COMPETENCY STANDARDS

CACAO BEAN GRADING LEVEL II

PROCESSES FOOD AND BEVERAGE SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

TESDA Complex East Service Road, South Luzon Expressway (SLEX), Fort Bonifacio, Taguig City

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

Each CS has two 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.

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TRAINING REGULATIONS FOR
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SECTION 1 CACAO BEAN GRADING LEVEL II QUALIFICATION

The **CACAO BEAN GRADING LEVEL II** Qualification consists of competencies that a person must have in order to harvest cacao pod, produce fermented cacao beans, grade and package cacao beans. Competencies focus on cacao bean grading, that is from harvesting cacao pods for fermentation, drying, sorting, storing, grading and packaging of beans.

This Qualification is packaged from the competency map of the Processed Food and Beverage Sector as shown in Annex A.

The Units of Competency comprising this Qualification include the following:

CODE NO.	BASIC COMPETENCIES
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

CODE NO.	COMMON COMPETENCIES
PFB751210	Apply food safety and sanitation
PFB751211	Use standard measuring devices/instruments
PFB751212	Perform mathematical computation
PFB751213	Implement good manufacturing practice procedure
PFB751214	Implement environmental policies and procedures

CODE NO.	CORE COMPETENCIES
AB-FOP1602020751301	Harvest Cacao Pods
AB-FOP1602020751302	Produce Fermented Cacao Beans
AB-FOP1602020751303	Grade and Package Cacao Beans

A person who has achieved this Qualification is competent to be:

❏ Cacao Bean Grader

SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **CACAO BEAN GRADING 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 *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from *appropriate sources*. 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information. 1.3 Appropriate *medium* 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 the location and *storage* of information are used.	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 providing basic information in response to workplace requirements

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	1.7 Personal interaction is carried out clearly and concisely.		1.8 Basic business writing skills 1.9 Interpersonal skills in the workplace 1.10 Active-listening skills
2. Perform duties following workplace instructions	2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines. 2.2 Routine written instruction are followed based on established procedures. 2.3 Feedback is given to workplace supervisor based instructions/ information received. 2.4 ***Workplace interactions*** are conducted in a courteous manner. 2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from ***appropriate sources***. 2.6 Meetings outcomes are interpreted and implemented.	2.1 Effective verbal and non-verbal communication 2.2 Different modes of communication 2.3 Medium of communication in the workplace 2.4 Organizational/ Workplace policies 2.5 Communication procedures and systems 2.6 Lines of communication 2.7 Technology relevant to the enterprise and the individual's work responsibilities 2.8 Effective questioning techniques (clarifying and probing) 2.9 Workplace etiquette	2.1 Following simple spoken instructions 2.2 Performing routine workplace duties following simple written notices 2.3 Participating in workplace meetings and discussions 2.4 Completing work- related documents 2.5 Estimating, calculating and recording routine workplace measures 2.6 Relating/ Responding to people of various levels in the workplace 2.7 Gathering and providing information in response to workplace requirements 2.8 Basic questioning/ querying 2.9 Skills in reading for information 2.10 Skills in locating
3. Complete relevant work-related documents	3.1 Range of ***forms*** relating to conditions of employment are completed	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication	3.1 Completing work-related documents 3.2 Applying operations of

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	accurately and legibly. 3.2 Workplace data is recorded on standard workplace forms and documents. 3.3 Errors in recording information on forms/ documents are identified and acted upon. 3.4 Reporting requirements to supervisor are completed according to organizational guidelines.	3.3 Workplace forms and documents 3.4 Organizational/ Workplace policies 3.5 Communication procedures and systems 3.6 Technology relevant to the enterprise and the individual's work responsibilities	addition, subtraction, division and multiplication 3.3 Gathering and providing information in response to workplace requirements 3.4 Effective record keeping skills

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RANGE OF VARIABLES

VARIABLE	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, telephone message forms, safety reports

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EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Prepared written communication following standard format of the organization 1.2 Accessed information using workplace communication equipment/systems 1.3 Made use of relevant terms as an aid to transfer information effectively 1.4 Conveyed information effectively adopting formal or informal communication
2. Resource Implications	**The following resources should be provided:** 2.1 Fax machine 2.2 Telephone 2.3 Notebook 2.4 Writing materials 2.5 Computer with Internet connection
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration with oral questioning 3.2 Interview 3.3 Written test 3.4 Third-party report
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or through an accredited institution

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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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Describe team role and scope	1.1 The *role and objective of the team* 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 *sources of information*. 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
3. Work as a team member	3.1 Effective and appropriate forms of communications are used and interactions undertaken with	3.1 Communication Process 3.2 Workplace communication protocol	3.1 Communicating appropriately, consistent with the culture of the workplace

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	team members based on company practices. 3.2 Effective and appropriate contributions made to complement team activities and objectives, based on *workplace context*. 3.3 Protocols in reporting are observed based on standard company practices. 3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives.	3.3 Team planning and decision making 3.4 Team thinking 3.5 Team roles 3.6 Process of team development 3.7 Workplace context	3.2 Interacting effectively with others 3.3 Deciding as an individual and as a group using group think strategies and techniques 3.4 Contributing to Resolution of issues and concerns

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 judgment 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

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EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Worked in a team to complete workplace activity 1.2 Worked effectively with others 1.3 Conveyed information in written or oral form 1.4 Selected and used appropriate workplace language 1.5 Followed designated work plan for the job
2. Resource Implications	**The following resources should be provided:** 2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place 2.2 Materials relevant to the proposed activity or tasks
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Role play involving the participation of individual member to the attainment of organizational goal 3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork 3.3 Socio-drama and socio-metric methods 3.4 Sensitivity techniques 3.5 Written Test
4. Context for Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while task are being undertaken whether individually or in group

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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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify routine problems	1.1 Routine **problems or procedural problem** 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	2.1 Potential solutions to problem are identified. 2.2 Recommendations about possible solutions are developed, **documented**, ranked and presented to	2.1 Current industry hardware and software products and services 2.2 Industry service and helpdesk practices, processes and procedures	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk practices,

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	appropriate person for decision.	2.3 Operating systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions. 2.6 Root cause analysis	processes and procedures. 2.3 Identifying operating system 2.4 Identifying current industry standard diagnostic tools 2.5 Describing common malfunctions and resolutions. 2.6 Determining the root cause of a routine malfunction
3. Recommend solutions to problems	3.1 Implementation of solutions are **planned**. 3.2 Evaluation of implemented solutions are planned. 3.3 Recommended solutions are documented and submit to appropriate person for confirmation.	3.1 Standard procedures 3.2 Documentation produce	3.1 Producing documentation that recommends solutions to problems 3.2 Following established procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Problems/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 incidents 1.5 Work-related problems outside of own work area
2. Appropriate person	May include: 2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Document	May include: 3.1 Electronic mail 3.2 Briefing notes 3.3 Written report 3.4 Evaluation report
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

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EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Determined the root cause of a routine problem 1.2 Identified solutions to procedural problems. 1.3 Produced documentation that recommends solutions to problems. 1.4 Followed established procedures. 1.5 Referred unresolved problems to support persons.
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	**Competency in this unit may be assessed through:** 3.1 Case Formulation 3.2 Life Narrative Inquiry 3.3 Standardized test 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.
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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Manage one's emotion	1.1 **Self-management strategies** 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 **unpleasant situation i**n 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
2. Develop reflective practice	2.1 Personal strengths and achievements, based on self-assessment strategies and teacher feedback are contemplated. 2.2 Progress when seeking and	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description,	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored. 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.	Feelings, Evaluation, Analysis, Conclusion, and Action plan)	limitations, likes/ dislikes; through showing of self-confidence 2.3 Demonstrating self-acceptance and being able to accept challenges
3. Boost self-confidence and develop self-regulation	3.1 Efforts for continuous self-improvement are demonstrated. 3.2 Counter-productive tendencies at work are eliminated. 3.3 Positive outlook in life are maintained.	3.1 Four components of self-regulation based on Self-Regulation Theory (SRT) 3.2 Personality development concepts 3.3 Self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis, psycho-spiritual concepts)	3.1 Performing effective communication skills – reading, writing, conversing skills 3.2 Showing affective skills – flexibility, adaptability, etc. 3.3 Self-assessment for determining one's strengths and weaknesses

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RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategies	May include: 1.1 Seeking assistance in the form of job coaching or mentoring 1.2 Continuing dialogue to tackle workplace grievances 1.3 Collective negotiation/bargaining for better working conditions 1.4 Share your goals to improve with a trusted co-worker or supervisor 1.5 Make a negativity log of every instance when you catch yourself complaining to others 1.6 Make lists and schedules for necessary activities
2. Unpleasant situation	May include: 2.1 Job burn-out 2.2 Drug dependence 2.3 Sulking

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

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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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify opportunities to do things better	1.1 *Opportunities for improvement* are identified proactively in own area of work. 1.2 *Information* are 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 *People who could provide input* 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 *Critical inquiry method* is used to discuss and develop ideas with others.	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 through small

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
			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 *Reporting skills* 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

VARIABLE	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 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

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VARIABLE	RANGE
	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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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
2. Assess gathered data/ information	2.1 Validity of data/ information is assessed.	2.1 Business mathematics and statistics	2.1 Computing business mathematics and statistics

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.2 Analysis techniques are applied to assess data/ information. 2.3 Trends and anomalies are identified. 2.4 ***Data analysis techniques*** and procedures are documented. 2.5 Recommendations are made on areas of possible improvement.	2.2 Data analysis techniques/ procedures 2.3 Reporting requirements to a range of audiences 2.4 Legislation, policy and procedures relating to the conduct of evaluations 2.5 Organizational values, ethics and codes of conduct	2.2 Describing data analysis techniques/ procedures 2.3 Reporting requirements to a range of audiences 2.4 Stating legislation, policy and procedures relating to the conduct of evaluations 2.5 Stating organizational values, ethics and codes of conduct
3. Record and present information	3.1 Studied data/ information are recorded. 3.2 Recommendations are analyzed for action to ensure they are compatible with the project's scope and terms of reference. 3.3 Interim and final reports are analyzed and outcomes are compared to the criteria established at the outset. 3.4 Findings are presented to stakeholders.	3.1 Data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Legislation, policy and procedures relating to the conduct of evaluations 3.4 Organizational values, ethics and codes of conduct	3.1 Describing data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Stating legislation, policy and procedures relating to the conduct of evaluations 3.4 Stating organizational values, ethics and codes of conduct practices

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RANGE OF VARIABLES

VARIABLE	RANGE
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	**Assessment requires evidence that the candidate:** 1.1 Determine data / information 1.2 Studied and applied gathered data/information 1.3 Recorded and studied data/information 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.
2. Resource Implications	**Specific resources for assessment** 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.
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Written Test 3.2 Interview 3.3 Portfolio 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.
4. Context for Assessment	4.1 In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

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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.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify OSH compliance requirements	1.1 Relevant *OSH requirements, regulations, policies and procedures* are identified in accordance with workplace policies and procedures. 1.2 OSH activity non-conformities are conveyed to *appropriate personnel*. 1.3 *OSH preventive and control requirements* 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
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures. 2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures 2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills 2.6 Material, tool and equipment identification skills

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.		
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 **Non-compliance work activities** 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 Communication skills 3.2 Interpersonal 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
4. Non OSH-Compliance Work Activities	May include non-compliance or observance of the following safety measures: 4.1 Violations that may lead to serious physical harm or death 4.2 Fall Protection 4.3 Hazard Communication 4.4 Respiratory Protection 4.5 Power Industrial Trucks 4.6 Lockout/Tag-out 4.7 Working at heights (use of ladder, scaffolding) 4.8 Electrical Wiring Methods 4.9 Machine Guarding 4.10 Electrical General Requirements 4.11 Asbestos work requirements 4.12 Excavations work requirements

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Convey OSH work non-conformities to appropriate personnel 1.2 Identify OSH preventive and control requirements in accordance with OSH work policies and procedures 1.3 Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures 1.4 Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards 1.5 Execute work activities in accordance with OSH work standards 1.6 Report OSH activity non-compliance work activities to appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Facilities, materials tools and equipment necessary for the activity
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Observation/Demonstration with oral questioning 3.2 Third party report
4. Context for Assessment	4.1 Competency may be assessed in the work place or in a simulated work place setting

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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 inefficient and ineffective environmental practices.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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 ***environmental work procedures***.	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 ineffectiveness are validated thru established	2.1 Causes of environmental inefficiencies and ineffective-ness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	environmental procedures.		
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are reported to *appropriate personnel*. 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 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	**Assessment requires evidence that the candidate:** 1.1 Measured required resource utilization in the workplace using appropriate techniques 1.2 Recorded data in accordance with workplace protocol 1.3 Identified causes of inefficiency and/or ineffectiveness through deductive reasoning 1.4 Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures 1.5 Report efficiency and effectives of resource utilization to appropriate personnel 1.6 Clarify feedback on information/concerns raised with appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Workplace 2.2 Tools, materials and equipment relevant to the tasks 2.3 PPE 2.4 Manuals and references
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration 3.2 Oral questioning 3.3 Written examination
4. Context for Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment 4.2 Assessment shall be observed while task are being undertaken whether individually or in-group

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.

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

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ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	● Safety-consciousness ● Resourceful-ness	
3. Implement cost-effective operations	3.1 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy. 3.2 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements. 3.3 Constructive contributions to office operations are made according to enterprise requirements. 3.4 Ability to work within one's allotted time and finances is sustained.	3.1 Optimization of workplace resources 3.2 5S procedures and concepts 3.3 Criteria for cost-effectiveness 3.4 Workplace productivity 3.5 Impact of entrepreneurial mindset to workplace productivity 3.6 Ways in fostering entrepreneurial attitudes: ● Quality-consciousness ● Safety-consciousness	3.1 Implementing preservation and optimizing workplace resources 3.2 Observing judicious use of workplace tools, equipment and materials 3.3 Making constructive contributions to office operations 3.4 Sustaining ability to work within allotted time and finances

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 for 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

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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

ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Wear personal protective equipment	1.1 Personal protective equipment are checked according to ***manufacturer's specifications*** 1.2 ***Personal protective equipment (PPE)*** are 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 is practiced in line with ***workplace health and safety requirements***	2.1. Good grooming and personal hygiene 2.2. Workplace health and safety requirements	2.1. Practicing good grooming and personal hygiene practices
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

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4. Render safety measures and first Aid procedures	4.1 **Safety measures** are applied according to workplace rules and regulations 4.2 **First aid procedures** are applied and coordinated with concerned personnel according to workplace standard operating procedures.	4.1. Safety measures 4.2. First aid procedures 4.3. Parts and functions of personal protective equipment 4.4. 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 5.3 **Hazards** in the work area are recognized and reported to designated personnel according to workplace procedures	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

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(PPE)	**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 signages 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

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EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:** 1.1 Cleaned, checked and sanitized personal protective equipment 1.2 Practiced proper personal hygiene and good grooming 1.3 Implemented workplace food safety practices 1.4 Applied first aid measures to victims 1.5 Implemented good housekeeping activities in the work area
2. Resource implications	**The following resources should be provided:** 2.1 Work area/station 2.2 First Aid kit 2.3 PPE relevant to the activities 2.4 Fire extinguisher 2.5 Stretcher 2.6 Materials, tools and equipment relevant to the unit of competency
3. Method of assessment	**Competency in this unit may be assessed through:** 3.1 A combination of direct observation and questioning of a candidate processing foods.
4. Context of assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

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.

ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify standard measuring devices and instruments	1.1 ***Standard measuring devices and instruments*** 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 specified ***food processing methods***	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

ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Follow procedures of using measuring devices and instruments	3.1 Methods/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/practic e of using measuring devices and instruments 3.2. Procedures in cleaning, and stowing equipment and instruments	3.1. Applying methods/pra ctic es in using measuring devices and instruments 3.2. Cleaning and stowing measuring devices and instrument s

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

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EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:**
	1.1 Identified, prepared and calibrated standard measuring devices and instruments
	1.2 Followed correctly the procedures in using standard measuring devices and instruments
	1.3 Followed proper cleaning and sanitizing and stowing procedures of measuring devices and equipment before and after use
2. Resource implications	**The following resources should be provided:**
	2.1 Work area/station
	2.2 Materials, tools and equipment relevant to the Unit of Competency
3. Method of assessment	**Competency in this unit may be assessed through:**
	3.1 Direct observation and questioning of a candidate using measuring devices and instruments
4. Context of assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : **Perform Mathematical Computations**

UNIT CODE : **PFB751213**

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

ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Gather and Tabulate the Recorded Data	1.1 Records of *weights and measurements* 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 record 1.3. Summarizing and analyzing data 1.4. Basic Mathematical skills 1.5. Basic Accounting 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

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ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED 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 calculated according to enterprise requirements 3.4 All calculated data are recorded according to enterprise requirements	3.1. Record keeping 3.2. Mensuration 3.3. Fraction, ratios and proportions 3.4. Basic Mathematical Operations 3.5. Conversion factors 3.5 Percentage formulation	3.1. Basic Mathematical skills 3.2. Recording skills
4. Compute Production Cost	4.1 *Costs of production* are computed according to organization's standard procedures 4.2 Computed costs of production are reviewed and validated according to organization's production requirements	4.1. Cost of production 4.2. Validation procedures for computer costs 4.3. Basic Mathematical Operations	4.1. Basic Mathematical skills 4.2. Basic Accounting skills 4.3. Reviewing and validating computed costs

RANGE OF VARIABLES

VARIABLE	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	**Assessment requires evidence that the candidate:**
	1.1 Gathered the records of weights and measurements of raw materials/ingredients and finished processed products
	1.2 Summarized and tabulated all raw data gathered
	1.3 Calculated the production inputs and outputs
	1.4 Computed the costs of production
	1.5 Reviewed all formulations and concentrations of solutions according to specifications and standards of the enterprise
2. Resource Implications	**The following resources should be provided:**
	2.1 Work area/station
	2.2 Materials relevant to recording and documentation of production data
	2.3 Computer with printer and software
	2.4 Calculator
	2.5 Work table
3. Methods of Assessment	**Competency in this unit must be assessed through:**
	3.1 A combination of direct observation and questioning of a candidate computing costs of production
	3.2 Submission of a written report showing a record of production data including raw data
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

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UNIT OF COMPETENCY　:　Implement Good Manufacturing Practice and Procedures

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.

ELEMENTS	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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 requirement 1.7. Micro biological, physical and chemical contaminants 1.8. Basic concepts of quality assurance 1.9. Control methods and procedures used in GMP: 1.10. GMP responsibilities	1.1. Planning and organizing work (time management 1.2. Working with others and in teams 1.3. Practicing GMP 1.4. Following contaminatio n investigation procedures

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		and requirements relating to work role 1.11. Basic properties, handling and storage requirements of raw materials, packaging components and final product	
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. *Work area*, 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 control resource allocation and process are followed to meet GMP requirements 3.5. Common forms of contamination are identified and appropriate control measures are followed according to GMP requirements	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

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	3.6. The workplace is maintained in a clean and tidy order to meet GMP housekeeping standard		
4. Participate in improving GMP	4.1 Processes, practices or conditions which could result in non-compliance with GMP are identified and reported according to workplace reporting requirements 4.2 Corrective action is implemented within level of responsibility 4.3 GMP issues are raised with designated personnel	4.1. Non-compliance and corrective action in GMP 4.2. Corrective actions	4.1. Practicing GMP 4.2. Reporting workplace condition 4.3. Implementing corrective measures
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 *workplace reporting procedures* 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

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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 is carried out in accordance with regulatory requirements	**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 Raw materials 5.2 Packaging components and consumables 5.3 Part-processed product 5.4 Finished product 5.5 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	**Assessment requires evidences that the candidate:** 1.1 Located and followed workplace information relating to GMP responsibilities 1.2 Maintained personal hygiene consistent with GMP 1.3 Followed workplace procedures when moving around the workplace and/or from one task to another to maintain GMP 1.4 Used, stored and disposed of appropriate clothing/footwear as required by work tasks and consistent with GMP 1.5 Identified and reported situations that do or could compromise GMP 1.6 Applied appropriate control measures to control contamination 1.7 Recorded results of monitoring, and maintain records as required by GMP 1.8 Followed validation procedures within level of responsibility 1.9 Identified and responded to out-of-specification or unacceptable raw materials, packaging components, final or part processed product within level of responsibility 1.10 Followed procedures to isolate or quarantine non-conforming product 1.11 Handled, cleaned and stored equipment, utensils, raw materials, packaging components and related items according to GMP and workplace procedures 1.12 Maintained GMP for own work 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 1.14 Maintained the work area in a clean and tidy state 1.15 Identified and reported signs of pest infestation
2. Resource Implication	**The following resources should be provided:** 2.1 Workplace location and access to workplace policies 2.2 Materials relevant to the proposed activity and tasks
3. Methods of Assessment	**Competency in this unit must be assessed using at least two (2) of the following methods:** 3.1 A combination of direct observation and oral questioning 3.2 Written report 3.3 Written Examination 3.4 Portfolio
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

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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 *Italicized terms* 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. *Hazards* 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 handle waste are followed 1.6. Environmental data is recorded in required format according to workplace reporting requirements	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 1.7. Basic concepts of	1.1. Planning and organizing work (time management) 1.2. Working with others and in teams 1.3. Practicing environmental skills

		hazard identification, risk assessment and control options	
		1.8. Identifying and responding to hazards	
		1.9. Impact of work practices on resource utilization and wastage	
		1.10. Procedures used to handle and dispose of waste	
		1.11. The difference between trade waste and storm water drains	
		1.12. Consequences of inappropriate waste handling and disposal	
		1.13. Procedures for responding to unplanned incidents such as spills and leaks	
		1.14. Emergency response system and procedures	
		1.15. Responsible use of resources in own work area	
		1.16. Reporting procedures and responsibilities	
		1.17. Consultative processes in the workplace for raising issues/ suggestions on environmental issues	

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Participate in improving environmental practices at work	2.1 Processes or conditions which could result in an unacceptable environmental outcome are identified and reported according to workplace reporting requirements. 2.2 Corrective action is taken in accordance with the environmental management and emergency response plans as required. 2.3 Contributions are made to participative arrangements for managing environmental issues in the workplace within workplace procedures and level of responsibility.	2.1. Unacceptable environmental outcomes 2.2. Corrective actions 2.3. Emergency response plan 2.4. Improvement in environmental practices 2.5. Report preparation	2.1. Identifying and reporting unacceptable environmental outcomes 2.2. Implementing corrective actions 2.3. Participating in improvement of environmental practices 2.4. Practicing written communication skills
3. Respond to an environmental emergency	3.1 Emergency situations are identified and reported according to workplace reporting requirements 3.2 Emergency procedures are followed as appropriate to the nature of the emergency and according to workplace procedures	3.1. Emergency situations Emergency procedures	3.1. Identifying emergency situations 3.2. Following emergency procedures Practicing written communication skills

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 is carried out in accordance with regulatory requirements	**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 5.6. A control measure is a method or procedure used to prevent or minimize environmental risks 5.7. Responsibility for identifying and controlling environmental risks relates to immediate work responsibilities 5.8. Participating in improvement may involve participation in structured improvement programs, one-off projects and day-to-day problem solving and consultative groups

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidences that the candidate:**
	1.1 Accessed and apply workplace information on environmental policies and procedures relating to own work
	1.2 Fitted and used appropriate personal protective clothing and equipment
	1.3 Checked own work area to identify environmental hazards
	1.4 Reported hazards according to workplace procedure in a clear and timely manner
	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
	1.6 Recorded environmental information as required by the environmental management program
	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
	1.8 Followed procedures to collect, deposit, recycle and/or dispose of waste in own work area
	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
	1.10 Maintained housekeeping standards in work area
2. Resource Implications	**The following resources should be provided:**
	2.1 Workplace location and access to workplace policies
	2.2 Materials relevant to the proposed activity and tasks
3. Methods of Assessment	**Competency in this unit must be assessed using at least two (2) of the following methods:**
	3.1 A combination of direct observation and oral questioning
	3.2 Written report
	3.3 Written Examination
	3.4 Portfolio
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

Competency Standards for Cacao Bean Grading Level II

CORE COMPETENCY

UNIT OF COMPETENCY   :   **HARVEST CACAO PODS**

UNIT CODE   :   **AB-FOP1602020751301**

UNIT DESCRIPTOR   :   This unit covers the knowledge, skills and attitudes required in harvesting cacao pods. This includes competency in harvesting, gathering and sorting of cacao pods.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform preparatory activities	1.1. ***Harvesting plan*** is prepared based on field assessment 1.2. ***Tools and materials*** are prepared, cleaned and disinfected based on industry practice. 1.3. ***Personal protective equipment (PPE)*** is used in accordance with organization OHS procedures and practices 1.4. Availability of ***washing, fermentation and drying facilities*** are ensured based on industry practice.	1.1. Harvest Plan 1.2. Tools, equipment and materials 1.3. Washing, Fermentation and drying facility 1.4. Fermentation box 1.5. All-weather dryer 1.6. Washing tub 1.7. Clean and disinfect tools, materials, and equipment	1.1. Preparing harvesting plan 1.2. Preparing tools, equipment, and materials 1.3. Cleaning and disinfecting tools, materials and equipment

Competency Standards for Cacao Bean Grading Level II

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Harvest and gather cacao pods	2.1. *Maturity index* of cacao pods are assessed based on *cacao varieties/clones* 2.2. Cacao pods are harvested based on industry practice 2.3. *Infected cacao pods* are determined based on *physical appearance.* 2.4. Cacao pods are sorted according to variety and clone. 2.5. *Infected cacao pods* are disposed of based on Good Agricultural Practices (GAP) 2.6. Cacao pods are stored based on industry standards.	2.1 Identification of Cacao Varieties and Clones 2.2. Characteristics of Cacao Pods 2.3. Harvesting Cacao 2.4. Sorting Cacao Pods 2.5. Cacao Pod defects 2.6. Good Agricultural Practices	2.1. Assessing the maturity of Cacao pods 2.2. Harvesting cacao 2.3. Sorting cacao pods 2.4. Applying safety

Competency Standards for Cacao Bean Grading Level II

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Wash and open cacao pods	3.1. Washing tub is prepared based on industry practice. 3.2. Cacao pods are washed based on industry practice. 3.3. Cacao pods are naturally air-dried based on industry practice. 3.4. Cacao husk and beans are separated based on industry practice. 3.5. *Wastes* in place is disposed properly based on Good Agricultural Practices (GAP).	3.1. Washing Cacao Pods Procedures 3.2. Breaking Pods Procedures	3.1. Washing cacao pods 3.2. Breaking cacao pods

RANGE OF VARIABLES

VARIABLE	RANGE
1. Harvesting Plan	**May include:** 1.1. Labor 1.2. Number of days 1.3. Schedule of harvest 1.4. Costing 1.5. Number of trees 1.6. Variety/Clone 1.7. Yield
2. Tools and materials	**May include:** *Tools*: 2.1. Pruning Shear 2.2. Pole Pruner 2.3. Wheel Barrow 2.4. Ladder 2.5. Budding/Grafting Knife 2.6. Bean Cutter 2.7. Cacao bean Moisture meter 2.8. Temperature meter 2.9. Humidity meter 2.10. Weighing scale (by grams) 2.11. Platform type weighing scale (by kilos) *Materials:* 2.12. Jute Sack 2.13. Tying Materials 2.14. Plastic Crates
3. PPE	**May include:** 3.1. Gloves 3.2. Rubber Boots 3.3. Sweat Shirt 3.4. Farm Hat 3.5. Safety Goggles
4. Washing, fermentation and drying facilities	**May include:** *Washing Facility:* 4.1. Washing Tub *Fermentation facility:* 4.2. Fermentation box *Drying Facility:* 4.3. All weather dryer
5. Maturity Index	**May include:** 5.1. Ripeness 5.2. Color

6. Cacao Varieties/Clones	**May include:** *Varieties:* 6.1. Criollo 6.2. Trinitario 6.3. Forasteiro *Clones:* 6.5. UF - 18 6.5. BR - 25 6.6. PBC - 123 6.7. ICS - 160 6.8. K2 6.9. K9 6.10. UIT 1 6.11. ICS 40 6.12. S5
7. Infected Cacao Pods	**May include:** 7.1. Caused by insects 7.2. Caused by pathogens
8. Physical Appearance	**May include:** 8.1. Color changes 8.2. Texture changes 8.3. Abnormal Growth
9. Wastes	May include: 9.1. Cacao pod husk 9.2. Cacao placenta 9.3. Infected beans

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed preparatory activities. 1.2. Harvested and gathered cacao pods 1.3 Washed and opened pods
2. Resource Implications	The following resources **MUST** be provided: 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit must be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY: **PRODUCE FERMENTED CACAO BEANS**

UNIT CODE   :   **AB-FOP1602020751302**

DESCRIPTOR   :   This unit covers the knowledge, skills and attitudes required in producing fermented cacao beans. This includes competencies in sorting, fermenting, mixing and turning, cut testing, drying and storing of beans.

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Sort beans	1.1. Beans are sorted according to industry standards and hygiene protocols. 1.2. **Defective beans** are identified and removed based on Philippine National Standards (PNS) for Cacao. 1.3 Cleanliness of work area and sorting equipment are maintained to prevent contamination	1.1 Sort Cacao Beans Characteristics of Beans 1.2 Defective Beans Philippine National Standards for Cacao	1.1 Sorting of cacao beans
2. Perform fermentation	2.1 Cacao bean sweating is performed based on industry standards. 2.2. **Fermentation box** is prepared based on industry standards. 2.3. Fermentation box is cleaned and dried according to industry practice. 2.4 Cacao beans are fermented based on industry practice. 2.5. Temperature and humidity is	2.1 Fermentation Methods 2.2 Tools and materials used for Fermentation 2.3 Qualities of a Good Fermentation box 2.4 Mixing and Turning Procedures during Fermentation 2.5 Temperature and Humidity	2.1. Preparing fermentation box 2.2. Mixing and Turning of fermented beans

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	monitored throughout the fermentation period. 2.6. Bean mixing and turning procedures are repeated throughout the fermentation period.		
3. Perform cut test	3. 1. Random sampling is done from fermented beans. 3.2. Cut test is performed throughout the fermentation process. 3.3. **Bean fissures** are examined and evaluated based on industry standards.	3.1 Bean Fissures	3.1. Performing bean cut test
4. Perform drying	4.1. ***Drying facility/area is*** prepared based on industry standards. 4.2. Cacao beans are dried based on Philippine National Standards for Cacao. 4.3. Moisture test is performed based on Philippine National Standards for Cacao. 4.4. Sorting of beans is done based on Philippine National Standards for Cacao.	4.1 Drying Process Cacao beans attributes	4.1. Perform drying of beans 4.2. Perform sorting of dried beans
5. Store cacao beans	5.1. Storage area is cleaned based on PNS for cacao. 5.2. *Plastic pallets* are installed according to PNS for cacao. 5.3. Temperature and humidity of the	5.1. Store cacao bean 5.2. Warehousing Practices 5.3 FIFO	5.1. Storing cacao bean

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	storage area is monitored and maintained based on PNS for Cacao. 5.4. Cacao beans are stored based on the good warehousing practices.		

RANGE OF VARIABLES

VARIABLE	RANGE
1. Defective Beans	**May include:** 1.1. Slaty 1.2. Insect damaged 1.3. Flat beans 1.4. Over-fermented beans 1.5 Unfermented beans 1.6. Moldy beans 1.7. Germinated Beans 1.8. Crack beans
2.Fermentation box	**May include:** 2.1. Size and dimension 2.2. Thickness 2.3. Type of wood and materials used 2.4. Holes 2.5. Distance of Hole 2.6. Cover 2.7. Elevation 2.8. Design
3. Bean Fissures	**May include:** 3.1. Appearance 3.2. Color 3.3. Structure 3.4. Moisture Content
4. Drying Facility/Area	**May include:** Facility: 4.1. All weathered drying facility 4.2. Mechanical Dryer Area: 4.3. Size of the area 4.4. Location

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EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Sorted beans 1.2 Performed fermentation 1.3 Performed cut test 1.4 Performed drying 1.5 Stored cacao beans
2. Resource Implications	The following resources **MUST** be provided: 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit must be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY: **GRADE AND PACKAGE CACAO BEANS**

UNIT CODE : **AB-FOP1602020751301**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in grading and packaging cacao beans. This includes competencies on grading and packaging of fermented cacao beans for local and international market.

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform bean grading	1.1. Moisture contents of beans is evaluated based on international cacao standards 1.2. Bean count is done based on international cacao grading standards. 1.3. Percentage of detritus in fermented beans is computed based on international cacao standards. 1.4. External bean defects is examined and removed based on international cacao standards 1.5. Fermentation level is computed based on acceptable level set by international standards 1.6. ***Bean grading*** is done based on international cacao standards.	1.1. Bean counts 1.2. Moisture contents 1.3. Computation of percentage detritus in fermented beans 1.4. Bean defects 1.5. Bean Grading 1.6. Computation of Fermentation level	1.1. Perform bean grading
2. Package cacao beans	2.1. ***Packaging materials*** are selected based on PNS for cacao. 2.2. Cacao beans are packed according to PNS for cacao.	2.1. Packaging materials 2.2. Labeling	2.1 Packaging of cacao beans 2.2 Label packaged cacao

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	2.3. Packaged cacao beans is labeled based on Good Manufacturing Practices.		beans.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Bean Grading	May include: 1.1. Grade I A 1.2. Grade 1B 1.3. Grade 2A 1.4. Grade 2B 1.5. Sub-standard
2. Packaging materials	May include: 2.1. Jute Bags 2.2. FIBCs 2.3. Bulk Bag

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Packaged cacao beans 1.2 Performed grading
2.Resource Implications	The following resources **MUST** be provided: 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

Competency Standards for Cacao Bean Grading Level II

GLOSSARY OF TERMS

1. ADULTERATION	Covers alteration of the composition of graded cacao by any means so that the resulting mixture or combination is either not of the grade prescribed, or its quality or flavour is injuriously affected or its bulk or mass is altered.
2. BEAN CLUSTER	A bean clump which consists of three or more beans fused together.
3. BEAN COUNTS	Total number of cacao beans (excluding flat and broken beans) required to make a weight of 100 grams
4. BEAN FISSURES	The crackdown in the middle of the beans
5. BROKEN BEAN	Cacao bean which has a missing fragment equivalent to less than half of the bean
6. CACAO PODS	A rough and leathery rind about 3 cm thick, which is filled with sweet, mucilaginous pulp.
7. CACAO BEAN	The dried and fully fermented fatty bean of Theobroma cacao, from which cocoa solids and cocoa butter are extracted.
8. CONTAMINATED BEANS	cacao bean which is contaminated by odours or flavours, or by dust from other products such as other foods, or by products such as oil, cement and tar
9. CUT TEST	Carried out primarily to determine the incidence of mouldy beans, slaty beans, insect damaged/infested beans and germinated beans
10. DEFECTIVE BEANS	Cacao beans which are internally mouldy, slaty, insect-damaged, or insect-infested, or germinated
11. DOUBLE BEAN	two beans fused together which can be separated by hand
12. DRY CACAO	A commercial term designating cacao beans which have been evenly dried throughout and which the moisture content shall not to exceed 7.5 %
13. FERMENTATION	The spontaneous process driven by an ordered microbial succession of a wide range of yeasts, lactic acid and acetic acid bacteria, some aerobic spore forming bacteria and various species of filamentous fungi. The process of cocoa fermentation is an important step for developing chocolate flavor precursors which are attributable to the metabolism of succession microbial.
14. FERMENTED BEANS	Cacao beans that have undergone fermentation of which the color of the cotyledons should range from partly purple and partly brown to a fully brown color shown by the cut test.
15.FLAT BEAN	Cacao or cocoa bean of which the cotyledons are too thin to be cut to give a full length of the cotyledon surface

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16.GERMINATED BEANS	The shell of the cacao bean which have been pierced, slit or broken by the growth of the seed germ
17. INSECT-DAMAGED INFESTED BEAN	Cacao bean of which the internal parts are found to contain at any stage of development, or have been attacked by insects which have been inflicted damage visible to the naked eye
18. MOULDY BEAN	Mould present on the external parts of the cacao bean which is visible to the naked eye
19. PIECE OF SHELL	Part of the shell without adhering kernel or part of the kernel
20. SLATY BEANS	Cacao bean which shows a gray or purple colour on half or more of the surface exposed by the cut test
21. SWEATING	The pale yellowish liquid that drains off during the fermentation. This is the breakdown product of the mucilage surrounding the fresh cacao bean, and constitutes about 10% of the weight of the cacao fruit.
. SMOKEY BEANS	Cacao bean which has a smoky smell (obtained from "tapahan'/ copra drier) or taste or shows signs of smoke contamination

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THE TECHNICAL EXPERT PANEL