3			
Time allocation:	2 minutes			

Test Item	Match the following products in column A to their method of preservation in column B?
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Column A (Products)	
1	Tomato sauce
2	Pickled cucumber
3	Powdered spinach
4	Salad

Column B (Method)	
A	Drying
B	Curing
C	Frying
D	Use of chemicals
E	Refrigeration
F	Sterilising

Key (answer)	1: D, 2: B, 3: A, 4: E
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 9			
Occupational Title:	Vegetable Processor			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
				√
Complexity level:	C3			
Date of OP:	September 2020			
Related model:	M1.1			
Time allocation:	3 minutes			

Test Item	Analyse the following vegetable business planning activities in the correct order
------------------	---

Chronology (Order)	Column B (work steps) in wrong chronological order	
1 st	A	Prepare budget
2 nd	B	Determine source of funding
3 rd	C	Choose processing method
4 th	D	Choose business location
5 th	E	Prepare business plan
6 th	F	Register business
7 th	G	Determine source of human capital

Key (answer)	1-E; 2-A; 3-D; 4-B; 5-H; 6-C, 7-F
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PERFORMANCE TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Performance Test Item No.10
Occupational Title:	Vegetable Processor
Competence level:	Level 1
Code no.	
Test Item:	Prepare a mixed vegetable salad of 500g
Complexity level:	C3
Date of OP:	September 2020
Related module:	M.1
Related skills and knowledge:	Classification of vegetables, packaging knowledge, raw material handling, sanitisation process, food presentation, knowledge of storage.
Required tools, Materials and Equipment:	Packaging materials, knives, onions, source of heat, pans, stirrer, refrigerator, packaging materials, cold storage facility chopping board, colander, mayonnaise, sanitiser, bowels, cabbage, spinach, sweat pepper, carrots, cucumber, rubbish bin, gloves, apron, head gear, lettuce, vinegar, water, soap, weighing scale.
Time allocation:	1 hour
Preferred venue:	Production room
Remarks for candidates	Candidates should be in possession of the necessary personnel protective equipment
Remarks for assessors	Provide students with all necessary resources required

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Preparation before task	<u>Maintained personal hygiene</u> <ul style="list-style-type: none"> No jewellery Short fingernails No strong perfumes Trimmed beard Covered hair No visible cuts and wounds 		4

2		<u>Wore personnel protective gear</u>		
		<ul style="list-style-type: none"> • Apron • Nose mask • Safety shoes • Head gear • Gloves 		4
		Cleaned workplace	3	
		Clean work place observed		3
		Assembled tools and equipment	1	
		Cleaned tools and equipment	1	
	Clean tools and equipment observed		2	
	Make vegetables salads	Sorted vegetables	2	
		Well sorted vegetables observed		3
		Washed vegetables		1
		Graded vegetables	2	
		Drained vegetables	3	
		Weighed vegetables	2	
		Specification of 500g verified	2	
		Cut vegetables		2
		Neatly cut vegetables observed		1
		Mixed vegetables		3
		Preserved vegetable salad	2	
		Dressed vegetable salad	3	
		No waste observed		4
Plated salad			2	
3	Presentation	Well plated and garnished salad observed		2
		Collected tools and equipment		2
4	Post production activities	Cleaned tools and equipment	2	
		Clean tools and equipment observed		2
		Cleaned working area	2	
		Dirt free working area observed		2
		Completed tasks on time		2
5	Efficiency	No wastage observed		2
	TOTAL		35	25

DIT/ QS	Test Item Database Performance Test Item No. 11
Occupational Title:	Vegetable Processor
Competence level:	Level 1
Code no.	
Test Item:	Prepare 1 litre of tomato sauce for sale.
Complexity level:	C3
Date of OP:	September 2020
Related module:	1.4
Related skills and knowledge:	classification of vegetables, packaging knowledge, raw material handling, sanitisation process, food presentation, Knowledge of storage.
Required tools, Materials and Equipment:	knife, bucket, charcoal stove, pens, troughs, blender, chopping board, thermometer, tomatoes, onions, ginger, garlic, food colour, sorbet, sodium nitrate
Time allocation:	3 Hours
Preferred venue:	Production room
Remarks for candidates	Candidates should be in possession of the necessary personnel protective equipment
Remarks for assessors	Provide learners with all necessary resources required

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Prepare for the task	<u>Maintained personal hygiene</u> <ul style="list-style-type: none"> • No jewellery • Short fingernails • No strong perfumes • Trimmed beard • Covered hair • Closed shoes 		4
		<u>Wore personnel protective gear</u> <ul style="list-style-type: none"> • Apron • Nose mask • Safety shoes • Head gear • Gloves 		
		Cleaned work place	3	
		Clean work area observed		3

UVQF: Assessment and Training Package (ATP) for a VEGETABLE PROCESSOR
QUALIFICATION LEVEL 1 **September 2020**

		Assembled tools and equipment	1	
		Cleaned tools and equipment	1	
		Clean tools and equipment observed		2
	Making tomato source	Blanched tomatoes	2	
		Removed skin	2	
		Cut tomatoes	1	
		De-seeded tomatoes	2	
		Blended tomatoes	1	
		Well-cut tomatoes observed		2
		Well blended puree observed		2
		Allowed puree to cool		2
		Added other ingredients (onions, Ginger, garlic, food colour)	2	
		Mixed ingredients	1	
		Uniform mixture observed		1
		Boiled mixture	2	
		Added preservative	2	
		Allowed mixture to cool	1	
3		Packing	Sterilise packaging material	2
	Filled packing materials		2	
	Sterilise the tomato source		2	
	Use of a heating media observed for five minutes			3
	Labelled packaging materials		3	
	Right qualities labelled observed			2
	No wastage observed			3
4	Presentation	Red colour of the tomato source observed		2
		Tomato flavour attained		2
		Viscous consistency observed	2	
5	Post handling activities	Cleaned tools and equipment	2	
		Cleaned tools and equipment observed		2

UVQF: Assessment and Training Package (ATP) for a VEGETABLE PROCESSOR
QUALIFICATION LEVEL 1 **September 2020**

		Cleaned working area	2	
		Clean working area observed		2
	TOTAL	(Process + Result)	31	31
	Maximum Score	$\frac{x}{y} \times 100$		

4.0 ATP- PART IV

INFORMATION ON DEVELOPMENT PROCESS

4.1 Occupational Profile Development

The Occupational Profile was exclusively reviewed by job practitioners who were working in the vegetable processor occupation, Secondary school teachers who double as examiners of Agriculture with the Uganda National Examination Board (UNEB) and Curriculum Development Specialists working with the National Curriculum Development Centre (NCDC).

The job expert panel, guided by UVQF Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

4.2 Training Module Development

Based on the Occupational Profile for Vegetable Processor of September 2020, Training Modules were developed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Development

Based on the Occupational Profile for Vegetable Processor 2020, and Training Modules, Test Items were developed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package development was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the development philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

4.5 Development Panels

The participating panels of Job Practitioners required at different stages i.e. Occupational Profile, Training Modules and Test Items Development were constituted by members from the following organisations:

	Name	Institution/ Organisation
1.	Susan Kakai Kashashakawo	Ministry of Education and Sports
2.	Tom Obwol Ametto	UNEB
3.	Catherine Davis Kisakye	Jackie Davis Farming World
4.	Mwebaza Gloria	Nabisunsa Girls' School
5.	Isma Kirunda	Kibuli Secondary School
6.	Nmayengo Prossy	NCDC
7.	Remmie Kibirango	Lubiri High School
8.	Mugabe Brian	Makerere Business School and Innovation Centre
9.	Raphael Oryem	UNEB
10.	Nahiryia Brenda Irene	Uhuru Food Technology and Skilling Centre
11.	George Kasirye	Examiner UNEB
12.	Natabo Phyllis Candy	Immaculate Heart Girls' School
13.	Muhumuza Gerald	St.Gerald Agro Business/Processing LTD

4.6 Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:

1. **Team Leader:** Ms. Mukyala Ruth Ag Deputy Director, DIT
2. **Facilitators** (Occupational Profile Development):
 - Ms. Tukundane Bonnie,
 - Ms. Kyakamadi Janet
 - Mr. Nkalangwike Ivan DIT
3. **Compiled by:** Ms. Bakobye Proscovia, Mr. Taremwa Yehu Data
 Entrants DIT and edited by Ms. Mukyala Ruth Ag. DD QS
 Dept. DIT
4. **Coordinated by:** Mr. Byakatonda Patrick, Ag. Director, DIT

4.7 Reference time:

This Assessment and Training Package was compiled in September 2020 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

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