

# COMPETENCY STANDARDS

## CACAO PROCESSING LEVEL II



### PROCESSED FOODS & BEVERAGES SECTOR

**TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY**  
East Service Road, South Luzon Expressway (SLEX), Taguig City, Metro Manila

*Technical Education and Skills Development Act of 1994  
(Republic Act No. 7796)*

**Section 22, “Establishment and Administration of the National Trade Skills Standards” of the RA 7796 known as the TESDA Act mandates TESDA to establish national occupational skill standards. The Authority shall develop and implement a certification and accreditation program in which private industry group and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority.**

The Competency Standards (CS) serve as basis for the:

- 1 Institutional Competency assessment and training certification;
- 2 Registration and delivery of training programs; and
- 3 Development of curriculum and assessment instruments.

Each CS has 3 sections:

Section 1 **Definition of Competency Standards** - refers to the group of competencies that describes the different functions of the qualification.

Section 2 **The Competency Standards** - gives the specifications of competencies required for effective work performance.

Section 3 **Training Arrangements** - contains information and requirements in designing training program for competency standards. It includes trainee entry requirements, trainer's qualification and list of tools, materials and equipment.

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## COMPETENCY STANDARDS FOR CACAO PROCESSING LEVEL II

### SECTION 1 COMPETENCY STANDARDS DESCRIPTION

#### CACAO PROCESSING LEVEL II COMPETENCY STANDARDS

The **CACAO PROCESSING LEVEL II** competency standard consists of competencies that a person must have in order to process cacao by ferment beans; dry the beans; sort the beans; roast the beans; crack and winnow the beans; grind the nibs; mix the cacao paste/liquor and ingredients and package the cacao product. The person must also have competencies in practicing Food Safety Act 2013, cGMP, HACCP, OSHS and 7S of Good Housekeeping, including following relevant environmental rules and regulations.

It also includes competencies of a person in the production line of manufacturing processed mangoes responsible doing routinary works such as inspection of simple defects of packing materials, seal integrity and correct product label. It also comprises the calibrating, assembling and operating of basic food processing tools and equipment such as salinometer, refractometer and weighing scale.

The Units of Competency comprising this Competency Standards include the following:

<b>Code</b>	<b>BASIC COMPETENCIES</b>
400311210	Participate in workplace communication
400311211	Work in team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Exercise efficient and effective sustainable practices in the workplace
400311218	Practice entrepreneurial skills in the workplace
<b>Code</b>	<b>COMMON COMPETENCIES</b>
PFB751210	Apply Food Safety and Sanitation
PFB751211	Use Standard Measuring Devices and Instruments
PFB751212	Use Food Processing Tools, Equipment and Utensils
PFB751213	Perform Mathematical Computation
PFB751214	Implement Good Manufacturing Practice Procedure
PFB751215	Implement Environmental Policies and Procedures

<b>Code</b>	<b>CORE COMPETENCIES</b>
AB-PFB0102900751301	Ferment Beans
AB-PFB0102900751302	Dry the Beans
AB-PFB0102900751303	Sort Beans
AB-PFB0102900751304	Roast the Beans
AB-PFB0102900751305	Crack and Winnow the Beans
AB-PFB0102900751306	Grind the Nibs
AB-PFB0102900751307	Mix the Cacao Paste/Liquor and Ingredients
AB-PFB0102900751308	Package the Cacao Product

A person who has achieved this Competency Standards is competent to be:

- **Cacao processor**

## SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **CACAO PROCESSING LEVEL II**.

### BASIC COMPETENCIES

**UNIT OF COMPETENCY: PARTICIPATE IN WORKPLACE COMMUNICATION**

**UNIT CODE: 400311210**

**UNIT DESCRIPTOR:** This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE AND ATTITUDE	REQUIRED SKILLS
1. Obtain and convey workplace information	1.1. Specific and relevant information is accessed from <b>appropriate sources</b> 1.2. Effective questioning, active listening and speaking skills are used to gather and convey information 1.3. Appropriate <b>medium</b> is used to transfer information and ideas 1.4. Appropriate non- verbal communication is used 1.5. Appropriate lines of communication with supervisors and colleagues are identified and followed 1.6. Defined workplace procedures for	1.1 Effective verbal and nonverbal communication 1.2 Different modes of communication 1.3 Medium of communication in the workplace 1.4 Organizational policies 1.5 Communication procedures and systems 1.6 Lines of Communication 1.7 Technology relevant to the enterprise and the individual's work responsibilities 1.8 Workplace etiquette	1.1. Following simple spoken language 1.2. Performing routine workplace duties following simple written notices 1.3. Participating in workplace meetings and discussions 1.4. Preparing work- related documents 1.5. Estimating, calculating and recording routine workplace measures 1.6. Relating/ Interacting with people of various levels in the workplace 1.7. Gathering and

	<p>the location and <b>storage</b> of information are used</p> <p>1.7. Personal interaction is carried out clearly and concisely</p>		<p>providing basic information in response to workplace requirements</p> <p>1.8. Basic business writing skills</p> <p>1.9. Interpersonal skills in the workplace</p> <p>1.10. Active-listening skills</p>
2. Perform duties following workplace instructions	<p>2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines</p> <p>2.2 Routine written instruction is followed based on established procedures</p> <p>2.3 Feedback is given to workplace supervisor-based instructions/ information received</p> <p>2.4 <b>Workplace interactions</b> are conducted in a courteous manner</p> <p>2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from appropriate sources</p> <p>2.6 Meetings outcomes are</p>	<p>2.1 Effective verbal and non-verbal communication</p> <p>2.2 Different modes of communication</p> <p>2.3 Medium of communication in the workplace</p> <p>2.4 Organizational/ Workplace policies</p> <p>2.5 Communication procedures and systems</p> <p>2.6 Lines of communication</p> <p>2.7 Technology relevant to the enterprise and the individual's work responsibilities</p> <p>2.8 Effective questioning techniques (clarifying and probing)</p> <p>2.9 Workplace etiquette</p>	<p>2.1 Following simple spoken instructions</p> <p>2.2 Performing routine workplace duties following simple written notices</p> <p>2.3 Participating in workplace meetings and discussions</p> <p>2.4 Completing work- related documents</p> <p>2.5 Estimating, calculating and recording routine workplace measures</p> <p>2.6 Relating/ Responding to people of various levels in the workplace</p> <p>2.7 Gathering and providing information in response to workplace requirements</p> <p>2.8 Basic questioning/ querying</p>



	interpreted and implemented		2.9 Skills in reading for information 2.10 Skills in locating
3. Complete relevant work-related documents	<p>3.1 Range of <b>forms</b> relating to conditions of employment are completed accurately and legibly</p> <p>3.2 Workplace data is recorded on standard workplace forms and documents</p> <p>3.3 Errors in recording information on forms/ documents are identified and acted upon</p> <p>3.4 Reporting requirements to supervisor are completed according to organizational guidelines</p>	<p>3.1. Effective verbal and non-verbal communication</p> <p>3.2. Different modes of communication</p> <p>3.3. Workplace forms and documents</p> <p>3.4. Organizational/ Workplace policies</p> <p>3.5. Communication procedures and systems</p> <p>3.6. Technology relevant to the enterprise and the individual's work responsibilities</p>	<p>3.1. Completing work- related documents</p> <p>Applying</p> <p>3.2. operations of addition, subtraction, division and multiplication</p> <p>3.3. Gathering and providing information in response to workplace requirements</p> <p>3.4. Effective record keeping skills</p>

## RANGE OF VARIABLES

VARIABLES	RANGE
1. Appropriate sources	May include: 1.1. Team members 1.2. Supervisor/Department Head 1.3. Suppliers 1.4. Trade personnel 1.5. Local government 1.6. Industry bodies
2. Medium	May include: 2.1. Memorandum 2.2. Circular 2.3. Notice 2.4. Information dissemination 2.5. Follow-up or verbal instructions 2.6. Face-to-face communication 2.7. Electronic media (disk files, cyberspace)
3. Storage	May include: 3.1. Manual filing system 3.2. Computer-based filing system
4. Workplace interactions	May include: 4.1. Face-to-face 4.2. Telephone 4.3. Electronic and two-way radio 4.4. Written including electronic means, memos, instruction and forms 4.5. Non-verbal including gestures, signals, signs and diagrams
5. Forms	May include: 5.1. HR/Personnel forms 5.2. Telephone message forms 5.3. safety reports

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared written communication following standard format of the organization</li> <li>1.2 Accessed information using workplace communication equipment/systems</li> <li>1.3 Made use of relevant terms as an aid to transfer information effectively</li> <li>1.4 Conveyed information effectively adopting formal or informal communication</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Telephone</li> <li>2.2 Notebook</li> <li>2.3 Writing materials</li> <li>2.4 Computer with Internet connection</li> </ul>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Demonstration with oral questioning</li> <li>3.2 Interview</li> <li>3.3 Written test</li> <li>3.4 Third-party report</li> </ul>
4. Context for Assessment	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed individually in the actual workplace or through an accredited institution</li> </ul>

**UNIT OF COMPETENCY** : **WORK IN TEAM ENVIRONMENT**

**UNIT CODE** : **400311211**

**UNIT DESCRIPTOR** : This unit covers the skills, knowledge and attitudes to identify one's roles and responsibilities as a member of a team.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms are elaborated in the Range of Variables</i>	<b>REQUIRED KNOWLEDGE AND ATTITUDE</b>	<b>REQUIRED SKILLS</b>
1. Describe team role and scope	1.1 The <b>role and objective of the team</b> is identified from available sources of information 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace 1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one's role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified 2.2 Roles and objectives of the team is identified from available <b>sources of information</b> 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace 2.2 Developing ways in improving work structure and performing respective roles in the group or organization

<p>3. Work as a team member</p>	<p>3.1 Effective and appropriate forms of communications are used and interactions undertaken with team members based on company practices.</p> <p>3.2 Effective and appropriate contributions made to complement team activities and objectives, based on <b>workplace context</b></p> <p>3.3 Protocols in reporting are observed based on standard company practices.</p> <p>3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives</p>	<p>3.1 Communication Process</p> <p>3.2 Workplace communication protocol</p> <p>3.3 Team planning and decision making</p> <p>3.4 Team thinking</p> <p>3.5 Team roles</p> <p>3.6 Process of team development</p> <p>3.7 Workplace context</p>	<p>3.1 Communicating appropriately, consistent with the culture of the workplace</p> <p>3.2 Interacting effectively with others</p> <p>3.3 Deciding as an individual and as a group using group think strategies and techniques</p> <p>3.4 Contributing to Resolution of issues and concerns</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	May include: 1.1. Work activities in a team environment with enterprise or specific sector 1.2. Limited discretion, initiative and judgement maybe demonstrated on the job, either individually or in a team environment
2. Sources of information	May include: 2.1. Standard operating and/or other workplace procedures 2.2. Job procedures 2.3. Machine/equipment manufacturer's specifications and instructions 2.4. Organizational or external personnel 2.5. Client/supplier instructions 2.6. Quality standards 2.7. OHS and environmental standards
3. Workplace context	May include: 3.1. Work procedures and practices 3.2. Conditions of work environments 3.3. Legislation and industrial agreements 3.4. Standard work practice including the storage, safe handling and disposal of chemicals 3.5. Safety, environmental, housekeeping and quality guidelines

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Worked in a team to complete workplace activity</li> <li>1.2 Worked effectively with others</li> <li>1.3 Conveyed information in written or oral form</li> <li>1.4 Selected and used appropriate workplace language</li> <li>1.5 Followed designated work plan for the job</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place</li> <li>2.2 Materials relevant to the proposed activity or tasks</li> </ul>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Role play involving the participation of individual member to the attainment of organizational goal</li> <li>3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork</li> <li>3.3 Socio-drama and socio-metric methods</li> <li>3.4 Sensitivity techniques</li> <li>3.5 Written Test</li> </ul>
4. Context for Assessment	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed in workplace or in a simulated workplace setting</li> <li>4.2 Assessment shall be observed while tasks are being undertaken whether individually or in group</li> </ul>

**UNIT OF COMPETENCY : SOLVE/ADDRESS GENERAL WORKPLACE PROBLEMS**

**UNIT CODE : 400311212**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to apply problem-solving techniques to determine the origin of problems and plan for their resolution. It also includes addressing procedural problems through documentation, and referral.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE AND ATTITUDE</b>	<b>REQUIRED SKILLS</b>
1. Identify routine problems	1.1 Routine <b>problems or procedural problem</b> areas are identified 1.2 Problems to be investigated are defined and determined 1.3 Current conditions of the problem are identified and documented	1.1 Current industry hardware and software products and services 1.2 Industry maintenance, service and helpdesk practices, processes and procedures 1.3 Industry standard diagnostic tools 1.4 Malfunctions and resolutions	1.1 Identifying current industry hardware and software products and services 1.2 Identifying current industry maintenance, services and helpdesk practices, processes and procedures. 1.3 Identifying current industry standard diagnostic tools 1.4 Describing common malfunctions and resolutions. 1.5 Determining the root cause of a routine malfunction



2. Look for solutions to routine problems	<p>2.1 Potential solutions to problem are identified</p> <p>2.2 Recommendations about possible solutions are developed, <b>documented</b>, ranked and presented to <b>appropriate person</b> for decision</p>	<p>2.1 Current industry hardware and software products and services</p> <p>2.2 Industry service and helpdesk practices, processes and procedures</p> <p>2.3 Operating systems</p> <p>2.4 Industry standard diagnostic tools</p> <p>2.5 Malfunctions and resolutions.</p> <p>2.6 Root cause analysis</p>	<p>2.1 Identifying current industry hardware and software products and services</p> <p>2.2 Identifying services and helpdesk practices, processes and procedures.</p> <p>2.3 Identifying operating system</p> <p>2.4 Identifying current industry standard diagnostic tools</p> <p>2.5 Describing common malfunctions and resolutions.</p> <p>2.6 Determining the root cause of a routine malfunction</p>
3. Recommend solutions to problems	<p>3.1 Implementation of solutions are <b>planned</b></p> <p>3.2 Evaluation of implemented solutions are planned</p> <p>3.3 Recommended solutions are documented and submit to appropriate person for confirmation</p>	<p>3.1 Standard procedures</p> <p>3.2 Documentation produce</p>	<p>3.1 Producing documentation that recommends solutions to problems</p> <p>3.2 Following established procedures</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Problems or Procedural Problem	May include: 1.1 Routine/non – routine processes and quality problems 1.2 Equipment selection, availability and failure 1.3 Teamwork and work allocation problem 1.4 Safety and emergency situations and incident 1.5 Work-related problems outside of own work area
2. Document	May include: 2.1 Electronic mail 2.2 Briefing notes 2.3 Written report 2.4 Evaluation report
3. Appropriate person	May include: 3.1 Supervisor or manager 3.2 Peers/work colleagues 3.3 Other members of the organization
4. Plan	May include: 4.1. Priority requirements 4.2. Co-ordination and feedback requirements 4.3. Safety requirements 4.4. Risk assessment 4.5. Environmental requirements

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Determined the root cause of a routine problem</li> <li>1.2 Identified solutions to procedural problems.</li> <li>1.3 Produced documentation that recommends solutions to problems.</li> <li>1.4 Followed established procedures.</li> <li>1.5 Referred unresolved problems to support persons.</li> </ul>
2. Resource Implications	2.1. Assessment will require access to a workplace over an extended period, or a suitable method of gathering evidence of operating ability over a range of situations.
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>Case Formulation</li> <li>Life Narrative Inquiry</li> <li>Standardized test</li> </ul> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

**UNIT OF COMPETENCY : DEVELOP CAREER AND LIFE DECISIONS**

**UNIT CODE : 400311213**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills, and attitudes in managing one's emotions, developing reflective practice and boosting self-confidence and developing self-regulation.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE AND ATTITUDE</b>	<b>REQUIRED SKILLS</b>
1. Manage one's emotion	1.1 <b>Self-management strategies</b> are identified 1.2 Skills to work independently and to show initiative, to be conscientious, and persevering in the face of setbacks and frustrations are developed 1.3 Techniques for effectively handling negative emotions and <b>unpleasant situation</b> in the workplace are examined	1.1 Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self-management strategies according to Robert Kelley) 1.2 Enablers and barriers in achieving personal and career goals 1.3 Techniques in handling negative emotions and unpleasant situation in the workplace such as frustration, anger, worry, anxiety, etc.	1.1 Managing properly, one's emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2 Developing self-discipline, working independently and showing initiative to achieve personal and career goals 1.3 Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE AND ATTITUDE</b>	<b>REQUIRED SKILLS</b>
2. Develop reflective practice	<p>2.1 Personal strengths and achievements, based on self-assessment strategies and teacher feedback are contemplated</p> <p>2.2 Progress when seeking and responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored</p> <p>2.3 Outcomes of personal and academic challenges by reflecting on previous problem solving and decision-making strategies and feedback from peers and teachers are predicted</p>	<p>2.1 Basic SWOT analysis</p> <p>2.2 Strategies to improve one's attitude in the workplace</p> <p>2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan)</p>	<p>2.1 Using the basic SWOT analysis as self-assessment strategy</p> <p>2.2 Developing reflective practice through realization of limitations, likes/dislikes; through showing of self-confidence</p> <p>2.3 Demonstrating self-acceptance and being able to accept challenges</p>
3. Boost self-confidence and develop self-regulation	<p>3.1 Efforts for continuous self-improvement are demonstrated</p> <p>3.2 Counter-productive tendencies at work are eliminated</p> <p>3.3 Positive outlook in life is maintained.</p>	<p>3.1 Four components of self-regulation based on Self-Regulation Theory (SRT)</p> <p>3.2 Personality development concepts</p> <p>3.3 Self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis,</p>	<p>3.1 Performing effective communication skills – reading, writing, conversing skills</p> <p>3.2 Showing affective skills – flexibility, adaptability, etc.</p> <p>3.3 Self-assessment for determining</p>

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE AND ATTITUDE</b>	<b>REQUIRED SKILLS</b>
		psycho-spiritual concepts)	one's strengths and weaknesses

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategies	May include: <ul style="list-style-type: none"><li>1.1 Seeking assistance in the form of job coaching or mentoring</li><li>1.2 Continuing dialogue to tackle workplace grievances</li><li>1.3 Collective negotiation/bargaining for better working conditions</li><li>1.4 Share your goals to improve with a trusted co-worker or supervisor</li><li>1.5 Make a negativity log of every instance when you catch yourself complaining to others</li><li>1.6 Make lists and schedules for necessary activities</li></ul>
2. Unpleasant situation	May include: <ul style="list-style-type: none"><li>2.1 Job burn-out</li><li>2.2 Drug dependence</li><li>2.3 Sulking</li></ul>

## EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Express emotions appropriately 1.2 Work independently and show initiative 1.3 Consistently demonstrate self-confidence and self-discipline
2. Resource Implications	The following resources should be provided: 2.1 Access to workplace and resources 2.2 Case studies
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration or simulation with oral questioning 3.2 Case problems involving work improvement and sustainability issues 3.3 Third-party report
4. Context for Assessment	4.1. Competency assessment may occur in workplace or any appropriately simulated environment



**UNIT OF COMPETENCY** : **CONTRIBUTE TO WORKPLACE INNOVATION**

**UNIT CODE** : 400311214

**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes required to make a pro-active and positive contribution to workplace innovation.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify opportunities to do things better.	1.1 <b><i>Opportunities for improvement</i></b> are identified proactively in own area of work. 1.2 <b><i>Information</i></b> is gathered and reviewed which may be relevant to ideas and which might assist in gaining support for idea.	1.1 Roles of individuals in suggesting and making improvements. 1.2 Positive impacts and challenges in innovation. 1.3 Types of changes and responsibility. 1.4 Seven habits of highly effective people.	1.1 Identifying opportunities to improve and to do things better. Involvement. 1.2 Identifying the positive impacts and the challenges of change and innovation. 1.3 Identifying examples of the types of changes that are within and outside own scope of responsibility
2. Discuss and develop ideas with others	2.1 <b><i>People who could provide input</i></b> to ideas for improvements are identified. 2.2 Ways of approaching people to begin sharing ideas are selected. 2.3 Meeting is set with relevant people. 2.4 Ideas for follow up are review and selected based on feedback. 2.5 <b><i>Critical inquiry</i></b>	2.1 Roles of individuals in suggesting and making improvements. 2.2 Positive impacts and challenges in innovation. 2.3 Types of changes and responsibility. 2.4 Seven habits of highly effective people.	2.1 Identifying opportunities to improve and to do things better. Involvement. 2.2 Identifying the positive impacts and the challenges of change and innovation. 2.3 Providing examples of the types of changes that are within and outside own scope of responsibility 2.4 Communicating ideas for change

ELEMENTS	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<b>method</b> is used to discuss and develop ideas with others.		through small group discussions and meetings.
3. Integrate ideas for change in the workplace	3.1 Critical inquiry method is used to integrate different ideas for change of key people. 3.2 Summarizing, analyzing and generalizing skills are used to extract salient points in the pool of ideas. 3.3 <b>Reporting skills</b> are likewise used to communicate results. 3.4 Current Issues and concerns on the systems, processes and procedures, as well as the need for simple innovative practices are identified.	3.1 Roles of individuals in suggesting and making improvements. 3.2 Positive impacts and challenges in innovation. 3.3 Types of changes and responsibility. 3.4 Seven habits of highly effective people. 3.5 Basic research skills.	3.1 Identifying opportunities to improve and to do things better. Involvement. 3.2 Identifying the positive impacts and the challenges of change and innovation. 3.3 Providing examples of the types of changes that are within and outside own scope of responsibility. 3.4 Communicating ideas for change through small group discussions and meetings. 3.5 Demonstrating skills in analysis and interpretation of data.

## RANGE OF VARIABLES

VARIABLES	RANGE
1. Opportunities for improvement	May include: 1.1. Systems 1.2. Processes 1.3. Procedures 1.4. Protocols 1.5. Codes 1.6. Practices
2. Information	May include: 2.1 Workplace communication problems. 2.2 Performance evaluation results. 2.3 Team dynamics issues and concerns. 2.4 Challenges on return of investment 2.5 New tools, processes and procedures. 2.6 New people in the organization.
3. People who could provide input	May include: 3.1 Leaders 3.2 Managers 3.3 Specialists 3.4 Associates 3.5 Researchers 3.6 Supervisors 3.7 Staff 3.8 Consultants (external) 3.9 People outside the organization in the same field or similar expertise/industry. 3.10 Clients
4. Critical inquiry method	May include: 4.1. Preparation 4.2. Discussion 4.3. Clarification of goals 4.4. Negotiate towards a Win-Win outcome 4.5. Agreement 4.6. Implementation of a course of action 4.7. Effective verbal communication. See our pages: Verbal Communication and Effective Speaking. 4.8. Listening. 4.9. Reducing misunderstandings is a key part of effective negotiation. 4.10. Rapport Building. 4.11. Problem Solving. 4.12. Decision Making.

VARIABLES	RANGE
	4.13. Assertiveness. 4.14. Dealing with Difficult Situations.
5. Reporting skills	May include: 5.1 Data management 5.2 Coding 5.3 Data analysis and interpretation 5.4 Coherent writing 5.5 Speaking

## EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Identified opportunities to do things better. 1.2. Discussed and developed ideas with others on how to contribute to workplace innovation. 1.3. Integrated ideas for change in the workplace. 1.4. Analyzed and reported rooms for innovation and learning in the workplace.
2. Resource Implications	The following resources should be provided: 2.1 Pens, papers and writing implements. 2.2 Cartolina 2.3 Manila papers.
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Psychological and behavioral Interviews. 3.2 Performance Evaluation. 3.3 Life Narrative Inquiry. 3.4 Review of portfolios of evidence and third-party workplace reports of on-the-job performance. 3.5 Sensitivity analysis. 3.6 Organizational analysis. 3.7 Standardized assessment of character strengths and virtues applied.
4. Context for Assessment	4.1. Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

**UNIT OF COMPETENCY : PRESENT RELEVANT INFORMATION**

**UNIT CODE : 400311215**

**UNIT DESCRIPTOR :** This unit of covers the knowledge, skills and attitudes required to present data/information appropriately.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Gather data/information	1.1 Evidence, facts and information are collected 1.2 Evaluation, terms of reference and conditions are reviewed to determine whether data/information falls within project scope	1.1 Organizational protocols 1.2 Confidentiality 1.3 Accuracy 1.4 Business mathematics and statistics 1.5 Data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Legislation, policy and procedures relating to the conduct of evaluations 1.8 Organizational values, ethics and codes of conduct	1.1 Describing organizational protocols relating to client liaison 1.2 Protecting confidentiality 1.3 Describing accuracy 1.4 Computing business mathematics and statistics 1.5 Describing data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Stating legislation, policy and procedures relating to the conduct of evaluations 1.8 Stating organizational values, ethics and codes of conduct

<p>2. Assess gathered data/information</p>	<p>2.1 Validity of data/information is assessed</p> <p>2.2 Analysis techniques are applied to assess data/information.</p> <p>2.3 Trends and anomalies are identified</p> <p>2.4 <b>Data analysis techniques</b> and procedures are documented</p> <p>2.5 Recommendations are made on areas of possible improvement</p>	<p>2.1 Business mathematics and statistics</p> <p>2.2 Data analysis techniques/procedures</p> <p>2.3 Reporting requirements to a range of audiences</p> <p>2.4 Legislation, policy and procedures relating to the conduct of evaluations</p> <p>2.5 Organizational values, ethics and codes of conduct</p>	<p>2.1 Computing business mathematics and statistics</p> <p>2.2 Describing data analysis techniques/procedures</p> <p>2.3 Reporting requirements to a range of audiences</p> <p>2.4 Stating legislation, policy and procedures relating to the conduct of evaluations</p> <p>2.5 Stating organizational values, ethics and codes of conduct</p>
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<p>3. Record and present information</p>	<p>3.1 Studied data/information are recorded.</p> <p>3.2 Recommendations are analyzed for action to ensure they are compatible with the project's scope and terms of reference.</p> <p>3.3 Interim and final reports are analyzed and outcomes are compared to the criteria established at the outset.</p> <p>3.4 Findings are presented to stakeholders</p>	<p>3.1 Data analysis techniques/procedures</p> <p>3.2 Reporting requirements to a range of audiences</p> <p>3.3 Legislation, policy and procedures relating to the conduct of evaluations</p> <p>3.4 Organizational values, ethics and codes of conduct</p>	<p>3.1 Describing data analysis techniques/procedures</p> <p>3.2 Reporting requirements to a range of audiences</p> <p>3.3 Stating legislation, policy and procedures relating to the conduct of evaluations</p> <p>3.4 Stating organizational values, ethics and codes of conduct practices</p>
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**RANGE OF VARIABLES**

<b>VARIABLES</b>	<b>RANGE</b>
1. Data analysis techniques	May include: 1.1. Domain analysis 1.2. Content analysis 1.3. Comparison technique

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. Determine data / information</li> <li>1.2. Studied and applied gathered data/information</li> <li>1.3. Recorded and studied data/information</li> </ul> <p>These aspects may be best assessed using a range of scenarios what ifs as a stimulus with a walk-through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.</p>
2. Resource Implications	<p>Specific resources for assessment</p> <ul style="list-style-type: none"> <li>2.1. Evidence of competent performance should be obtained by observing an individual in an information management role within the workplace or operational or simulated environment.</li> </ul>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1. Written Test</li> <li>3.2. Interview</li> <li>3.3. Portfolio</li> </ul> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation.</p> <p>Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
4. Context for Assessment	<ul style="list-style-type: none"> <li>4.1. In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.</li> </ul>

**UNIT OF COMPETENCY : PRACTICE OCCUPATIONAL SAFETY AND HEALTH POLICIES AND PROCEDURES**

**UNIT CODE : 400311216**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to identify OSH compliance requirements, prepare OSH requirements for compliance, perform tasks in accordance with relevant OSH policies and procedures.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify OSH compliance requirements	1.1 Relevant <b>OSH requirements, regulations, policies and procedures</b> are identified in accordance with workplace policies and procedures 1.2 OSH activity non-conformities are conveyed to <b>appropriate personnel</b> 1.3 <b>OSH preventive and control requirements</b> are identified in accordance with OSH work policies and procedures	1.1. OSH preventive and control requirements 1.2. Hierarchy of Controls 1.3. Hazard Prevention and Control 1.4. General OSH principles 1.5. Work standards and procedures 1.6. Safe handling procedures of tools, equipment and materials 1.7. Standard emergency plan and procedures in the workplace	1.1. Communication skills 1.2. Interpersonal skills 1.3. Critical thinking skills 1.4. Observation skills

ELEMENTS	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Prepare OSH requirements for compliance	<p>2.1. OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures</p> <p>2.1. Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures</p> <p>2.1. Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards</p>	<p>2.1 Resources necessary to execute hierarchy of controls</p> <p>2.2 General OSH principles</p> <p>2.3 Work standards and procedures</p> <p>2.4 Safe handling procedures of tools, equipment and materials</p> <p>2.5 Different OSH control measures</p>	<p>2.1. Communication skills</p> <p>2.2. Estimation skills</p> <p>2.3. Interpersonal skills</p> <p>2.4. Critical thinking skills</p> <p>2.5. Observation skills</p> <p>2.6. Material, tool and equipment identification skills</p>

ELEMENTS	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Perform tasks in accordance with relevant OSH policies and procedures	3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures 3.2 Work Activities are executed in accordance with OSH work standards 3.3 <b><i>Non-compliance work activities</i></b> are reported to appropriate personnel	3.1. OSH work standards 3.2. Industry related work activities 3.3. General OSH principles 3.4. OSH Violations Non-compliance work activities	3.1 Interpersonal skills 3.2 Communication skills 3.3 Troubleshooting skills 3.4 Critical thinking skills 3.5 Observation skills

## RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Requirements, Regulations, Policies and Procedures	May include: 1.1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Permit to Operate 1.6 Philippine Occupational Safety and Health Standards 1.7 Department Order No. 13 (Construction Safety and Health) 1.8 ECC regulations
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself
3. OSH Preventive and Control Requirements	May include: 3.1 Resources needed for removing hazard effectively 3.2 Resources needed for substitution or replacement 3.3 Resources needed to establishing engineering controls 3.4 Resources needed for enforcing administrative controls 3.5 Personal Protective equipment

<p>4. Non-OSH-Compliance Work Activities</p>	<p>May include:</p> <ul style="list-style-type: none"> <li>4.1 Violations that may lead to serious physical harm or death</li> <li>4.2 Fall Protection</li> <li>4.3 Hazard Communication</li> <li>4.4 Respiratory Protection</li> <li>4.5 Power Industrial Trucks</li> <li>4.6 Lockout/Tag-out</li> <li>4.7 Working at heights (use of ladder, scaffolding)</li> <li>4.8 Electrical Wiring Methods</li> <li>4.9 Machine Guarding</li> <li>4.10 Electrical General Requirements</li> <li>4.11 Asbestos work requirements</li> <li>4.12 Excavations work requirements</li> </ul>
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## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. Convey OSH work non-conformities to appropriate personnel</li> <li>1.2. Identify OSH preventive and control requirements in accordance with OSH work policies and procedures</li> <li>1.3. Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures</li> <li>1.4. Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards</li> <li>1.5. Execute work activities in accordance with OSH work standards</li> <li>1.6. Report OSH activity non-compliance work activities to appropriate personnel</li> </ol>
2. Resource Implications	<p>The following resources should be provided:</p> <ol style="list-style-type: none"> <li>2.1. Facilities, materials tools and equipment necessary for the activity</li> </ol>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ol style="list-style-type: none"> <li>3.1 Observation/Demonstration with oral questioning</li> <li>3.2 Third party report</li> </ol>
4. Context for Assessment	<ol style="list-style-type: none"> <li>4.1. Competency may be assessed in the work place or in a simulated work place setting</li> </ol>



**UNIT OF COMPETENCY : EXERCISE EFFICIENT AND EFFECTIVE SUSTAINABLE PRACTICES IN THE WORKPLACE**

**UNIT CODE : 400311217**

**UNIT DESCRIPTOR :** This unit covers knowledge, skills and attitude to identify the efficiency and effectiveness of resource utilization, determine causes of inefficiency and/or ineffectiveness of resource utilization and convey ineffective environmental practices.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques 1.2 Data are recorded in accordance with workplace protocol 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established <b><i>environmental work procedures</i></b>	1.1. Importance of Environmental Literacy 1.2. Environmental Work Procedures 1.3. Waste Minimization 1.4. Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1 Potential causes of inefficiency and/or ineffectiveness are listed 2.2 Causes of inefficiency and/or ineffectiveness are identified through deductive reasoning 2.3 Identified causes of inefficiency and/or	2.1 Causes of environmental inefficiencies and ineffectiveness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

ELEMENTS	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	ineffectiveness are validated thru established environmental procedures		
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are reported to <b><i>appropriate personnel</i></b> 3.2 Concerns related resource utilization are discussed with appropriate personnel 3.3 Feedback on information/ concerns raised are clarified with appropriate personnel	3.1 Appropriate Personnel to address the environmental hazards 3.2 Environmental corrective actions	3.1 Written and Oral Communication Skills 3.2 Critical thinking 3.3 Problem Solving 3.4 Observation Skills 3.5 Practice 3.6 Environmental Awareness

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Work Procedures	May include: 1.1 Utilization of Energy, Water, Fuel Procedures 1.2 Waster Segregation Procedures 1.3 Waste Disposal and Reuse Procedures 1.4 Waste Collection Procedures 1.5 Usage of Hazardous Materials Procedures 1.6 Chemical Application Procedures 1.7 Labeling Procedures
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself

## EVIDENCE GUIDE

1.Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Measured required resource utilization in the workplace using appropriate techniques</li> <li>1.2 Recorded data in accordance with workplace protocol</li> <li>1.3 Identified causes of inefficiency and/or ineffectiveness through deductive reasoning</li> <li>1.4 Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures</li> <li>1.5 Report efficiency and effectiveness of resource utilization to appropriate personnel</li> <li>1.6 Clarify feedback on information/concerns raised with appropriate personnel</li> </ul>
2.Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Workplace</li> <li>2.2 Tools, materials and equipment relevant to the tasks</li> <li>2.3 PPE</li> <li>2.4 Manuals and references</li> </ul>
3.Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Demonstration</li> <li>3.2 Oral questioning</li> <li>3.3 Written examination</li> </ul>
4.Context for Assessment	<ul style="list-style-type: none"> <li>4.1 Competency assessment may occur in workplace or any appropriately simulated environment</li> <li>4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group</li> </ul>

**UNIT OF COMPETENCY : PRACTICE ENTREPRENEURIAL SKILLS IN THE WORKPLACE**

**UNIT CODE : 400311218**

**UNIT DESCRIPTOR :** This unit covers the outcomes required to apply entrepreneurial workplace best practices and implement cost-effective operations

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Apply entrepreneurial workplace best practices	<p>1.1 <b>Good practices</b> relating to workplace operations are observed and selected following workplace policy.</p> <p>1.2 Quality procedures and practices are complied with according to workplace requirements.</p> <p>1.3 Cost-conscious habits in <b>resource utilization</b> are applied based on industry standards.</p>	<p>1.1 Workplace best practices, policies and criteria</p> <p>1.2 Resource utilization</p> <p>1.3 Ways in fostering entrepreneurial attitudes:</p> <p>1.3.1 Patience</p> <p>1.3.2 Honesty</p> <p>1.3.3 Quality-consciousness</p> <p>1.3.4 Safety-consciousness</p> <p>1.3.5 Resourcefulness</p>	<p>1.1 Communication skills</p> <p>1.2 Complying with quality procedures</p>
2. Communicate entrepreneurial workplace best practices	<p>2.1 Observed good practices relating to workplace operations are communicated to appropriate person.</p> <p>2.2 Observed quality procedures and practices are communicated to appropriate</p>	<p>2.1 Workplace best practices, policies and criteria</p> <p>2.2 Resource utilization</p> <p>2.3 Ways in fostering entrepreneurial attitudes:</p>	<p>2.1 Communication skills</p> <p>2.2 Complying with quality procedures</p> <p>2.3 Following workplace communication protocol</p>

	<p>person</p> <p>2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.</p>	<p>2.3.1 Patience</p> <p>2.3.2 Honesty</p> <p>2.3.3 Quality-consciousness</p> <p>2.3.4 Safety-consciousness</p> <p>2.3.5 Resourcefulness</p>	
3. Implement cost-effective operations	<p>3.1 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy</p> <p>3.2 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements.</p> <p>3.3 Constructive contributions to office operations are made according to enterprise requirements.</p> <p>3.4 Ability to work within one's allotted time and finances is sustained.</p>	<p>3.1 Optimization of workplace resources</p> <p>3.2 5S procedures and concepts</p> <p>3.3 Criteria for cost-effectiveness</p> <p>3.4 Workplace productivity</p> <p>3.5 Impact of entrepreneurial mindset to workplace productivity</p> <p>3.6 Ways in fostering entrepreneurial attitudes:</p> <p>3.6.1 Quality-consciousness</p> <p>3.6.2 Safety-consciousness</p>	<p>3.1 Implementing preservation and optimizing workplace resources</p> <p>3.2 Observing judicious use of workplace tools, equipment and materials</p> <p>3.3 Making constructive contributions to office operations</p> <p>3.4 Sustaining ability to work within allotted time and finances</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Good practices	May include: 1.1 Economy in use of resources 1.2 Documentation of quality practices
2. Resources utilization	May include: 2.1 Consumption/ use of consumables 2.2 Use/Maintenance of assigned equipment and furniture 2.3 Optimum use of allotted /available time

## EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Demonstrated ability to identify and sustain cost- effective activities in the workplace 1.2 Demonstrated ability to practice entrepreneurial knowledge, skills and attitudes in the workplace.
2. Resource Implications	The following resources should be provided: 2.1 Simulated or actual workplace 2.2 Tools, materials and supplies needed to demonstrate the required tasks 2.3 References and manuals 2.3.1 Enterprise procedures manuals 2.3.2 Company quality policy
3. Methods of Assessment	Competency in this unit should be assessed through: 3.1 Interview 3.2 Third-party report
4. Context of Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group

## COMMON COMPETENCIES

**UNIT OF COMPETENCY : APPLY FOOD SAFETY AND SANITATION**

**UNIT CODE : PFB751210**

**UNIT DESCRIPTOR : This unit covers skills and attitude required to apply food safety and sanitation in the workplace**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Wear Personal Protective Equipment	1.1 Personal protective equipment is checked according to <b><i>manufacturer's specifications</i></b> 1.2 <b><i>Personal protective equipment</i></b> is worn according to the job requirement	1.1 Personal protective equipment (PPE) 1.2 Procedures in wearing in PPE 1.3 Good Food Manufacturing Practices 1.4 Parts and functions of personal protective equipment	1.1 Checking PPE 1.2 Practicing GMP
2. Observe Personal Hygiene and Good Grooming	2.1 Personal hygiene and good grooming are practiced in line with <b><i>workplace health and safety requirements</i></b>	2.1 Good grooming and personal hygiene 2.2 Workplace health and safety requirements	2.1 Practicing good grooming and personal hygiene practices



ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Implement Food Sanitation Practices	3.1 Sanitary food handling practices are implemented in line with workplace sanitation regulations 3.2 Safety measures are observed in line with workplace safety practices.	3.1 Proper waste disposal 3.2 Environmental protection and concerns 3.3 Food safety principles and practices 3.4 TQM and other food quality system principles	3.1 Managing wastes 3.2 Implementing sanitary food handling practices 3.3 Practicing workplace safety
4. Render Safety Measures and First Aid Procedures	4.1 <b>Safety measures</b> are applied according to workplace rules and regulations 4.2 <b>First aid procedures</b> are applied and coordinated with concerned personnel according to workplace standard operating procedures.	4.1 First aid procedures 4.2 Parts and functions of personal protective equipment 4.3 First Aid Kit	4.1 Applying safety measures 4.2 Applying first aid treatment 4.3 Practicing PPE 4.4 Coordinating with concerned personnel
5. Implement housekeeping activities	5.1 Work area and surroundings are cleaned in accordance with workplace health and safety regulations 5.2 Waste is disposed according to organization's waste disposal system	5.1 Hazards in work area 5.2 Waste disposal 5.3 Housekeeping / 7's 5.4 Proper waste disposal	5.1 Implementing housekeeping activities 5.2 Practicing proper waste disposal 5.3 Coordination skills

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	5.3 <b>Hazards</b> in the work area are recognized and reported to designated personnel according to workplace procedures		

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Manufacturer's Specifications	May include: 1.1 Handling 1.2 Operating 1.3 Discharge Label 1.4 Reporting 1.5 Testing 1.6 Positioning 1.7 Refilling
2. Personal Protective Equipment	May include: 2.1 Apron/laboratory gown 2.2 Mouth masks 2.3 Gloves 2.4 Rubber boots/safety shoes 2.5 Head gears such as caps, hair nets, earl plug
3. Workplace Health and Safety Requirements	May include: 3.1 Health/Medical Certificate 3.2 DOLE requirements 3.3 BFAD requirements 3.4 Personal Hygiene and good grooming 3.5 Plant Sanitation and waste management
4. Safety Measures	May include: 4.1 Labeling of chemicals and other sanitizing agents 4.2 Installation of firefighting equipment in the work area 4.3 Installation of safety signage and symbols 4.4 Implementation of 5S in the work area 4.5 Removal of combustible material in the work area
5. First Aid Procedures	May include: 5.1 Mouth to mouth resuscitation 5.2 CPR 5.3 Application of tourniquet 5.4 Applying pressure to bleeding wounds or cuts 5.5 First aid treatment for burned victims
6. Hazards	May include: 6.1 Physical 6.2 Biological 6.3 Chemical

## EVIDENCE GUIDE

1.Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Cleaned, checked and sanitized personal protective equipment</li> <li>1.2 Practiced proper personal hygiene and good grooming</li> <li>1.3 Implemented workplace food safety practices</li> <li>1.4 Applied first aid measures to victims</li> <li>1.5 Implemented good housekeeping activities in the work area</li> </ul>
2.Resource implications	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> <li>2.1 Work area/station</li> <li>2.2 First Aid kit</li> <li>2.3 PPE relevant to the activities</li> <li>2.4 Fire extinguisher</li> <li>2.5 Stretcher</li> <li>2.6 Materials, tools and equipment relevant to the unit of competency</li> </ul>
3.Method of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 A combination of direct observation and questioning of a candidate processing foods.</li> </ul>
4.Context of assessment	<ul style="list-style-type: none"> <li>4.1. Assessment should occur on the job or in a simulated workplace</li> </ul>

**UNIT OF COMPETENCY: USE STANDARD MEASURING DEVICES AND INSTRUMENTS**

**UNIT CODE : PFB751211**

**UNIT DESCRIPTOR :** This unit covers skills and attitude required to use standard measuring devices, instruments in the workplace

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify Standard Measuring Devices and Instruments	1.1 <b><i>Standard measuring devices and instruments</i></b> are identified according to manufacturer's specifications 1.2 Devices and instruments for measuring are properly checked, sanitized and calibrated prior to use	1.1 Safe handling of measuring devices and instruments 1.2 Specifications and functions of measuring devices and instruments 1.3 Defects and breakages of measuring devices and instruments 1.4 Procedures in sanitizing and calibrating and stowing equipment and instruments	1.1 Communication skills 1.2 Sanitary handling of devices and instruments 1.3 Calibrating skills
2. Review the Procedures in Using Standard Measuring Devices and Instruments	2.1 Procedures in using the standard measuring devices and instruments are recalled according to manufacturer's specifications 2.2 Printed procedures/ brochures/ catalogues are consulted according to	2.1 Procedures in using different standard measuring devices 2.2 Different food processing methods	2.1 Reading and following printed manuals and brochures 2.2 Using standard measuring devices

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	specified <b><i>food processing methods</i></b>		
3. Follow Procedures of Using Measuring Devices and Instruments	3.1 Methods and practices of using measuring devices and instruments are strictly observed according to manufacturer's specifications and workplace requirements 3.2 Measuring devices and instruments are cleaned, wiped dry and stowed after use to ensure conformity with workplace requirements	3.1 Methods and practice of using measuring devices and instruments 3.2 Procedures in cleaning, and stowing equipment and instruments	3.1 Applying methods/practices in using measuring devices and instruments 3.2 Cleaning and stowing measuring devices and instruments

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Standard Measuring Devices	May include: 1.1 Weighing scales and balances of various capacities and sensitivities 1.2 Measuring cups of varying capacities for dry ingredients 1.3 Measuring cups of varying capacities for liquid ingredients
2. Standard Measuring Instruments	May include: 2.1 Salinometer 2.2 Thermometers of varying temperature range (0-300 C) 2.3 Refractometer of varying range (0 – 90 B) 2.4 Glasswares like cylinders, beakers, flasks) of varying graduations
3. Food Processing Methods	May include: 3.1 Process foods by Salting, Curing and Smoking 3.2 Process foods by Fermentation and Pickling 3.3 Process foods by Canning and Bottling 3.4 Process foods by Sugar Concentration 3.5 Process foods by Drying and Dehydration

## EVIDENCE GUIDE

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified, prepared and calibrated standard measuring devices and instruments</li> <li>1.2 Followed correctly the procedures in using standard measuring devices and instruments</li> <li>1.3 Followed proper cleaning and sanitizing and stowing procedures of measuring devices and equipment before and after use</li> </ul>
2. Resource implications	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> <li>2.1 Work area/station</li> <li>2.2 Materials, tools and equipment relevant to the Unit of Competency</li> </ul>
3. Method of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Direct observation and questioning of a candidate using measuring devices and instruments</li> </ul>
4. Context of assessment	<ul style="list-style-type: none"> <li>4.1 Assessment should occur on the job or in a simulated workplace</li> </ul>



**UNIT OF COMPETENCY : USE FOOD PROCESSING TOOLS, EQUIPMENT AND UTENSILS**

**UNIT CODE : PFB751212**

**UNIT DESCRIPTOR :** This unit covers skills and attitude required to operate food processing tools, equipment and instruments in the workplace.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms are elaborated in the Range of Variables</i>	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Perform pre-operation activities	1.1 Appropriate tools and equipment/ utensils are assembled according to <b><i>food processing method</i></b> 1.2 <b><i>Food processing tools and equipment/utensils</i></b> are inspected and checked according to manufacturer's specifications 1.3 Food processing equipment is set up, adjusted and readied according to job requirements	1.1 Procedures in assembling equipment and utensils 1.2 Methods in inspecting food processing tools and equipment and utensils 1.3 Procedures in setting-up and adjusting equipment 1.4 Equipment, tools and instruments: Parts and Functions 1.5 Written and oral communication 1.6 Interpreting manufacturer's specifications 1.7 Following manufacturer's manual	1.1 Assembling equipment/ utensils 1.2 Inspecting and checking condition of equipment/ machines 1.3 Setting-up and adjusting food processing equipment 1.4 Reporting equipment/ machine, tools, instruments breakdown and recording same in standard forms 1.5 Communication skills

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms are elaborated in the Range of Variables</i>	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Operate food processing equipment	2.1 Food processing equipment is switched on according to <b><i>manufacturer's specifications</i></b> 2.2 Performance of food processing equipment is checked to ensure conformity with specified output 2.3 Operation of food processing equipment is managed to achieve planned outcomes 2.4 Minor trouble shooting on food processing tools, equipment and utensils is performed when necessary	2.1 Procedures on operating food processing equipment 2.2 Inspection of equipment with conformity with required output 2.3 Equipment/ machine wear and tear process 2.4 Minor trouble shooting of food processing tools, equipment and utensils 2.5 Following manufacturer's manual 2.6 PPE 2.7 OSHS	2.1 Inspecting and checking condition of equipment/ machines 2.2 Performing minor troubleshooting
3. Perform post-operation activities	3.1 Food processing equipment is switched off and unplugged after operation in accordance with manufacturer's specifications 3.2 Food processing tools, equipment and instruments are cleaned, sanitized and stowed as required according to	3.1 Procedures of shutting down food processing equipment 3.2 Inspection machine main parts 3.3 Main machine parts 3.4 Minor preventive maintenance 3.5 Monitoring procedures for condition of	3.1 Shutting down food processing equipment 3.2 Sanitizing, cleaning and stowing measuring devices and instruments 3.3 Checking main machine parts 3.4 Performing minor preventive

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms are elaborated in the Range of Variables</i>	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>manufacturer's specifications and workplace policies and regulations</p> <p>3.3 <b><i>Minor preventive maintenance</i></b> on equipment is performed in line with organization's maintenance system</p> <p>3.4 Main machine parts are inspected and checked in line with organization's policy</p> <p>3.5 <b><i>Condition of machine</i></b> is monitored to ensure serviceability in accordance with workplace rules and regulations</p>	<p>machine</p> <p>3.6 Monitoring checklist</p> <p>3.7 PPE</p> <p>3.8 OSHS</p> <p>3.9 Environmental rules and regulations</p> <p>3.10 Sanitizing agents: Uses and Specification</p> <p>3.11 Proper cleaning and stowing of tools and equipment/instruments</p>	<p>maintenance</p> <p>3.5 Monitoring machine condition</p> <p>3.6 Accomplishing monitoring checklist</p> <p>3.7 Wearing PPE</p> <p>3.8 Applying OSHS</p> <p>3.9 Performing regular maintenance</p>

## RANGE OF VARIABLES

VARIABLES	RANGE
1. Food processing method	<p>May include:</p> <ul style="list-style-type: none"> <li>1.1 Salting</li> <li>1.2 Curing</li> <li>1.3 Smoking</li> <li>1.4 Fermentation</li> <li>1.5 Pickling</li> <li>1.6 Canning</li> <li>1.7 Bottling</li> <li>1.8 Sugar concentration</li> <li>1.9 Drying</li> <li>1.10 Dehydration</li> </ul>
2. Food processing tools and equipment/utensils	<p>May include:</p> <p>2.1 Tools</p> <ul style="list-style-type: none"> <li>2.1.1. Bolo (with stopper)</li> <li>2.1.2. Sorting Box/Basket</li> <li>2.1.3. Thermometer</li> <li>2.1.4. Chopping Board (2 inches thick)</li> <li>2.1.5. Basin</li> <li>2.1.6. Stainless Basin</li> <li>2.1.7. Pail</li> <li>2.1.8. Strainer</li> <li>2.1.9. Bilao</li> <li>2.1.10. "Akgo" Strainer made of Bamboo</li> <li>2.1.11. Heavy duty Wok</li> <li>2.1.12. Ladle</li> <li>2.1.13. Pail</li> <li>2.1.14. Rolling Pin</li> <li>2.1.15. Smooth surface stone</li> <li>2.1.16. Clean container</li> <li>2.1.17. Spatula/Scraper.</li> <li>2.1.18. Mixing Bowl</li> <li>2.1.19. Measuring Cups</li> <li>2.1.20. Molders</li> <li>2.1.21. Stainless Trays</li> <li>2.1.22. Storage Boxes</li> <li>2.1.23. Palette</li> <li>2.1.24. Table</li> </ul>

	<p>2.3. Equipment</p> <ul style="list-style-type: none"> <li>2.2.1 Weighing Scales</li> <li>2.2.2 Fermentation Box</li> <li>2.2.3 Drying Bed</li> <li>2.2.4 Roasting Machine</li> <li>2.2.5 Stove</li> <li>2.2.6 Cracking Machine</li> <li>2.2.7 Winnowing Machine</li> <li>2.2.8 Grinding Machine</li> <li>2.2.9 Mixer</li> <li>2.2.10 Labelling Machine</li> <li>2.2.11 Stamping Machine</li> <li>2.2.12 Sealer</li> <li>2.2.13 Computer/Laptop</li> <li>2.2.14 Personal Protective Equipment <ul style="list-style-type: none"> <li>2.2.14.1. Mask (mouth covered)</li> <li>2.2.14.2. Apron</li> <li>2.2.14.3. Gloves</li> <li>2.2.14.4. Boots/Closed Shoes</li> <li>2.2.14.5. Hairnet</li> <li>2.2.14.6. Long sleeves</li> </ul> </li> </ul> <p>2.3. <b>Materials</b></p> <ul style="list-style-type: none"> <li>2.3.1 Banana Leaves</li> <li>2.3.2 Cacao Pods</li> <li>2.3.3 Cacao Beans</li> <li>2.3.4 Cloth</li> <li>2.3.5 Clean Water (not contaminated)</li> <li>2.3.6 Jute Sack</li> <li>2.3.7 Firewood and matches</li> <li>2.3.8 Pot Holder</li> <li>2.3.9 Ingredients: <ul style="list-style-type: none"> <li>2.3.9.1. Muscavado/Sugar</li> <li>2.3.9.2 Nuts (peanuts, almonds, chestnuts, walnuts)</li> </ul> </li> <li>2.3.10 Wrapping Materials <ul style="list-style-type: none"> <li>2.3.10.1 Wax Paper</li> <li>2.3.10.2 Wrapping Paper</li> <li>2.3.10.3 Cling Wrap</li> <li>2.3.10.4 Scotch Tape</li> <li>2.3.10.5 Double adhesive tape</li> <li>2.3.10.6 Scissors</li> <li>2.3.10.7 Ribbons</li> <li>2.3.10.8 Japanese Paper</li> </ul> </li> </ul>
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## RANGE OF VARIABLES

VARIABLES	RANGE
3. Manufacturer's specifications	May include: 1.1. Handling requirements 1.2. Operating requirements 1.3. Discharge Label 1.4. Reporting 1.5. Testing 1.6. Positioning 1.7. Refilling
4. Minor preventive maintenance	May include: 2.1. Machine temperature 2.2. Hydraulic fluid 2.3. Wear and surface condition 2.4. Crack 2.5. Leak detection 2.6. Vibration 2.7. Corrosion/erosion 2.8. Electric insulation
5. Condition of machine	May include: 3.1. Serviceable 3.2. Repairable 3.3. Defective

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Assembled, inspected, checked and sanitized appropriate tools and equipment/instruments</li> <li>1.2 Set-up, adjusted and readied tools and equipment and instruments according to requirements</li> <li>1.3 Operated and monitored performance of equipment to ensure specified output</li> <li>1.4 Performed post operation activities</li> <li>1.5 Performed minor trouble shooting on food processing tools, equipment and utensils</li> </ul>
2. Methods of Assessment	<p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>2.1 Direct observation and questioning of a candidate operating food processing tools and equipment/instruments</li> <li>2.2 Submission of written report on the performance and condition of equipment/machine, tools, instruments used.</li> </ul>
3. Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>3.1 Work area/station</li> <li>3.2 Materials, tools and equipment relevant to the Unit of Competency</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1 Assessment should occur on the job or in a simulated workplace</li> </ul>

**UNIT OF COMPETENCY : PERFORM MATHEMATICAL COMPUTATION**

**UNIT CODE : PFB751213**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitude to perform mathematical computations in the workplace.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Gather and tabulate the recorded data	1.1 Records of <b>weights and measurements</b> of raw materials and ingredients are gathered and summarized according to workplace standard operating procedures 1.2 Records of weights and measurements of finished processed products are gathered and summarized according to workplace standard operating procedures 1.3 Summarized data are tabulated according to enterprise requirements	1.1 Data gathering 1.2 Record keeping 1.3 Data summary and analysis 1.4 Basic Mathematical Operations	1.1 Gathering data 1.2 Keeping of records 1.3 Summarizing and analyzing data 1.4 Basic Mathematical skills 1.5 Basic Accounting skills



ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Review the various formulations	2.1 Raw materials and ingredients and percentage formulations are checked/counter checked according to approved specifications and enterprise requirements 2.2 Finished products and percentage formulations are reviewed according to approved specifications and enterprise requirements	2.1 Percentages and formulations of raw materials and ingredient and finished products 2.2 Procedures in checking raw materials and finished products formulation and percentages 2.3 Basic Mathematical Operations	2.1 Checking percentages formulations of raw materials and ingredient 2.2 Reviewing percentages and formulations of finished products 2.3 Numeracy skills
3. Calculate production input and output	3.1 Data on raw material consumption and corresponding percentage equivalent are calculated in line with enterprise requirements 3.2 Data on actual spoilage and rejects and corresponding percentage equivalents are calculated according to enterprise requirements 3.3 Data on actual yields and recoveries and corresponding percentage equivalents are	3.1 Record keeping 3.2 Mensuration 3.3 Fraction, ratios and proportions 3.4 Basic Mathematical Operations 3.5 Conversion factors 3.6 Percentage formulation	3.1 Basic Mathematical skills 2.4 Recording skills

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>calculated according to enterprise requirements</p> <p>3.4 All calculated data are recorded according to enterprise requirements</p>		
4. Compute production cost	<p>4.1 <b>Costs of production</b> are computed according to organization's standard procedures</p> <p>4.2 Computed costs of production are reviewed and validated according to organization's production requirements</p>	<p>4.1 Cost of production</p> <p>4.2 Validation procedures for computer costs</p> <p>4.3 Basic Mathematical Operations</p>	<p>4.1 Basic Mathematical skills</p> <p>4.2 Basic Accounting skills</p> <p>4.3 Reviewing and validating computed costs</p>

## RANGE OF VARIABLES

VARIABLES	RANGE
1.Weights and measurements	May include: 1.1 Gravimetric 1.2 Volumetric 1.3 Lengths, diameters, widths 1.4 Seam measurements 1.5 Hotness/coldness (temperature) 1.6 Concentrations of solutions
2.Costs of production	May include: 2.1 Ingredient formulation 2.2 Percentage formulation 2.3 Conversion 2.4 Ratios and proportion 2.5 Spoilage and rejects and corresponding percentages 2.6 Recoveries and yields and corresponding percentages

## EVIDENCE GUIDE

1.Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. Gathered the records of weights and measurements of raw materials/ingredients and finished processed products</li> <li>1.2. Summarized and tabulated all raw data gathered</li> <li>1.3. Calculated the production inputs and outputs</li> <li>1.4. Computed the costs of production</li> <li>1.5. Reviewed all formulations and concentrations of solutions according to specifications and standards of the enterprise</li> </ol>
2.Methods of Assessment	<p>Competency in this unit must be assessed through:</p> <ol style="list-style-type: none"> <li>2.1. A combination of direct observation and questioning of a candidate computing costs of production</li> <li>2.2. Submission of a written report showing a record of production data including raw data</li> </ol>
3.Resource Implications	<p>The following resources should be provided:</p> <ol style="list-style-type: none"> <li>3.1 Work area/station</li> <li>3.2 Materials relevant to recording and documentation of production data</li> <li>3.3 Computer with printer and software</li> <li>3.4 Calculator</li> <li>3.5 Work table</li> </ol>
4.Context of Assessment	<ol style="list-style-type: none"> <li>4.1 Assessment should occur on the job or in a simulated workplace</li> </ol>

**UNIT OF COMPETENCY : IMPLEMENT GOOD MANUFACTURING PRACTICE AND PROCEDURE**

**UNIT CODE : PFB751214**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to comply with relevant Good Manufacturing Practice (GMP) codes through the implementation of workplace GMP and quality procedures.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify requirements of GMP related to own work	1.1 Sources of information on GMP requirements are located 1.2 GMP requirements and responsibilities related to own work are identified	1.1 GMP Requirements 1.2 GMP Codes of practice, policies and procedures 1.3 GMP Role of internal and external auditors 1.4 Contamination events and performance improvement processes procedures 1.5 Personal clothing and footwear requirements at work areas 1.6 Use of personal clothing, storage and disposal requirements 1.7 Micro biological, physical and chemical contaminants 1.8 Basic concepts of quality assurance 1.9 Control methods and procedures	1.1 Planning and organizing work (time management) 1.2 Working with others and in teams 1.3 Practicing GMP 1.4 Following contamination investigation procedures

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		used in GMP 1.10 GMP responsibilities and requirements relating to work role 1.11 Basic properties, handling and storage requirements of raw materials, packaging components and final product 1.12 Standards for materials, equipment and utensils used in the work area 1.13 Recall and traceability procedures relevant to work role 1.14 Procedures for identifying or isolating materials or product of unacceptable quality 1.15 Record keeping and the recording requirements of GMP.	

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Observe personal hygiene and conduct to meet GMP requirements	2.1 Personal hygiene meets GMP requirements  2.2 Clothing is prepared, used, stored and disposed of according to GMP and workplace procedures  2.3 Personal movement around the workplace complies with area entry and exit procedures	2.1 Workplace entry and exit procedures 2.2 Personal hygiene 2.3 PPE	2.1 Following workplace entry and exit procedures 2.2 Practicing OSHS 2.3 Practicing GMP
3. Implement GMP requirements when carrying out work activities	3.1 GMP requirements are identified 3.2 <b>Work area</b> , materials, equipment and product are routinely monitored to ensure compliance with GMP requirements 3.3 Raw materials, packaging components and product are handled according to GMP and workplace procedures 3.4 Workplace procedures to	3.1 Monitoring methods of work area, materials and equipment 3.2 Handling of raw materials, packaging components and product 3.3 Control resource allocation and processes in the workplace 3.4 Contaminants 3.5 Good Manufacturing Practices (GMP)	3.1 Identifying GMP requirements 3.2 Monitoring routinely of work area, materials equipment and product 3.3 Handling of raw materials, packaging components and product 3.4 Maintaining cleanliness in the workplace

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>control resource allocation and process are followed to meet GMP requirements</p> <p>3.5 Common forms of contamination are identified and appropriate control measures are followed according to GMP requirements</p> <p>3.6 The workplace is maintained in a clean and tidy order to meet GMP housekeeping standard</p>		
4. Participate in improving GMP	<p>4.1 Processes, practices or conditions which could result in non-compliance with GMP are identified and reported according to workplace reporting requirements</p> <p>4.2 Corrective action is implemented within level of responsibility</p> <p>4.3 GMP issues are raised with designated personnel</p>	<p>4.1 Non-compliance and corrective action in GMP</p> <p>4.2 Corrective actions</p>	<p>4.1 Practicing GMP</p> <p>4.2 Reporting workplace condition</p> <p>4.3 Implementing corrective measures</p>



ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
5. Participate in validation processes	5.1 Validation procedures are followed to GMP requirements 5.2 Issues arising from validation are raised with designated personnel 5.3 Validation procedures are documented to meet GMP requirements	5.1 Validation procedures in GMP 5.2 Issues arising from validation 5.3 Documentation of validation procedures	5.1 Following validation procedures 5.2 Reporting issues arising from validation 5.3 Documenting validation procedures
6 Complete workplace documentation to support GMP	6.1. Documentation and recording requirements are identified 6.2. Information is recorded according to <b>workplace reporting procedures</b> to meet GMP requirements	6.1. Documentation and workplace reporting procedures in GMP 6.2. Information and workplace reporting procedures	6.1. Keeping records 6.2. Recording information

## RANGE OF VARIABLES

VARIABLES	RANGE
1.OH&S requirements	May include: 1.1. OH&S legal requirements 1.2. Enterprise OH&S policies, procedures and programs
2.Work in carried out in accordance with regulations.	May include: 2.1. Relevant regulations regarding food processing and food safety regulations 2.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3. Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3.Hygiene and sanitation requirements	May include: 3.1. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2. Requirements set out by Bureau of Food and Drugs 3.3. Workplace requirements
4.Workplace requirements	May include: 4.1. Work instructions 4.2. Standard operating procedures 4.3. OH&S requirements 4.4. Quality assurance requirements 4.5. Equipment manufacturers' advice 4.6. Material Safety Data Sheets 4.7. Codes of Practice and related advice
5.Products	May include: 5.1. Products, raw materials, packaging components and consumables, part-processed product, finished product and cleaning materials
6.Responsibility and reporting systems	May include: 6.1. Responsibility for applying Good Manufacturing Practice relates to the person's work area 6.2. Reporting systems may include electronic and manual data recording and storage systems

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p><b>Assessment requires evidences that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1 Located and followed workplace information relating to GMP responsibilities</li> <li>1.2 Maintained personal hygiene consistent with GMP</li> <li>1.3 Followed workplace procedures when moving around the workplace and/or from one task to another to maintain GMP</li> <li>1.4 Used, stored and disposed of appropriate clothing/footwear as required by work tasks and consistent with GMP</li> <li>1.5 Identified and reported situations that do or could compromise GMP</li> <li>1.6 Applied appropriate control measures to control contamination</li> <li>1.7 Recorded results of monitoring, and maintain records as required by GMP</li> <li>1.8 Followed validation procedures within level of responsibility</li> <li>1.9 Identified and responded to out-of-specification or unacceptable raw materials, packaging components, final or part processed product within level of responsibility</li> <li>1.10 Followed procedures to isolate or quarantine non- conforming product</li> <li>1.11 Handled, cleaned and stored equipment, utensils, raw materials, packaging components and related items according to GMP and workplace procedures</li> <li>1.12 Maintained GMP for own work</li> <li>1.13 Handled and/or disposed of out-of-specification or contaminated materials, packaging components/consumables and product, waste and recyclable material according to GMP as required by work responsibilities</li> <li>1.14 Maintained the work area in a clean and tidy state</li> <li>1.15 Identified and reported signs of pest infestation</li> </ul>
2. Resource Implication	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 Workplace location and access to workplace policies</li> <li>2.2 Materials relevant to the proposed activity and tasks</li> </ul>
3. Methods of Assessment	<p><b>Competency in this unit must be assessed using at least two (2) of the following methods:</b></p> <ul style="list-style-type: none"> <li>3.1 A combination of direct observation and oral questioning</li> <li>3.2 Written report</li> <li>3.3 Written Test Portfolio</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1 Assessment should occur on the job or in a simulated workplace</li> </ul>

**UNIT OF COMPETENCY : IMPLEMENT ENVIRONMENTAL POLICIES AND PROCEDURES**

**UNIT CODE : PFB751215**

**UNIT DESCRIPTOR : This unit covers skills and attitude required to implement environmental policies and procedures when carrying out work responsibilities**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Conduct work in accordance with environmental policies and procedures	1.1. Immediate work area is routinely checked to ensure compliance with environmental requirements 1.2. <b>Hazards</b> and unacceptable performance are identified, removed and/or reported to appropriate personnel according to workplace procedures 1.3. Workplace procedures and work instructions are followed 1.4. Where control requirements are not met, incidents are promptly reported and corrective action is taken 1.5. Measures used to minimize and	1.1 Workplace approach to managing environmental issues 1.2 Responsibilities of self and employer to manage environmental issues on site 1.3 Sources of advice on environmental issues in the workplace 1.4 Environmental hazards and risks associated with the work 1.5 Work procedures as they relate to environmental responsibilities 1.6 Procedures used to prevent or control environmental risks associated with own work assessment and control	1.1 Planning and organizing work (time management) 1.2 Working with others and in teams 1.3 Practicing environmental skills

	<p>handle waste are followed</p> <p>1.6. Environmental data is recorded in required format according to workplace reporting requirements</p>	<p>options</p> <p>1.7 Identifying and responding to hazards</p> <p>1.8 Impact of work practices on resource utilization and wastage</p> <p>1.9 Procedures used to handle and dispose of waste</p> <p>1.10 The difference between trade waste and storm water drains</p> <p>1.11 Consequences of inappropriate waste handling and disposal</p> <p>1.12 Procedures for responding to unplanned incidents such as spills and leaks</p> <p>1.13 Emergency response system and procedures</p> <p>1.14 Responsible use of resources in own work area</p> <p>1.15 Reporting procedures and responsibilities</p> <p>1.16 Consultative processes in the workplace for raising</p> <p>1.17 issues/ suggestions on environmental issues</p>	
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<p>2. Participate in improving environmental practices at work</p>	<p>2.1 Processes or conditions which could result in an unacceptable environmental outcome are identified and reported according to workplace reporting requirements.</p> <p>2.2 Corrective action is taken in accordance with the environmental management and emergency response plans as required.</p> <p>2.3 Contributions are made to participative arrangements for managing environmental issues in the workplace within workplace procedures and level of responsibility.</p>	<p>2.1 Unacceptable environmental outcomes</p> <p>2.2 Corrective action</p> <p>2.3 Emergency response plan</p> <p>2.4 Improvement in environmental practices</p> <p>2.5 Report preparation</p>	<p>2.1 Identifying and reporting unacceptable environmental outcomes</p> <p>2.2 Implementing corrective actions</p> <p>2.3 Participating in improvement of environmental practices</p> <p>2.4 Practicing written communication skills</p>
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3.Respond to an environmental emergency	<p>3.1 Emergency situations are identified and reported according to workplace reporting requirements</p> <p>3.2 Emergency procedures are followed as appropriate to the nature of the emergency and according to workplace procedures</p>	<p>3.1 Emergency Situations</p> <p>3.2 Emergency procedures</p>	<p>3.1 Identifying emergency situations</p> <p>3.2 Following Emergency procedures</p> <p>3.3 Practicing written communication skills</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. OH&S requirements	May include: 1.1. OH&S legal requirements 1.2. Enterprise OH&S policies, procedures and programs
2. Work in carried out in accordance with regulations.	May include: 2.1. Relevant regulations regarding food processing and food safety regulations 2.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3. Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3. Hygiene and sanitation requirements	May include 3.1. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2. Requirements set out by Bureau of Food and Drugs 3.3. Workplace requirements
4. Workplace requirements	May include 4.1. Work instructions 4.2. Standard operating procedures 4.3. OH&S requirements 4.4. Quality assurance requirements 4.5. Equipment manufacturers' advice 4.6. Material Safety Data Sheets 4.7. Codes of Practice and related advice
5. Identification and control of hazards	May include: 5.1. Procedures are available that outline appropriate response to environmental incidents, accidents and emergencies 5.2. At this level identification and control of environmental hazards relates to own work. Corrective action typically involves recognizing any event which occurs as part of the work process and presents an unacceptable environmental risk or outcome, taking corrective action within level of responsibility, and/or reporting to the appropriate person in the work area 5.3. Work responsibilities may involve handling of hazardous waste 5.4. An environmental hazard is any activity, product or service that has the potential to affect the environment. This may also be referred to as an environmental aspect 5.5. An environmental risk is the likelihood that the hazard can cause harm to the environment



	<p>5.6. A control measure is a method or procedure used to prevent or minimize environmental risks</p> <p>5.7. Responsibility for identifying and controlling environmental risks relates to immediate work responsibilities</p> <p>5.8. Participating in improvement may involve participation in structured improvement programs, one-off projects and day-to-day problem solving and consultative groups</p>
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## EVIDENCE GUIDE

1. Critical aspects of Competency	<p>Assessment requires evidences that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Accessed and apply workplace information on environmental policies and procedures relating to own work</li> <li>1.2 Fitted and used appropriate personal protective clothing and equipment</li> <li>1.3 Checked own work area to identify environmental hazards</li> <li>1.4 Reported hazards according to workplace procedure in a clear and timely manner</li> <li>1.5 Followed work procedures to control or minimize environmental risk. This may include monitoring parameters set for environmental aspects such as airborne particulate, noise, and water quality. It may also include demonstrating use of emergency equipment according to work role requirements</li> <li>1.6 Recorded environmental information as required by the environmental management program</li> <li>1.7 Participated in processes to raise issues and suggestions to improve environmental issues management. This requires appropriate communication skills to structure and present information and interact with others</li> <li>1.8 Followed procedures to collect, deposit, recycle and/or dispose of waste in own work area</li> <li>1.9 Followed procedures to respond to environmental emergencies such as spills and emissions. This may include following procedures to alert the appropriate emergency services</li> <li>1.10 Maintained housekeeping standards in work area</li> </ul>
2. Resource Implication	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Workplace location and access to workplace policies</li> <li>2.2 Materials relevant to the proposed activity and tasks</li> </ul>
3. Methods of Assessment	<p>Competency in this unit must be assessed using at least two (2) of the following methods:</p> <ul style="list-style-type: none"> <li>3.1 A combination of direct observation and oral questioning</li> <li>3.2 Written report</li> <li>3.3 Written Test</li> <li>3.4 Portfolio</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1. Assessment should occur on the job or in a simulated workplace</li> </ul>

## CORE COMPETENCIES

**UNIT OF COMPETENCY : FERMENT BEANS**

**UNIT CODE : AB-PFB0102900751301**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare tools, equipment and materials and process the beans for fermentation.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare tools, equipment and materials	1.1 <b><i>Tools, Equipment and materials</i></b> are checked for cleanliness and completeness based on company policy. 1.2 Beans to be fermented are put into box based on <b><i>company policy</i></b> 1.3 Tools, Equipment and materials prepared in <b><i>good condition</i></b> based on company policy.	1.1 Identification of Tools, Equipment and Materials used in fermentation 1.2 Uses and functions of tools, equipment and materials. 1.3 Calibration of weighing scales	1.1 Identifying tools and materials. 1.2 Describing the uses and functions of tools and materials. 1.3 Calibrating weighing scales.
2. Process the Beans	2.1. Pods are weighed before fermentation based on company policy. 2.2. Beans are weighed before fermentation based on company procedure. 2.3. Pods are broken crosswised based on company procedure. 2.4. Beans are removed from the broken pods based on	2.1. Classification of cacao varieties. 2.2. Interpretation of weight reading. 2.3. Importance of breaking the pods. 2.4. Types of breaking the pods. 2.5. Definition and importance of fermentation	2.1. Classifying cacao varieties. 2.2. Reading the weighing scale. 2.3. Explaining the importance of breaking the pods. 2.4. Identifying breaking the pods. 2.5. Defining and explaining the importance of the

	<p>company procedure.</p> <p>2.5. Beans are poured in an appropriate container based on company procedure.</p> <p>2.6. Beans poured in the fermentation box are leveled and covered with banana leaves based on company procedure.</p> <p>2.7. Poured beans are mixed every 2 days continuously for 6 days based on the <b>processing standard</b> for fermentation.</p> <p>2.8. Beans are fermented between Beans are fermented between 70° to 85° Fahrenheit</p> <p>2.9. Beans are fermented based on <b>Good Agricultural Practices (GAP)</b></p>	<p>process.</p> <p>2.6. Principles, Types and Methods of Fermentation.</p> <p>2.7. Benefits, advantages and disadvantages of Fermentation</p> <p>2.8. Types of Fermentation Boxes.</p> <p>2.9. Industry Processing Standards.</p> <p>2.10. Good Agricultural Practices (GAP).</p> <p>2.11. Occupational Safety and Health Standards (OSHS).</p> <p>2.12. Current Good Manufacturing Practices Sanitation Standard Operating Procedures (SSOP).</p> <p>2.13. Temperature Reading.</p>	<p>fermentation process.</p> <p>2.6. Explaining the principles, types and methods of fermentation.</p> <p>2.7. Explaining the benefits, advantages and disadvantages of Fermentation</p> <p>2.8. Identification of types of fermentation boxes.</p> <p>2.10. Practicing industry processing standards.</p> <p>2.11. Practicing GAP, OSHS, SSOP</p> <p>2.12. Testing fermented beans.</p> <p>2.13. Reading temperature</p> <p>2.14. Identifying types of PPE appropriately.</p>
3. Evaluate the beans	<p>3.1. Fermented Beans are evaluated using <b>sensory testing</b>.</p> <p>3.2. Bean extract is separated and stored for wine and vinegar production based on processing standard.</p> <p>3.3. Appropriate <b>personal protective equipment (PPE)</b></p>	<p>3.1. Types of Sensory Testing.</p> <p>3.2. Types of PPE</p> <p>3.3. Good Agricultural Practices (GAP).</p> <p>3.4. Occupational Safety and Health Standards (OSHS).</p> <p>3.5. Current Good</p>	<p>3.1. Applying sensory testing</p> <p>3.2. Identifying types of PPE appropriately.</p> <p>3.3. Practicing GAP, OSHS, SSOP</p>

	<p>are used to break pods based on OSH.</p> <p>3.4. Good sanitation practices are observed based on <b><i>Occupational Safety and Health Standards (OSHS</i></b></p>	<p>Manufacturing Practices Sanitation Standard Operating Procedures (SSOP)</p>	
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, equipment and materials	May include: <ol style="list-style-type: none"> <li>1.1. Bolo (with stopper)</li> <li>1.2. Gloves</li> <li>1.3. Sorting Box/Basket</li> <li>1.4. Fermentation Box</li> <li>1.5. Weighing Scale</li> <li>1.6. Thermometer</li> <li>1.7. Chopping board (2 inches thick)</li> <li>1.8. Banana Leaves</li> <li>1.9. Cacao Pods</li> <li>1.10. Cacao Beans</li> <li>1.11. Basin</li> <li>1.12. Pail</li> <li>1.13. Cloth (to cover the fermentation box)</li> </ol>
2. Company policy	May include: <ol style="list-style-type: none"> <li>2.1 All materials, tools and equipment to be used must be checked before and after use.</li> <li>2.2 All materials, tools and equipment to be used must be cleaned, sanitized and stored accordingly before and after use.</li> <li>2.3 Process being done must be observed by the processor.</li> <li>2.4 Required fermentation procedure must be observed.</li> <li>2.5 Appropriate PPE must be used.</li> </ol>
3. Good condition	May include: <ol style="list-style-type: none"> <li>3.1 Functional</li> <li>3.2 Clean and dry</li> <li>3.3 Sanitized</li> <li>3.4 Calibrated weighing scale</li> <li>3.5 No deformities (tools)</li> <li>3.6 Not rotten (pods, beans)</li> <li>3.7 Fresh banana leaves</li> </ol>
4. Processing standard	May include: <ol style="list-style-type: none"> <li>4.1. Required Fermentation period of 6-7 days must be observed.</li> <li>4.2. Poured beans are mixed every 2 days continuously for 6 days.</li> <li>4.3. Beans poured in the fermentation box are leveled and covered with banana leaves.</li> <li>4.4. Beans fermented are fermented based on Good Agricultural Practices (GAP).</li> </ol>

<b>VARIABLE</b>	<b>RANGE</b>
5. Good Agricultural Practices (GAP)	<p>May include:</p> <p>5.1 Chemicals like insecticides, pesticides, fertilizers, gasoline, oil and corresponding tools/equipment must not be within the fermentation area.</p> <p>5.2 Regular cleaning and sanitation of the fermentation area.</p> <p>5.3 No stray animals within 10 meters of the fermentation area.</p>
6. Sensory testing	<p>May include:</p> <p>6.1. Visual (color and appearance)</p> <p>6.2. Smell (aroma)</p> <p>6.3. Flavor</p>
7. Personal Protective equipment (PPE)	<p>May include:</p> <p>7.1. Mask (mouth covered)</p> <p>7.2. Apron</p> <p>7.3. Gloves</p> <p>7.4. Boots/Closed Shoes</p> <p>7.5. Hairnet</p> <p>7.6. Long Sleeves</p>
8. Occupational Safety and Health Standards (OSHS)	<p>May include:</p> <p>8.1. Resources needed for removing hazard effectively</p> <p>8.2. Resources needed for substitution or replacement</p> <p>8.3. Proper waste disposal should be practiced.</p> <p>8.4. Personal Protective equipment</p>

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools, equipment and materials 1.2 Processed the beans 1.3 Evaluated the beans
2. Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Not rotten Cacao pods and beans 2.3 Equipment, tools and materials to prepare and to process cacao beans by fermentation. 2.4 Manuals and references
3. Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4. Context of Assessment	4.1. Competency maybe assessed in actual workplace.



**UNIT OF COMPETENCY** : **DRY THE BEANS**

**UNIT CODE** : **AB-PFB0102900751302**

**UNIT DESCRIPTOR** : This unit deals with the knowledge, skills and attitudes required to prepare tools, equipment and materials and drain the beans. It includes the evaluation of the drained fermented beans.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare tools, equipment and materials	1.1 <b>Tools, Equipment and materials</b> are checked for cleanliness and completeness based on <b>company policy</b> . 1.2 Beans are washed to remove mucilage and unfilled beans based on processing standards. 1.3 Tools, Equipment and materials prepared in good condition based on company policy.	1.1 Identification of Tools, Equipment and Materials used in fermentation 1.2 Procedure in washing and removing the beans. 1.3 Uses and functions of tools, equipment and materials.	1.1 Washing the beans following the required procedure. 1.2 Identifying tools and materials. 1.3 Describing the uses and functions of tools, equipment and materials.
2. Drain the beans	2.1 Beans are drained at least 30 minutes based on company standard. 2.2 Drained beans are spread in the drying bed based on <b>processing standards</b> . 2.3 Drained beans are mixed 2-3 times a day within 3-4	2.1 Importance of draining the fermented beans. 2.2 Drying and dehydration procedures and techniques. 2.3 Food handling practices on drying. 2.4 Industry Processing	2.1 Explaining the importance of draining the fermented beans. 2.2 Explaining drying and dehydration procedures and techniques. 2.3 Observing food handling practices for drying. 2.4 Applying industry

ELEMENT	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	days based on processing standards.	standard.	processing standards.
3. Evaluate the beans for moisture content	3.1. Beans are allowed to cool before testing based on required temperature. 3.2. Fermented Beans are evaluated using <b><i>sensory testing.</i></b> 3.3. Appropriate <b><i>personal protective equipment (PPE)</i></b> is used to dry pods based on OSH. 3.4. Good sanitation practices are observed based on <b><i>Occupational Safety and Health Standards (OSHS).</i></b>	3.1. Cooling temperature 3.2. Types of Sensory Testing. 3.3. Types of PPE 3.4. Good sanitation practices	3.1. Reading temperature 3.2. Sensory testing of drained beans of drained beans 3.3. Observing good sanitation practices

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, Equipment and materials	May include: 1.1. Basin 1.2. Strainer 1.3. Drying Bed 1.4. Pail 1.5. Clean Water (not contaminated) 1.6. Weighed Fermented Beans (for documentation purposes) 1.7. Weighing Scale
2. Company policy	May include: 2.1. All materials, tools and equipment to be used must be checked before and after use. 2.2. All materials, tools and equipment to be used must be cleaned, sanitized and stored accordingly before and after use. 2.3. The processes being done must be observed by the processor. 2.4. Required drying procedure must be observed. 2.5. Appropriate PPE must be used.
3. Processing standard	May include: 3.1. Beans are drained at least 30 minutes 3.2. Beans are washed to remove the mucilage and unfilled beans 3.3. Drained beans are spread in the drying bed 3.4. Drained beans are mixed 2-3 times a day within a drying period of 3-4 days. 3.5. Dried beans are evaluated using sensory testing. 3.6. Beans are dried based on Good Agricultural Practices (GAP).
4. Sensory testing	May include: 4.1. Visual (color and appearance) 4.2. Smell (aroma)
5. Personal protective equipment (PPE)	May include: 5.1. Mask (mouth covered) 5.2. Apron 5.3. Gloves 5.4. Boots/Closed Shoes 5.5. Hairnet 5.6. Long Sleeves 5.7. Long pants

<p>6. Occupational Safety and Health Standards (OSHS)</p>	<p>May include:</p> <ul style="list-style-type: none"> <li>6.1 Resources needed for removing hazard effectively</li> <li>6.2 Resources needed for substitution or replacement</li> <li>6.3 Proper waste disposal should be practiced.</li> <li>6.4 Personal Protective equipment</li> </ul>
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## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared tools, equipment and materials</li> <li>1.2 Drained the beans</li> <li>1.3 Evaluated the beans for moisture content</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1. Work Area/Station</li> <li>2.2. Dried Beans</li> <li>2.3. Tools, equipment and materials to prepare and to process beans by drying.</li> <li>2.4. Manuals and references</li> </ul>
3. Methods of Assessment	<p>Competency in this unit must be assessed using at least two (2) of the following methods:</p> <ul style="list-style-type: none"> <li>3.1 Written Test</li> <li>3.2 Demonstration with oral questioning</li> <li>3.3 Direct observation with oral questioning</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1. Competency maybe assessed in actual workplace</li> </ul>

**UNIT OF COMPETENCY : SORT BEANS**

**UNIT CODE : AB-PFB0102900751303**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare tools and materials and classify beans. It includes removal of foreign objects in the sorted beans.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare Tools and Materials	1.1 <b>Tools and Materials</b> are checked for cleanliness and completeness based on company policy. 1.2 Tools and materials prepared in good condition based on company policy. 1.3 Appropriate <b>Personal Protective Equipment (PPE)</b> are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of Tools and Materials used in sorting beans. 1.2 Uses and functions of tools and materials.	1.1. Identifying tools and materials. 1.2. Describing the uses and functions of tools and materials
2. Classify Beans	2.1 Dried beans are removed and transferred into a container based on processing standards. 2.2 Beans are classified according to various <b>categories</b> . 2.3 No <b>foreign objects</b> are found	2.1 Importance of sorting the dried beans. 2.2 Sorting methods 2.3 Various categories of beans. 2.4 Types of foreign objects in sorted beans.	2.1 Explaining the importance of sorting the dried beans. 2.2 Practicing sorting methods 2.3 Classifying categories of beans. 2.4 Identifying types of foreign objects in sorted beans.

	<p>in the sorted beans based on processing standards.</p> <p>2.4 Good sanitation practices are observed based on <b><i>Occupational Safety and Health Standards (OSHS)</i></b>.</p>		
3. Segregate dried beans	<p>3.1. Big beans are separated from small beans according to workplace requirements.</p> <p>3.2. Beans with <b><i>defects</i></b> are removed based on workplace procedures</p> <p>3.3. Appropriate Personal Protective Equipment (PPE) are used based on Occupational Safety and Health Standards (OSHS)</p>	<p>3.1. Importance of sorting the dried beans</p> <p>3.2. Sorting methods</p> <p>3.3. Appropriate PPE</p>	<p>3.1. Explaining the importance of sorting the dried beans.</p> <p>3.2. Practicing sorting methods</p> <p>3.3. Use of appropriate PPE</p> <p>3.4. Identifying and removing beans with defects</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools and Materials	May include: 1.1 Bilao 1.2 Basket 1.3 Jute Sack 1.4 “Akgo” Strainer made of bamboo
2. Personal Protective Equipment (PPE)	May include: 2.1 Apron 2.2 Gloves 2.3 Mask (mouth guard) 2.4 Hairnet
3. Categories	May include: 3.1 Sizes 3.2 Unfilled beans 3.3 Flat beans 3.4 Broken beans 3.5 Moldy beans
4. Foreign Objects	May include: 4.1 Branches 4.2 Leaves 4.3 Stones 4.4 Plastics 4.5 Rice Husks 4.6 Insects
5. Occupational Safety and Health Standards (OSHS)	May include: 5.1 Resources needed for removing hazard effectively 5.2 Resources needed for substitution or replacement 5.3 Proper waste disposal should be practiced. 5.4 Personal Protective equipment
6. Defects	May include: 6.1 Slaty 6.2 Black 6.3 Double 6.4 Insect-damaged 6.5 Infested beans 6.6 Other extraneous materials



## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools and materials 1.2 Classified beans 1.3 Segregated dried beans
2. Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Dried Beans 2.3 Tools and materials to sort beans. 2.4 Manuals and references
3. Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4. Context of Assessment	4.1. Competency maybe assessed in actual workplace

**UNIT OF COMPETENCY : ROAST THE BEANS**

**UNIT CODE : AB-PFB0102900751304**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare tools, equipment and materials, fry the beans manually and by machine. It includes cooling of beans based on processing standards.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare Tools, Equipment and Materials	1.1 <b>Tools, Equipment and Materials</b> are checked for cleanliness and completeness based on company policy. 1.2 Tools, Equipment and Materials prepared are in good condition based on <b>company policy</b> 1.3 Appropriate PPE are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of tools, materials and equipment used in roasting 1.2 Uses and functions of tools, materials and equipment	1.1 Identifying tools, materials and equipment used in roasting 1.2 Describing the uses and functions of tools, materials and equipment
2. Fry the beans manually	2.1 Beans are fried without oil based on roasting procedures. 2.2 Beans are continually stirred until a popping sound is continuously heard. 2.3 Roasted beans are evaluated using <b>sensory testing</b> . 2.4 Appropriate PPE is used based on	2.1 Importance of Roasting Beans 2.2 Roasting Procedures 2.3 Types of sensory testing	2.1 Explaining the importance of Roasting Beans 2.2 Performing roasting following the required procedure. 2.3 Sensory Testing the roasted beans.

	<p>OSH.</p> <p>2.5 Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>		
3. Fry the beans by machine	<p>3.1 Roasting machines is set on the required time based on processing standards.</p> <p>3.2 Roasted beans are evaluated using sensory testing.</p> <p>3.3 Appropriate PPE is used based on OSH.</p> <p>3.4 Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>	<p>3.1 Importance of Roasting Beans</p> <p>3.2 Steps in operating the roasting equipment.</p> <p>3.3 Roasting Procedures</p> <p>3.4 Types of sensory testing</p>	<p>3.1 Explaining the importance of Roasting Beans</p> <p>3.2 Performing roasting following the required procedure.</p> <p>3.3 Sensory Testing the roasted beans.</p>
4. Cool the beans	<p>4.1 Fried beans are spread to the <b>required surface</b> based on company procedures.</p> <p>4.2 Fried beans are cooled after 10 minutes based on processing standards.</p> <p>4.3 Appropriate PPE is used based on OSH.</p> <p>4.4 Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>	<p>4.1 Importance of cooling the beans.</p> <p>4.2 Identification of required cooling surfaces.</p> <p>4.3 Procedure on cooling the beans</p>	<p>4.1 Explaining the importance of cooling the beans.</p> <p>4.2 Identifying the required cooling surfaces.</p> <p>4.3 Performing the procedures to cool the beans.</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, Equipment and Materials	May include: 1.1 Heavy duty Wok 1.2 Ladle 1.3 Roasting Machine 1.4 Stove/Firewood 1.5 Bilao 1.6 Table 1.7 Pot Holder 1.8 Weighing scale (before roasting)
2. Company policy	May include: 2.1 All materials, tools and equipment to be used must be checked before and after use. 2.2 All materials, tools and equipment to be used must be cleaned, sanitized and stored accordingly before and after use. 2.3 Process being done must be observed by the processor. 2.4 Required sorting procedure must be observed. 2.5 Appropriate PPE must be used.
3. Sensory testing	May include: 3.1 Visual (color and appearance) 3.2 Smell (aroma)
4. Required Surface	May include: 4.1 Table covered either with Cloth or Manila Paper 4.2 Bilao

## EVIDENCE GUIDE

1.Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools, equipment and materials 1.2 Fried the beans manually 1.3 Fried the beans by machine 1.4 Cooled the beans
2.Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Roasted Beans 2.3 Tools, Equipment, and materials to roast the beans. 2.4 Manuals and references
3.Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4.Context of Assessment	4.1.Competency maybe assessed in actual workplace

**UNIT OF COMPETENCY : CRACK AND WINNOW THE BEANS**

**UNIT CODE : AB-PFB0102900751305**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare tools, equipment and materials, break the beans and winnow the beans. It includes checking of husk fragments and evaluation of cracked beans.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare tools, equipment and materials	1.1 <b>Tools, Equipment and Materials</b> are checked for cleanliness and completeness based on company policy. 1.2 Tools, Equipment and materials prepared are in <b>good condition</b> based on company policy. 1.3 Appropriate PPE are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of Tools, Equipment and Materials used in roasting 1.2 Uses and functions of Tools, Equipment and Materials	1.1 Identifying tools, materials and equipment used in roasting 1.2 Describing the uses and functions of tools, materials and equipment
2. Break the beans	2.1 Beans are broken using a rolling pin or a stone with a smooth surface based on company standards. 2.2 Beans are broken using bean cracker-based company standards. 2.3 Appropriate	2.1 Importance of breaking the fried beans. 2.2 Procedure in breaking the fried beans. 2.3 Steps in using tools and operating equipment. 2.4 Preventive maintenance of equipment.	2.1 Explaining the importance of breaking the fried beans. 2.2 Performing the procedures in breaking the fried beans. 2.3 Using tools and equipment. 2.4 Performing preventive maintenance.

	<p><b>Personal Protective Equipment (PPE)</b> is used based on OSH.</p> <p>2.4 Good sanitation practices are observed based on Occupational Safety and Health Standard</p>		
3. Winnow the beans	<p>3.1 Husks are separated from the nibs manually or using a winnowing machine based on processing standards.</p> <p>3.2 Husks are separated from the nibs and gathered for production of <b>other by-products</b></p> <p>3.3 Nibs are visually checked for husk fragments based on processing standards.</p> <p>3.4 Cracked beans are evaluated using <b>sensory testing</b>.</p> <p>3.5 Appropriate PPE is used based on OSH.</p> <p>3.6 Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>	<p>3.1 Importance of winnowing the beans.</p> <p>3.2 Procedures in winnowing beans.</p> <p>3.3 Steps in using tools and operating equipment.</p> <p>3.4 Various by-products of husks</p> <p>3.5 Types of Sensory Testing</p>	<p>3.1 Explaining the importance of winnowing the beans.</p> <p>3.2 Performing winnowing procedures.</p> <p>3.3 Performing preventive maintenance.</p> <p>3.4 Explaining the various by-products of husks.</p> <p>3.5 Practicing of sanitary food handling.</p> <p>3.6 Sensory testing of the winnowed beans.</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1.Tools, Equipment and Materials	May include: 1.1 Roasted Beans 1.2 Rolling Pin 1.3 Cracking Machine 1.4 Bilao 1.5 Smooth surface stone 1.6 Winnowing Machine 1.7 Container 1.8 Basket
2.Good condition	May include: 2.1 Functional 2.2 Clean and dry 2.3 Sanitized 2.4 Calibrated weighing scale 2.5 No deformities (tools) 2.6 Roasted beans
3.Personal Protective Equipment (PPE)	May include: 3.1. Apron 3.2.Mask (mouth guard) 3.3.Hairnet
4.Other by-products	May include: 4.1 Tea 4.2 Air Freshener
5.Sensory testing	May include: 5.1 Visual (color and appearance) 5.2 Smell (aroma)



## EVIDENCE GUIDE

1.Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools, equipment and materials 1.2 Broke the beans 1.3 Winnow the beans
2.Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Roasted Beans 2.3 Tools, Equipment and Materials to crack and winnow the roasted beans. 2.4 Manuals and references
3.Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4.Context of Assessment	4.1.Competency maybe assessed in actual workplace.

**UNIT OF COMPETENCY : GRIND THE NIBS**

**UNIT CODE : AB-PFB0102900751306**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare tools, equipment and materials and crush the nibs. It includes gathering of cocoa solids for cocoa power production and extraction of theobroma oil or cacao butter for production of other by-products.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare Tools, Equipment and Materials	1.1 <b><i>Tools, Equipment and Materials</i></b> are checked for cleanliness and completeness based on company policy 1.2 Tools, Equipment and Materials prepared are in good condition based on company policy. 1.3 Appropriate Personal Protective Equipment (PPE) are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of Tools, Equipment and Materials used in grinding 1.2 Uses and functions of Tools, Equipment and Materials	1.1 Identifying Tools, Equipment and Materials used in grinding 1.2 Describing the uses and functions of Tools, Equipment and Materials
2. Crush the nibs	2.1 Nibs are crushed using a grinder based on processing standard 2.2 Nibs are ground 3 times to achieve a finer texture (to form tablea) based in processing standard	2.1 Importance of grinding the beans. 2.2 Parts and uses of a grinding machine 2.3 Procedures in grinding the beans. 2.4 Company standards on grinding beans.	2.1 Explaining the importance of grinding the beans. 2.2 Identifying the parts and uses of a grinding machine. 2.3 Performing the grinding procedures. 2.4 Explaining the

	<p>2.3 Theobroma oil or cacao butter is extracted for production of <b>other by-products</b></p> <p>2.4 Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>	2.5 Various by-products of butter.	<p>company standards in grinding beans</p> <p>2.5 Explaining the various by-products of butter.</p>
3. Mold tablea	<p>3.1. Unsweetened tablea are molded according to desired sizes and shapes based on company standards</p> <p>3.2. Unsweetened molded tablea is weighed according to required weight.</p> <p>3.3. Cocoa solids are gathered from the ground beans for cocoa powder production.</p> <p>3.4. Appropriate PPE is used based on OSH</p> <p>3.5. Good sanitation practices are observed based on Occupational Safety and Health Standards (OSHS).</p>	<p>3.1. Different sizes and shapes of tablea molders.</p> <p>3.2. Parts and functions of weighing scale</p> <p>3.3. Various by-products of cocoa solids</p>	<p>3.1. Identifying the different sizes and shapes of tablea molders.</p> <p>3.2. Reading weighing scale</p> <p>3.3. Explaining the various by-products of cocoa solids</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, Equipment and Materials	May include: <ul style="list-style-type: none"> <li>1.1 Nibs</li> <li>1.2 Grinding Machine</li> <li>1.3 Stainless Basin</li> <li>1.4 Container</li> <li>1.5 Spatula/Scraper</li> <li>1.6 Ladle</li> </ul>
2. Other by-products	May include: <ul style="list-style-type: none"> <li>2.1. By-products from Cocoa butter:               <ul style="list-style-type: none"> <li>2.1.1. Cosmetics</li> <li>2.1.2. Bath Soap</li> <li>2.1.3. Shampoo</li> <li>2.1.4. Massage Oil</li> </ul> </li> <li>2.2. By-products from Cocoa Solids:               <ul style="list-style-type: none"> <li>2.2.1 Cocoa Powder</li> </ul> </li> </ul>

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools, equipment and materials 1.2 Crushed the nibs 1.3 Molded tablea
2. Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Nibs 2.3 Tools, Equipment and Materials to grind the nibs. 2.4 Manuals and references
3. Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4. Context of Assessment	4.1. Competency maybe assessed in actual workplace.

**UNIT OF COMPETENCY** : **MIX THE CACAO PASTE/LIQUOR AND INGREDIENTS**

**UNIT CODE** : **AB-PFB0102900751307**

**UNIT DESCRIPTOR** : This unit deals with knowledge, skills and attitudes required to prepare tools, equipment and materials and combine cacao paste/liquor and ingredients. It includes the evaluation of the mixture.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare tools, equipment and materials	1.1 <b><i>Tools, equipment and materials</i></b> are checked for cleanliness and completeness based on company policy 1.2 Tools, equipment and materials prepared are in good condition based on company policy 1.3 Appropriate PPE are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of Tools, equipment and materials used in mixing 1.2 Uses and functions of <b><i>Tools, equipment and materials</i></b>	1.1 Identifying Tools, equipment and materials 1.2 Describing the uses and functions of Tools, equipment and materials
2. Combine cacao paste/liquor and ingredients	2.1 Mixture is made up of 70 percent cacao paste and 30 percent <b><i>other ingredients</i></b> based on processing standards. 2.2 Mixture is melted over low heat until smooth and creamy based on processing standards.	2.1 Importance of mixing cacao paste/liquor and ingredients. 2.2 Procedures in mixing cacao paste/liquor and ingredients. 2.3 Ratio and proportions for mixture.	2.1 Explaining importance of mixing cacao paste/liquor and ingredients. 2.2 Performing procedures in mixing cacao paste/liquor and ingredients. 2.3 Applying ratio and proportion for mixture.

	2.3 Sweetened tablea are molded according to sizes and shapes based on company standards.		
3. Evaluate cacao paste/liquor	3.1. Mixture is evaluated using <b>sensory testing</b> . 3.2. Appropriate <b>Personal Protective Equipment (PPE)</b> is used based on Occupational Safety and Health Standards (OSHS). 3.3. Good sanitation practices are observed based on OSH.	3.1. Types of sensory testing 3.2. Appropriate PPE 3.3. Good Sanitation Practices	3.1. Sensory testing of mixture 3.2. Use appropriate PPE 3.3. Observing good sanitation practices

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, equipment and materials	May include: 1.1 Cacao Paste/Liquor 1.2 Mixer 1.3 Mixing Bowl 1.4 Spatula/scrapper 1.5 Ladle 1.6 Measuring cups 1.7 Weighing scale 1.8 Molders 1.9 Stainless Trays 1.10 Wax paper 1.11 Muscovado/Sugar 1.12 Nuts (peanuts, almonds, chestnuts. walnuts) 1.13 Chili powder 1.14 Powdered milk
2. Other Ingredients	May include: 2.1 Muscovado/Sugar 2.2 Nuts (peanuts, almonds, chestnuts. walnuts) 2.3 Chili powder 2.4 Powdered milk
3. Sensory testing	May include: 3.1 Visual (color and appearance) 3.2 Smell (aroma) 3.3 Flavor
4. Personal Protective Equipment (PPE)	May include: 4.1 Apron 4.2 Mask (mouth guard) 4.3 Hairnet



## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared tools, equipment and materials. 1.2 Combined cacao paste/liquor and ingredients 1.3 Evaluated cacao paste/liquor
2. Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Cacao Paste/Liquor 2.3 Other Ingredients 2.4 Tools, Equipment and Materials to mix the cacao paste/liquor 2.5 Manuals and references
3. Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4. Context of Assessment	4.1. Competency maybe assessed in actual workplace

**UNIT OF COMPETENCY : PACKAGE THE CACAO PRODUCT**

**UNIT CODE : AB-PFB0102900751308**

**UNIT DESCRIPTOR :** This unit deals with the knowledge, skills and attitudes required to prepare materials, tools, materials and utensils, sort cacao tablets for secondary packaging, wrap the product for primary packaging and store finished product.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Prepare materials and tools.	1.1 <b><i>Tools, Materials, and equipment</i></b> are checked for cleanliness and completeness based on company policy. 1.2 Tools, Materials, and equipment prepared are in good condition based on company policy 1.3 Appropriate Personal Protective Equipment (PPE) are used based on Occupational Safety and Health Standards (OSHS)	1.1 Identification of Tools, and materials used in mixing 1.2 Uses and functions of <i>Tools, and materials</i>	1.1 Identifying Tools, and materials 1.2 Describing the uses and functions of Tools, and materials
2. Sort cacao tablets for secondary packaging	2.1. Cacao is arranged according to quantity based on company procedure. 2.2. Unsweetened tablea are weighed according to desired weight based on company	2.1 Importance of product packaging. 2.2 Different packing materials. 2.3 Packing techniques and methods for finished products. 2.4 Parts and	2.1 Explaining importance of product packaging. 2.2 Using appropriate packing materials. 2.3 Practicing packing techniques and methods for

	<p>procedure.</p> <p>2.3. <b>Deformed tablea</b> are segregated and removed based on company procedures.</p>	<p>functions of weighing scale.</p> <p>2.5 Weight requirements of unsweetened tablea.</p> <p>2.6 Types of deformed tablea.</p> <p>2.7 Inspection of products.</p> <p>2.8 Company procedure and policies in packaging.</p>	<p>finished products.</p> <p>2.4 Reading weighing scale.</p> <p>2.5 Weighing unsweetened tablea following the required weight.</p> <p>2.6 Identifying types of deformed tablea.</p> <p>2.7 Inspecting products.</p> <p>2.8 Observing company procedure and policies in packaging.</p>
3. Wrap the product for primary packaging	<p>3.1 Expiration date is stamped on the packaging material.</p> <p>3.2 Products are wrapped on appropriate packaging materials.</p> <p>3.3 Products are appropriately labelled based on company standards.</p> <p>3.4 Wrapped products are stored in a box based on company standards.</p> <p>3.5 Products are arranged to fit the appropriate box.</p> <p>3.6 <b>Finished product</b> inspection is performed following quality product control parameters.</p> <p>3.7 Sanitation procedure is performed based</p>	<p>3.1 Record of daily production reports.</p> <p>3.2 Company standards of labelling products. Labelling methods and labeling information</p> <p>3.3 Types of packaging materials.</p> <p>3.4 Types of boxes used in storing wrapped products.</p> <p>3.5 Proper arrangement of products per required box.</p> <p>3.6 Inspection of finished products.</p> <p>3.7 Food safety principles and practices for packing activities.</p> <p>3.8 Food handling</p>	<p>3.1 Recording and reporting of daily packaging outputs.</p> <p>3.2 Labelling of packed products.</p> <p>3.3 Identifying appropriate packing materials per product.</p> <p>3.4 Identifying the appropriate boxes for storing.</p> <p>3.5 Arranging products properly per required box.</p> <p>3.6 Inspecting finished products.</p> <p>3.7 Practicing sanitation on packing activities</p>

	<p>on Current Good Manufacturing Practice (CGMP)</p> <p>3.8 Food safety practices are employed according to Hazard Analysis &amp; Critical Control Point (HACCP) and CGMP</p>	practices for packing activities	
4. Store finished product	<p>4.1 Packed finished products are stored according to required storage conditions.</p> <p>4.2 <b>Production data</b> is reflected in the stored products based on company policy and procedure</p> <p>4.3 Tools, materials and equipment are cleaned and stored based on workplace procedure and operation manuals</p> <p>4.4 Proper disposal of wastes are practiced according to environmental rules and regulations.</p>	<p>4.1 Importance of storing finished products.</p> <p>4.2 Storing procedures.</p> <p>4.3 Company policy and procedure in indicating production data.</p> <p>4.4 Workplace procedure in cleaning and storing tools, materials and equipment.</p> <p>4.5 Environmental rules and regulations in disposing waste materials.</p>	<p>4.1 Explaining importance of storing finished products.</p> <p>4.2 Performing storing procedures.</p> <p>4.3 Observing company policy and procedure in indicating production data.</p> <p>4.4 Cleaning and storing of tools, materials and equipment following company procedure.</p> <p>4.5 Disposing waste materials following environmental rules and regulations.</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, Materials and Equipment	May include: 1.1 Tablea 1.2 Table 1.3 Wax paper 1.4 Wrapping paper 1.5 Cling wrap 1.6 Scotch tape and double adhesive tape 1.7 Scissors 1.8 Ribbons 1.9 Japanese Paper 1.10 Labeling Machine 1.11 Packaging Labels 1.12 Stamping Machine 1.13 Paste 1.14 String 1.15 Sealer 1.16 Container 1.17 Gift Boxes 1.18 Plastic/Cellophane 1.19 Sticker Paper 1.20 Computer/Laptop 1.21 Storage boxes 1.22 Palette
2. Deformed Tablea	May include: 2.1 Cracked tablea 2.2 Chipped tablea
3. Finished Products	May include: 3.1 Sweetened tablea 3.2 Unsweetened tablea
4. Production data	May include: 3.1 Manufacturing date 3.2 Expiry Date 3.3 Lot Number/Batch Number 3.4 Quantity per box

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Prepared materials and tools 1.2 Sorted cacao tablets for secondary packaging 1.3 Wrapped the product for primary packaging 1.4 Stored finished product
2. Resource Implications	The following resources should be provided: 2.1 Work Area/Station 2.2 Molded tablea 2.3 Equipment, tools and materials to wrap, pack and store tablea. 2.4 Manuals and references
3. Methods of Assessment	Competency in this unit must be assessed using at least two (2) of the following methods: 3.1 Written Test 3.2 Demonstration with oral questioning 3.3 Direct observation with oral questioning
4. Context of Assessment	4.1. Competency maybe assessed in actual workplace.

## Glossary of Terms

<b>Cacao Pod</b>	The fruits produced by the cacao plant. These pods contain cacao beans, which are used to make chocolate. The pods are ovoid in shape, ripening to yellow or orange. Each pod contains 20 to 60 seeds (cacao beans) embedded in white pulp.
<b>Cacao Bean</b>	A dried, fermented, fatty seed of the fruit of a South American evergreen tree ( <i>Theobroma cacao</i> of the family Sterculiaceae) that is used in making cocoa, chocolate, and cocoa butter.
<b>Cacao Nib</b>	A piece of a cacao bean that has been roasted, dried, dehusked, and degermed.
<b>Cacao Butter</b>	A pale vegetable fat with a low melting point obtained from cacao beans.
<b>Theobroma Oil</b>	A pale-yellow, edible fat extracted from the cocoa bean. It is used to make chocolate, as well as some ointments, toiletries, and pharmaceuticals.
<b>Cacao pulp/mucilage</b>	A white, sticky and fleshy substance that surrounds the cacao beans inside the pod.
<b>Cacao Husk</b>	The fibrous shells surrounding cacao beans, separated from the cacao nibs during production.
<b>Fermentation</b>	The process wherein the harvested cacao beans, which are the seeds of the cacao fruit, are placed in piles or wooden containers and allowed to ferment for typically five to seven days.
<b>Roasting</b>	The process that involves heating the cocoa beans to unlock their flavour potential and prepare them for the subsequent stages of chocolate manufacturing.
<b>Winnowing</b>	The process to separate the lighter cocoa bean shell fragments from the cocoa.
<b>Grinding</b>	The process of converting the cocoa nibs into a fine powder and then into smooth chocolate.
<b>Molding</b>	Process where liquid chocolate is poured into molds to create various shapes and designs.
<b>Cacao paste/ liquor</b>	The natural product of grinding up cacao beans into semi-liquid state.
<b>Tablet</b>	Refers to roasted, ground cacao beans molded into round tablets.

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