COMPETENCY STANDARDS

FLOWER PRODUCTION LEVEL II

AGRICULTURE, FORESTRY AND FISHERY SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
DAVAO DE ORO CLUSTER
TESDA Davao de Oro Provincial Office
Provincial Training Center Davao de Oro
Davao National Agricultural School

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COMPETENCY STANDARDS FOR

FLOWER PRODUCTION LEVEL II

Section 1 FLOWER PRODUCTION QUALIFICATIONS

The **FLOWER PRODUCTION LEVEL II** qualification consists of competencies that a person must achieve to perform nursery works, plant and cultivate flowers, maintain flower growth, and conduct harvest and post-harvest in flower production.

The units of competency comprising this qualification include the following:

Code	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	**COMMON COMPETENCIES**
AFF 321201	Apply safety measures in farm operations
AFF 321202	Use farm tools and equipment
AFF 321203	Perform estimation and calculations
SOC 413206	Perform record keeping
Code	**CORE COMPETENCIES**
AB-FLP1108209921301	Perform Nursery Works
AB-FLP1108209921302	Plant and Cultivate Flowers
AB-FLP1108209921303	Maintain Flower Growth
AB-FLP1108209921304	Conduct Harvest and Post-harvest

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

- Flower Plant Gardener

SECTION 2 COMPETENCY STANDARDS

These guidelines are set to provide the Technical Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **FLOWER PRODUCTION 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	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

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	information are used. 1.7 Personal interaction is carried out clearly and concisely.		workplace requirements 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

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Complete relevant work-related documents	3.1 Range of ***forms*** relating to conditions of employment are completed 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.	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication 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	3.1 Completing work- related documents 3.2 Applying operations of addition, subtraction, division and multiplication 3.3 Gathering and providing information in response to workplace requirements 3.4 Effective record keeping skills

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

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

UNIT OF COMPETENCY : WORK IN A 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 team members	3.1 Communication Process 3.2 Workplace communication protocol	3.1 Communicating appropriately, consistent with the culture of the workplace

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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 judgement maybe demonstrated on the job, either individually or in a team environment
2. Sources of information	May include: 2.1 Standard operating and/or other workplace procedures 2.2 Job procedures 2.3 Machine/equipment manufacturer's specifications and instructions 2.4 Organizational or external personnel 2.5 Client/supplier instructions 2.6 Quality standards 2.7 OHS and environmental standards
3. Workplace context	May include: 3.1 Work procedures and practices 3.2 Conditions of work environments 3.3 Legislation and industrial agreements 3.4 Standard work practice including the storage, safe handling and disposal of chemicals 3.5 Safety, environmental, housekeeping and quality guidelines

EVIDENCE GUIDE

1. Critical aspects of Competency	**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

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 2.3 Operating systems	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk practices, processes and procedures.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	appropriate person for decision.	2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions. 2.6 Root cause analysis	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

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*** in the workplace are examined.	1.1 Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self-management strategies according to Robert Kelley) 1.2 Enablers and barriers in achieving personal and career goals 1.3 Techniques in handling negative emotions and unpleasant situation in the workplace such as frustration, anger, worry, anxiety, etc.	1.1 Managing properly one's emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2 Developing self-discipline, working independently and showing initiative to achieve personal and career goals 1.3 Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace
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 responding to feedback from	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation,	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of limitations, likes/ dislikes; through

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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.	Analysis, Conclusion, and Action plan)	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

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 resource s 2.2 Case studies
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration or simulation with oral questioning 3.2 Case problems involving work improvement and sustainability issues 3.3 Third-party report
4. Context for Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment.

UNIT OF COMPETENCY : CONTRIBUTE TO WORKPLACE INNOVATION

UNIT CODE : 400311214

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

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 group

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

VARIABLE	RANGE
	5.3 Data analysis and interpretation 5.4 Coherent writing 5.5 Speaking

EVIDENCE GUIDE

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

UNIT OF COMPETENCY : PRESENT RELEVANT INFORMATION

UNIT CODE : 400311215

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

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 Organisational 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 Organisational values, ethics and codes of conduct	1.1 Describing organisational 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. 2.2 Analysis techniques are applied to assess data/ information. 2.3 Trends and anomalies are identified.	2.1 Business mathematics and statistics 2.2 Data analysis techniques/ procedures 2.3 Reporting requirements to a range of audiences	2.1 Computing business mathematics and statistics 2.2 Describing data analysis techniques/ procedures 2.3 Reporting requirements to

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.4 ***Data analysis techniques*** and procedures are documented. 2.5 Recommendations are made on areas of possible improvement.	2.4 Legislation, policy and procedures relating to the conduct of evaluations 2.5 Organisational values, ethics and codes of conduct	a range of audiences 2.4 Stating legislation, policy and procedures relating to the conduct of evaluations 2.5 Stating organisational values, ethics and codes of conduct
3. Record and present information	Studied data/information are recorded. Recommendations are analysed for action to ensure they are compatible with the project's scope and terms of reference. Interim and final reports are analysed and outcomes are compared to the criteria established at the outset. 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 Organisational 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 organisational values, ethics and codes of conduct practices

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.

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. 2.3 Required OSH materials, tools and	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

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

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 environmental procedures.	2.1 Causes of environmental inefficiencies and ineffectiveness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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 ● Resourcefulness	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 2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	2.1 Workplace best practices, policies and criteria 2.2 Resource utilization 2.3 Ways in fostering entrepreneurial attitudes: ● Patience ● Honesty ● Quality-consciousness ● Safety-consciousness ● Resourcefulness	2.1 Communication skills 2.2 Complying with quality procedures 2.3 Following workplace communication protocol
3. Implement cost-effective operations	3.1 Preservation and optimization of workplace resources is	3.1 Optimization of workplace resources	3.1 Implementing preservation and optimizing

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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.	3.2 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	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 of Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group

COMMON COMPETENCIES

UNIT OF COMPETENCY : APPLY SAFETY MEASURES IN FARM OPERATIONS

UNIT CODE : AFF 321201

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform safety measures effectively and efficiently. It includes identifying areas, tools, materials, time and place in performing safety measures.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Determine areas of concern for safety measures	1.1 ***Work tasks*** are identified in line with farm operations 1.2 ***Place*** for safety measures are determined in line with farm operations 1.3 ***Time*** for safety measures are determined in line with farm operations 1.4 Appropriate ***tools, materials and outfits*** are prepared in line with job requirements	1.1 Different work tasks in farm operations 1.2 Place and time for implementation of safety measures 1.3 Different hazards in the workplace 1.4 Types of tools, materials and outfits 1.5 Preparation of tools, materials and outfits	1.1 Identifying work tasks in farm operations 1.2 Determining place and time for implementation of safety measures 1.3 Reading labels, manuals and other basic safety information 1.4 Identifying effective/functional tools, materials and outfit 1.5 Preparing tools, materials and outfits 1.6 Discarding defective tools, and materials
2. Apply appropriate safety measures	2.1 Tools and materials are used according to specifications and procedures 2.2 Outfits are worn according to farm requirements 2.3 Effectivity/shelf life/expiration of	2.1 Uses and functions of tools 2.2 Outfits and how to wear it. 2.3 Expiration/shelf life of materials 2.4 Proper disposal of expired materials	2.1 Using tools and materials in the workplace 2.2 Wearing of outfits 2.3 Observing expiration/ shelf life of materials 2.4 Disposing of expired materials

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	materials are strictly observed 2.4 ***Emergency procedures*** are known and followed to ensure a safe work requirement 2.5 Hazards in the workplace are identified and reported in line with farm guidelines	2.5 Environmental rules and regulations 2.6 Emergency procedures 2.7 Hazards identification and reporting 2.8 Communication skills 2.9 OSHS	2.5 Following emergency procedures 2.6 Identifying and reporting of hazards in workplace area.
3. Safe keep /dispose tools, materials and outfit	3.1 Used tools and outfit are cleaned after use and stored in designated areas 3.2 Unused materials are properly labeled and stored according to manufacturers recommendation and farm requirements 3.3 Waste materials are disposed according to manufacturers, government and farm requirements	3.1 Procedures of cleaning used tools and outfits 3.2 Label and storage unused materials 3.3 Disposal of wastes materials 3.4 Manufacturers recommendation on keeping materials 3.5 Environmental rules and regulations	3.1 Cleaning used tools and outfit 3.2 Labelling and storing unused materials 3.3 Disposing waste materials

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work tasks	Work task may be selected from any of the subsectors: 1.1 Crop Production 1.2 Post-harvest 1.3 Agri-marketing 1.4 Farm Equipment
2. Place	May include: 2.1 Stock room/storage areas/warehouse 2.2 Field/farm/orchard
3. Time	May include: 3.1 Fertilizer and pesticides application 3.2 Feed mixing and feeding 3.3 Harvesting and hauling
4. Tools, materials and outfits	May include: 4.1 Tools 4.1.1 Wrenches 4.1.2 Screw driver 4.1.3 Pliers 4.2 Outfit 4.2.1 Masks 4.2.2 Gloves 4.2.3 Boots 4.2.4 Overall coats 4.2.5 Hat 4.2.6 Eye goggles
5. Emergency procedures	May include: 5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Hazards	May include: 6.1 Chemical 6.2 Electrical 6.3 Falls

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Determined areas of concern for safety measures 1.2 Applied appropriate safety measures according to industry requirements 1.3 Prepared tools, materials and outfit needed 1.4 Performed proper disposal of used materials 1.5 Cleaned and stored tools, materials and outfit in designated facilities.
2. Resource Implications	The following resources should be provided: 2.1 Farm location 2.2 Tools, equipment and outfits appropriate in applying safety measures
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Practical demonstration 3.2 Third Party Report
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : USE FARM TOOLS AND EQUIPMENT

UNIT CODE : AFF 321202

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to use farm tools and equipment. It includes selection, operation and preventive maintenance of farm tools and equipment.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Select and use farm tools	1.1 Appropriate farm tools are identified according to requirement/use 1.2 Farm tools are checked for faults and defective tools reported in accordance with farm procedures 1.3 Appropriate tools are safely used according to job requirements and manufacturers conditions	1.1 Types and uses of farm tools 1.2 Characteristics of functional tools 1.3 Checking tools for defects/faults 1.4 Segregation and reporting defective tools 1.5 Uses of tools and equipment	1.1 Identifying farm tools for the work 1.2 Checking the conditions of tools 1.3 Reporting defective tools 1.4 Using tools
2. Select and operate farm equipment	2.1 Identify appropriate ***farm equipment*** 2.2 Instructional manual of the farm tools and equipment are carefully read prior to operation 2.3 ***Pre-operation check-up*** is conducted in line with manufacturers manual 2.4 Faults in farm equipment are identified and reported in line with farm procedures 2.5 Farm equipment used according to its function	2.1 Types and operations of farm equipment 2.2 Standards operating procedures of farm equipment 2.3 Instructional manual of equipment 2.4 Pre-operation check-up 2.5 Equipment Specification 2.6 Procedures in calibrating and use of equipment 2.7 Equipment faults identification and reporting 2.8 Operation of equipment	2.1 Identifying appropriate farm equipment for the work 2.2 Reading instructional manual. 2.3 Conducting pre-operation check-up 2.4 Identifying faults/defects of farm equipment 2.5 Reporting on defective farm equipment 2.6 Operating farm equipment 2.7 Following safety procedures.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.6 Safety procedures are followed.	2.9 Codes and Regulations on environmental protection 2.10 Safety and keeping of equipment every after use 2.11 Safety measures	
3. Perform preventive maintenance	3.1 Tools and equipment are cleaned immediately after use in line with farm procedures 3.2 Routine check-up and maintenance are performed 3.3 Tools and equipment are stored in designated areas in line with farm procedures	3.1 Cleaning procedures of tools and equipment 3.2 Maintenance procedures of farm equipment 3.3 Storage of tools and equipment 3.4 Designated storage areas	3.1 Cleaning tools and equipment 3.2 Performing routinary check-up of tools and equipment 3.3 Maintaining farm equipment 3.4 Storing tools and equipment

RANGE OF VARIABLES

VARIABLE	RANGE
1. Farm equipment	Farm equipment include: 1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	Farm tools includes: 2.1 Sickle 2.2 Cutters 2.3 Weighing scales 2.4 Hand tools 2.5 Measuring tools 2.5.1 Garden tools
3. Pre-operation check-up	Pre-operation check–up includes: 3.1 Tires 3.2 Brake fluid 3.3 Fuel 3.4 Water 3.5 Oil 3.6 Lubricants 3.7 Battery

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Correctly identified appropriate farm tools and equipment 1.2 Operated farm equipment according to manual specification 1.3 Performed preventive maintenance
2. Resource Implications	The following resources should be provided: 2.1 Service/operational manual of farm tools and equipment 2.2 Tools and equipment 2.3 Farm implements
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Direct observation 3.2 Practical demonstration 3.3 Third Party Report
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : PERFORM ESTIMATION AND BASIC CALCULATION

UNIT CODE : AFF 321203

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform basic workplace calculations.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform estimation	1.1 Job requirements are identified from written or oral communications. 1.2 Quantities of materials and resources required to complete a work task are estimated. 1.3 The time needed to complete a work activity is estimated. 1.4 Accurate estimate for work completion are made. 1.5 Estimate of materials and resources are reported to appropriate person.	1.1 Job requirements/ labor needs 1.2 Calculation of quantities of materials and resources required 1.3 Calculation of time for job completion 1.4 Preparation of estimate report 1.5 Basic mathematical operations 1.6 Percentage and ratios 1.7 Unit Conversion	1.1 Identifying job requirements/ labor 1.2 Estimating quantities of materials and resources required 1.3 Estimating time for job completion 1.4 Performing basic calculation 1.5 Compute percentage 1.6 Convert English to Metric systems of measurement 1.7 Preparing estimate report
2. Perform basic workplace calculation	2.1 ***System and units of measurement*** to be followed are ascertained. 2.2 Calculation needed to complete work tasks are performed using the ***four basic mathematical operation***. 2.3 Calculate whole fraction, percentage and mixed when are used to complete the instructions.	2.1 Four basic mathematical operation 2.2 System and units of measurement 2.3 Fraction, percentage and ratio 2.4 Material take-off 2.5 Materials costing	2.1 Compute bill of materials 2.2 Compute project cost

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.4 Number computed is checked following work requirements.		

RANGE OF VARIABLES

VARIABLE	RANGE
1. Four basic mathematical operation	May include: 1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. System of measurement	May include: 2.1 English 2.2 Metric
3. Units of measurement	May include: 3.1 Area 3.2 Volume 3.3 Weight 3.4 Length

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed estimation 1.2 Performed basic workplace calculation 1.3 Applied corrective measures as maybe necessary
2. Resource Implications	The following resources should be provided: 2.1 Relevant tools and equipment for basic calculation 2.2 Recommended data
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Practical demonstration 3.2 Written examination
4. Context of Assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : PERFORM RECORD-KEEPING

UNIT CODE: SOC 413206

UNIT DESCRIPTOR: This unit covers the knowledge, skills and attitude required to carry-out inventory activities, maintain production record and prepare financial records.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Carry out inventory activities	1.1 ***Inventory inputs*** are determined according to enterprise requirements. 1.2 Defective tools and equipment are determined according to operation manuals 1.3 Facilities are inspected according to standard codes and laws.	1.1 Inventory inputs 1.2 Inventory procedures 1.3 Types of tools and equipment defects 1.4 Inspection of facilities 1.5 Industry rules and laws	1.1 Determining inventory inputs 1.2 Determining defective tools and equipment 1.3 Inspecting facilities 1.4 Communication skills
2. Maintain production record	2.1 Production plan are prepared according to enterprise requirements. 2.2 Schedule for ***production activities*** are prepared based from enterprise requirements and plan. 2.3 ***Production report*** are prepared in accordance with enterprise reporting procedures 2.4 ***Input*** and ***production*** are	1.1 Preparation of production plan 1.2 Preparation of schedule for production activities 1.3 Preparation of production report procedure 1.4 Monitoring of input and production	1.1 Preparing production plan 1.2 Preparing schedule for production activities 1.3 Preparing production report 1.4 Monitoring input and production 1.5 Communication skills

	monitored using monitoring chart.		
3. Prepare financial records	3.1. **Production cost** are computed using established computation procedures. 3.2. Revenue is computed using established computation procedures.	1.1 Production costing plan 1.2 Computation of production cost and revenue 1.3 Four fundamental operation	1.1 Computing production cost 1.2 Computing revenue 1.3 Basic Mathematics skills 1.4 Communication skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. Inventory inputs	Inventory inputs include: 1.1 Plant 1.1.1. Planting materials 1.1.2. Fertilizer 1.1.3. Concoctions (Pesticides and insecticides) 1.1.4. Beneficial microorganisms 1.2 Animals 1.2.1 Stocks 1.2.2 Feeds 1.2.3 Concoctions 1.2.4 Medications 1.2.5 Beneficial microorganisms 1.3 Miscellaneous materials
2. Production activities	Production activities include: 2.1. Plant 2.1.1 Planting 2.1.2 Fertilizer application 2.1.3 Pesticides application 2.1.4 Implementation of bio-security measures 2.1.5 Irrigation/watering 2.1.6 Weeding 2.1.7 Harvesting 2.1.8 Post-harvesting 2.2. Animals 2.2.1 Feeding 2.2.2 Cleaning and Sanitization 2.2.3 Implementation of bio-security measures 2.2.4 Growth and health condition 2.2.5 Harvesting 2.2.6 Post-harvesting 2.2.7 Miscellaneous activities

3. Production report	Production report includes: 3.1. Categorize and record quality of harvest 3.2. volume /quantity of products harvested
4. Input	Input includes: 4.1. Input(plant) 4.1.1 Fertilizer 4.1.2 Concoctions (Pesticides and insecticides) 4.1.3 Beneficial microorganisms 4.2. Input (animal) 4.2.1 Feeds 4.2.2 Concoctions 4.2.3 Medications 4.2.4 Beneficial microorganisms 4.2.5 Miscellaneous activities
5. Production report	Production report includes: 5.1 Growth rate 5.2 Survival rate
6. Production cost	Production cost includes: 6.1. Labor 6.2. Inputs 6.3. Tools, equipment and facility depreciation cost 6.4. Administrative cost 6.5. Miscellaneous

EVIDENCE GUIDE

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1. Determined inventory inputs according enterprise requirements 1.2. Determined defective tools and equipment according to operation manuals. 1.3. Inspected facilities according to standard codes and laws. 1.4. Prepared production plan and report according to enterprise requirements and reporting procedures.
2. Resource Implications	**The following resources should be provided:** 2.1. All supplies, materials and farm implements needed during farm operations should be readily available at the farm site: 2.1.1 Farm site 2.1.2 Office supplies, materials, tools and farm equipment 2.2. Protective clothing equipment and materials. All workers involved in different activities must be fully oriented and cautioned on the different specific work activities of the farm. 2.3. Technical supervisors should have skills and ability in the successful implementation of work program activities.
3. Method of Assessment	**Competency in this unit may be assessed through:** 3.1. Demonstration with questioning 3.2. Written examination
4. Context of Assessment	4.1. Assessment may occur in an appropriately simulated environment through TESDA accredited assessment centers

CORE COMPETENCIES

UNIT OF COMPETENCY : Perform Nursery Works

UNIT CODE : AB-FLP1108209921301

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills, and attitudes required to perform nursery operations for flower production. It includes preparing nursery tools, materials, and equipment; preparing growing media; selecting flower plant varieties; and conducting propagation activities in accordance with industry standards and nursery practices.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Prepare nursery tools, materials, and equipment	1.1. ***Tools, materials and equipment*** are selected according to work requirements. 1.2. Basic pre-operative checking of tools, materials and equipment is performed based on recommended practices. 1.3. ***Personal Protective Equipment (PPE)*** are identified according to manufacturer's manual. 1.4. Tools, materials, and equipment are documented in accordance with workplace procedures.	**TECHNOLOGY** 1.1. Types, Uses and Specification of Tools, materials & Equipment **MATHEMATICS** 1.2. Basic Mathematical Operations **COMMUNICATION** 1.3. Inventory & Documentation Procedures 1.4. Manufacturer's Manual **ENVIRONMENT-RELATED LAWS & ORDINANCES** 1.5. Occupational Safety and Health Standards (OSHS)	1.1. Selecting tools, materials and equipment 1.2. Performing basic pre-operative checking of tools, materials and equipment 1.3. Identifying PPE 1.4. Documenting tools, materials, and equipment
2. Prepare growing media	**2.1. *Growing media*** are mixed based on Good Agricultural Practices (GAP).	**SCIENCE** 2.1. Different growing media types & components	2.1. Mixing growing media 2.2. Placing growing media

	2.2. Growing media are placed in prescribed containers according to crop requirements. 2.3**. Containers** are arranged and labeled according to varieties. 2.4. Growing media are documented in accordance with workplace documentation procedures. 2.5 ***Personal Protective Equipment (PPE)*** are utilized according to manufacturer's manual.	2.2. Soil moisture and pH meter **TECHNOLOGY** 2.3. Preparation and mixing of growing media 2.4. Container Gardening Techniques **MATHEMATICS** 2.5. Ratio & Proportion **COMMUNICATION** 2.6. Documentation **ENVIRONMENT RELATED TO LAWS & ORDINANCES** 2.7. Occupational Safety and Health Standards (OSHS 2.8. Good Agricultural Practices (GAP)	2.3. Arranging and labeling containers 2.4. Documenting growing media 2.5. Utilizing PPE
3. Conduct propagation activities	3.1. Selected ***quality seedlings and cuttings*** are consulted to supervisor based on industry procedure. *3.2.* ***Growth requirements*** are considered when selecting flower varieties based on sustainable farm practices. 3.3. Site conditions are assessed based on plant requirements. 3.4. Seasonal conditions are considered based on plant requirements. 3.5. Propagation materials are selected according	**SCIENCE** 3.1. Structures and characteristics of Plants 3.2. Measurement of humidity and temperature **TECHNOLOGY** 3.3. Characteristics of Quality Seedlings 3.4. Flower Propagation techniques & procedures 3.5. Recommended Germination Practices 3.6. Pricking & Thinning Procedures 3.7. Irrigation methods **MATHEMATICS** 3.8. Ratio & Proportion	3.1. Consulting supervisor for quality seedlings and cuttings 3.2. Considering growth requirement 3.3. Assessing site conditions 3.4. Considering seasonal conditions 3.5. Selecting propagation materials 3.6. Performing plant propagation techniques 3.7. Maintaining germinated seedlings

	to propagation activity. 3.6. Plant propagation techniques are performed based on recommended practices. 3.7. Germinated seedlings and cuttings are maintained until fully established following recommended germination practices. 3.8. Pricking and thinning of seedlings are performed based on recommended practices.	**ENVIRONMENT RELATED TO LAWS & ORDINANCES** 3.9. Personal Protective Equipment (PPE) 3.10. Personal Protective Equipment (PPE) 3.11. Safety Practices on HACCP principles 3.12. Knowledge on Good Agricultural Practices (GAP)	3.8. Performing pricking and thinning of seedlings

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, materials and equipment	Tools, materials and equipment may include: 1.1. Tools: 1.1.1. Digging tools 1.1.2. Propagation tools 1.1.3. Measuring tools 1.1.4 Seed Thrower 1.1.5 Sprinkler 1.2. Materials: 1.2.1. Seedling tray with different holes 1.2.2. Seedling bag 1.2.3. Calculator 1.2.4. Growing media 1.2.5. Fertilizers 1.2.6. Seed box 1.2.7. Seedlings (assorted) 1.2.8. Plastic sheet 1.2.9. Garden net 1.2.10. Monitoring Board with Marker 1.2.11. Record book 1.3. Equipment: 1.3.1. Soil moisture and pH meter 1.3.2. Water pumps 1.3.3. Hand tractor 1.3.4. Sprayer 1.3.5. Wheelbarrow
2. Personal Protective Equipment (PPE)	Personal Protective Equipment (PPE) includes: 2.1. Gloves 2.2. Rubber boots 2.3. Face mask 2.4. Farm hat 2.5. Jacket/ sweatshirt 2.6. Garden apron 2.7. Raincoat 2.8. Goggles
3. Growing media	Growing media include: 3.1. Garden soil 3.2. Peat moss 3.3. Saw dust 3.4. Coco coir 3.5. Rice hull/carbonized rice hull 3.6. Compost 3.7. River sand 3.8. Animal manure 3.9. Wood cuttings

	3.10. Fern slabs 3.11. Driftwood 3.12. Coco chunks 3.13. Dried leaves 3.14. Vermicast
4. Containers	Containers Include: 4.1. Plastic containers 4.2. Seed tray 4.3. Seed box 4.4. Coconut husk 4.5. Wired basket 4.6. Crates
5. Quality seedlings and cuttings	Characteristics of quality seedlings and cuttings may include: 5.1. Damage free 5.2. Viability 5.3. Free from mixture 5.4. Free from pests and diseases
6. Growth requirements	Growth requirements may include: 4.1. Water 4.2. Light 4.3. Pest resistance 4.3. Rooted (if applicable) 4.4 Distance of flower plants
7. Plant propagation techniques	Plant propagation techniques includes: 7.1. Sexual (Seeds) 7.2. Asexual 7.2.1. Grafting (cleft, side, saddle) 7.2.2. Budding 7.2.3. Marcotting/ air layering 7.2.4. Inarching/approached grafting 7.2.5. Cuttings
8. Maintenance of germinated seedlings and cuttings	Maintenance of germinated seedlings and cuttings may include: 8.1. Plowing 8.2. Watering 8.3. Apply humus 8.4. Apply fertilizer 8.5. Apply pesticide

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1. Prepared nursery tools, materials and equipment. 1.1. Performed basic pre-operative checking of tools, materials and equipment. 1.2. Identified Personal Protective Equipment (PPE). 2. Prepared growing media. 2.1. Placed growing media in prescribed containers. 2.3. Utilized Personal Protective Equipment (PPE). 3. Conducted propagation activities. 3.1. Consulted supervisor the selected quality seedlings and cuttings. 3.2. Considered growth requirements when selecting flower varieties. 3.3. Assessed site conditions 3.4. Considered seasonal conditions 3.5. Performed plant propagation techniques.
2. Resource Implications	The following resources should be provided: 2.1. Shed/ Greenhouse 2.2. Nursery tools/ equipment/materials 2.3. Logbooks
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1. Direct Observation 3.2. Demonstration 3.3 Oral questioning 3.4. Third party report
4. Context for Assessment	4.1. Competency may be assessed individually in the actual workplace or through accredited institution

UNIT OF COMPETENCY : PLANT AND CULTIVATE FLOWERS

UNIT CODE : AB-FLP1108209921302

UNIT DESCRIPTOR : This unit covers the essential knowledge, skills, and attitudes required to cultivate flower beds effectively. It includes preparing farm tools and equipment, preparing soil and flower beds, lay out the flower beds, and planting and cultivating flowers.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Prepare farm tools, materials and equipment	1.1. Required ***tools and materials*** are identified in accordance with the cultivation plan and operational standards. 1.2. Functionality of grass cutter is tested based on manufacturer's manual. 1.3. Tools are cleaned and disinfected following industry procedure. 1.4. P***ersonal protective equipment (PPE)*** is identified according to occupational health and safety regulations. 1.5. Farm tools, materials and equipment are documented following industry procedure.	**SCIENCE** 1.1. Principles of plant hygiene and disease prevention. 1.2. General safety and health practices related to farm work. **TECHNOLOGY** 1.3. Different types of tools and equipment 1.4. Operation and maintenance procedures **COMMUNICATION** 1.5. Manufacturer manuals and workplace operation guidelines. 1.6. Documentation and record-keeping practices **ENVIRONMENT RELATED LAWS AND ORDINANCE** 1.7. Farm safety regulations and occupational health standards.	1.1. Identifying required tools and materials 1.2. Testing the functionality off grass cutter 1.3. Cleaning and disinfecting tools 1.4. Identifying PPE 1.5. Documenting farm tools, materials and equipment

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		1.8. Safety protocols and procedures	
2. Prepare soil and flower beds	2.1. Weeds, rocks, and ***debris*** are removed according to waste management standards. 2.2. Soil is tilled using tools following industry procedure. 2.3. Prepared soil is leveled according to flower bed design specifications. 2.4. ***Bed boundaries*** are marked using stakes and strings as per the cultivation plan. 2.5. Space of planting rows are followed based on plant growth requirements. 2.6. Soil preparation is completed within the designated time frame. 2.7. Personal protective equipment (PPE) is used according to occupational health and safety regulations.	**SCIENCE** 2.1. Soil composition and properties 2.2. Plant biology 2.3. Soil microbiology 2.4. Awareness on Sustainable soil management 2.5. Awareness on Water management standards 2.6. Principles of plant spacing and growth 2.7. Airflow and sunlight exposure **TECHNOLOGY** 2.8. Use and operation of soil preparation tools 2.9. Awareness on Basic irrigation systems 2.10. Awareness on Effective drainage channels **MATHEMATICS** 2.11. Measuring and calculating areas 2.12. Distance calculation 2.13. Alignment and uniformity **COMMUNICATION** 2.14. Soil preparation plans 2.15. Interpreting and following layout plan or diagrams	2.1. Removing weeds, rocks, and debris 2.2. Tilling soil 2.3. Leveling soil 2.4. Marking bed boundaries 2.5. Following space of planting rows 2.6. Completing soil preparation 2.7. Using PPE

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		ENVIRONMENT RELATED LAWS AND ORDINANCE 2.16. Land use regulations 2.17. Environmental standards	
3. Perform flower cultivation	3.1. ***Flower seeds and bulbs*** are selected according to the type of flower and planting plan. *3.2.* ***Cuttings*** are prepared according to the type of flower and planting plan. 3.3. Required tools are checked following operational standards. 3.4. Planting materials are prepared following industry procedure. 3.5. Holes and rows for planting are created according to flower variety specifications and ***planting requirements***. 3.6. Seeds, bulbs, and cuttings are planted using planting techniques. 3.7. Initial watering is performed immediately after planting following water application guidelines. 3.8. Fertilizers and soil enhancers are applied as per the flower's nutrient requirements and recommended dosages.	**SCIENCE** 3.1. Plant biology, including root systems, photosynthesis, and nutrient absorption 3.2. Different flower varieties and their specific growth requirements 3.3. Principles of soil science 3.4. Fertilizer **TECHNOLOGY** 3.5. Gardening tools 3.6. Manual method for applying fertilizers **MATHEMATICS** 3.7. Planting depths and spacing 3.8. Water and fertilizer dosages 3.9. Quantities of seeds, bulbs, or cuttings estimation **COMMUNICATION** 3.10. Planting and cultivation plans 3.11. Recording and maintaining logs for planting dates,	3.1 Selecting flower seeds and bulbs 3.2 Preparing cuttings 3.3 Checking tools 3.4 Preparing planting materials 3.5 Creating holes and rows 3.6 Planting seeds, bulbs, and cuttings 3.7 Performing initial watering 3.8 Applying fertilizer and oil enhancers 3.9 Monitoring plant health 3.10 Documenting cultivation activities 3.11 Applying safety practices

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.9. ***Plant health*** is monitored according to industry procedure. 4.10. Cultivation activities are documented in accordance with workplace recording procedures. 4.11. Safety practices are applied following Occupation Safety and Health Procedures.	care routines, and plant health observations **ENVIRONMENT RELATED LAWS AND ORDINANCE** 3.12. Awareness on Local guidelines and best practices for sustainable gardening	
4. Conduct post-cultivation activities	4.1. Tools are cleaned and disinfected following industry procedure. 4.2. Tools are kept in designated storage areas according to farm safety and efficiency guidelines. *4.3.* ***Wastes*** are disposed of in accordance with environmental regulations and workplace procedures.	**ENVIRONMENT RELATED LAWS AND ORDINANCE** 4.1. Local and National regulations on waste disposal (e.g., disposing of cleaning residues and worn-out tools). 4.2. Regulations and guidelines on waste disposal 4.3. Safe handling of fertilizers	4.1 Cleaning and disinfecting tools 4.2 Keeping tools 4.3 Disposing wastes

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools and materials	Tools and materials may include: 1.1 Gardening Tools: 1.1.1. Bolo 1.1.2. Watering can 1.1.3. Gardening Fork 1.1.4. Pitchfork 1.1.5. Gardening hose 1.1.6. Garden Hand Rake 1.1.7. Trowel 1.1.8. Knife (for cuttings) 1.1.9. Scissor (for cuttings) 1.1.10. Pruning shear 1.2 Digging tools: 1.2.1. Shovel 1.2.2. Spade 1.2.3. Garden Hoe 1.2.4. Rake 1.2.5. Pick Mattock 1.3 Materials: 1.3.1. Plastic twine 1.3.2. Bamboo sticks
2. Personal Protective Equipment (PPE)	Personal Protective Equipment (PPE) includes: 2.1. Gloves 2.2. Rubber Boots 2.3. Jacket 2.4. Farm hat 2.5. Goggles 2.6. Umbrella
3. Debris	Debris may include: 3.1. Stones 3.2. Sticks 3.3. Unwanted Vegetation 3.4. Other Garbage
4. Bed boundaries	Bed boundaries include: 4.1. Canal 4.2. Pathway

5. Flower seeds, bulbs, or cuttings	Flower seeds, bulbs, or cuttings include (any applicable): 5.1. Flower seeds: 5.1.1. Sunflower 5.1.2. Baby's breath 5.1.3. Rose 5.1.4. Chrysanthemum 5.1.5. Dahlia 5.2. Bulbs: 5.2.1. Lirio 5.3. Cuttings: 5.1.1. Rose 5.1.2. Dahlia 5.1.3. Anthurium 5.1.4. Millions 5.1.5. Baby's breath 5.1.6. Daisy 5.1.7. Sampaguita
6. Fertilizer	Fertilizer may include: 6.1. Granular chemical Fertilizer 6.2. Controlled-release fertilizer 6.3. Water soluble Fertilizer 6.4. Organic Fertilizer
7. Wastes	Wastes may include: 7.1. Weeds 7.2. Rocks 7.3. Debris
8. Planting requirements	Planting requirements may include: 8.1. Depth 8.2. Spacing
9. Monitoring of plant health	Monitoring of plant health may include: 9.1. Signs of nutrient deficiencies 9.2. Overwatering 9.3. Stress

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1. Prepared farm tools, materials and equipment 1.1.1. Cleaned and disinfected tools 1.1.2. Identified Personal Protective Equipment (PPE) 1.2. Prepared soil and flower beds 1.2.1. Followed space of planting rows 1.3. Performed flower cultivation 1.3.1. Selected flower seeds and bulbs 1.3.2. Prepared cuttings 1.3.3. Created holes and rows for planting 1.3.4. Planted seeds, bulbs, and cuttings 1.3.5. Applied fertilizers and soil enhancers 1.3.6. Applied safety practices 1.4. Conducted post-cultivation activities 1.4.1. Cleaned and disinfected tools 1.4.2. Disposed wastes
2. Resource Implications	The following resources MUST be provided: 2.1. Tools, materials and equipment 2.2. Personal Protective Equipment (PPEs) 2.3. Flower seeds, bulbs, or cuttings
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1. Direct Observation 3.2. Demonstration 3.3 Oral questioning 3.4. Third party report
4. Context for Assessment	4.1. Competency may be assessed individually in the actual workplace or through accredited institution

UNIT OF COMPETENCY : MAINTAIN FLOWER GROWTH

UNIT CODE : AB-FLP1108209921303

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in applying water and fertilizer, controlling weeds, performing pest and disease management, performing pruning and deadheading, and monitoring growth.

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Apply water and fertilizer	1.1. ***Tools and materials*** are prepared according to user's manual. 1.2. ***Watering methods*** are applied following the plant schedule. 1.3. ***Method of fertilizer application*** is employed based on flower requirements. 1.4. Fertilizers are applied based on flower requirements. 1.5. Precautionary measures are applied to avoid cross contamination based on GAP. 1.6. Safety practices are followed according to Occupational Safety and Health Standards.	**SCIENCE** 1.1. Awareness of humidity on water application 1.2. Weather Conditions on Flower Growth and Yield 1.3. Flower and soil nutrient requirements **TECHNOLOGY** 1.4. Watering methods 1.5. Fertilizer application **ENVIRONMENTAL AND OTHER RELATED LAWS** 1.6. Occupational Safety and Health Standards 1.7. Good Agricultural Practices (GAP)	1.1. Preparing tools and materials 1.2. Applying watering methods 1.3. Employing method of fertilizer application 1.4. Applying fertilizers 1.5. Applying precautionary measures 1.6. Following safety practices

		MATHEMATICS 1.8. Ratio and proportion	
2. Control weeds	2.1. ***Weeds*** are removed using ***tools*** based on industry procedure. 2.2. Dried leaves are collected for preservation based on industry procedure. 2.3. ***Mulching techniques*** are carried out based on flower requirements. 2.4. Herbicide is applied following the manufacturer's manual. 2.5. Safety practices are followed according to OSHS.	**SCIENCE** 2.1. Weed Species 2.2. Effects of Chemicals to weeds **TECHNOLOGY** 2.3. Definition and Purpose of Tillage 2.4. Hand Weeding or Hoeing 2.5. Chemical Weed Control 2.6. Use of Mulching techniques **MATHEMATICS** 2.7. Ratio & Proportion **ENVIRONMENT RELATED LAWS AND ORDINANCES** 2.8. PNS/BAFPS 04:2003: Fresh-cut chrysanthemums (standard type).	2.1. Removing weeds using tools 2.2. Collecting dried leaves 2.3. Carrying out mulching techniques 2.4. Applying herbicide 2.5. Following safety practices
3. Apply pest control measures	3.1. ***Tools and materials*** are prepared according to specific ***pest control measures***. 3.2. ***Pests*** & ***diseases*** incidence is monitored based on industry procedure.	**SCIENCE** 3.1. Tools, Equipment and Materials and Its Uses 3.2. Respiration rates and sensitivity Technology 3.3. Pest control measures	3.1. Preparing tools and materials 3.2. Monitoring Pests & diseases incidence 3.3. Following Pest control measures

	3.3. ***Pest control measures*** are followed based on GAP. 3.4. Safety measures are practiced according to Occupational Health and Safety (OHS) procedures.	**MATHEMATICS** 3.4. Ratio and proportion **ENVIRONMENT RELATED LAWS AND ORDINANCES** 3.5. Clean Water Act (CWA) 3.6. Good Agricultural Practices (GAP) on Pest Control Measures	3.4. Practicing safety measures.
4. Conduct pruning and deadheading	4.1. ***Tools and materials*** for pruning are prepared following industry procedure. 4.2. Pruning and deadheading techniques are performed according to flower requirements. 4.3. Safety procedure is followed according to Occupational Safety and Health Standards.	**SCIENCE** 4.1. Dormancy and Active Growth **TECHNOLOGY** 4.2. Pruning techniques Deadheading techniques **ENVIRONMENT AND OTHER RELATED LAWS** 4.3. Occupational Safety and Health Standards 4.4. PNS PAES 101	4.1 Preparing tools and materials for pruning 4.2. Applying Pruning and deadheading techniques 4.3. Following safety procedures
5. Monitor Growth	5.1. Flower plant resistance is monitored based on flower requirement. 5.2. Water and sunlight requirements are monitored based on flower requirements. 5.3. Schedule of fertilizer	**SCIENCE** 5.1. Plant physiological processes involved in flowering: 5.2. Photoperiodism 5.3. Growth training techniques	5.1. Monitoring flower plant resistance 5.2. Monitoring water and sunlight requirements. 5.3. Recording schedule of fertilizer application.

	application is recorded following industry procedure.	5.4. Occupational Safety and Health Standards	

RANGE OF VARIABLES

VARIABLE	RANGE
1. Watering methods	Watering methods may include: 1.1. Drip 1.2. Furrow Sprinkler
2. Method of fertilizer application	Method of fertilizer application may include: 2.1. Basal 2.2. Side-dress 2.3. Top-dress 2.4. Localized 2.5. Band 2.6. Spray 2.7. Broadcast
3. Weeds	Weeds may include: 3.1. Dandelion 3.2 Crabgrass 3.3. Chickweed 3.4. Creeping Charlie (*Ground ivy)* 3.5. Nutsedge
4. Mulching techniques	Mulching techniques may include: 4.1. Organic Mulching 4.1.1. Straw or Hay Mulching 4.2. Plastic Mulching 4.3. Stone or Gravel Mulching 4.4. Sheet Mulching
5. Pests and diseases	Pests and diseases may include: 5.1. Pests: 5.1.1. Insects 5.1.2. Mites 5.1.3. Rodents 5.2. Diseases: 5.2.1. Powdery Mildew 5.2.2. Botrytis Blight (Gray Mold) 5.2.3. Black Spot 5.2.4. Root Rot
6. Pest control measures	Pest control measures may include: 6.1. Physical 6.2. Mechanical 6.3. Biological 6.4. Cultural 6.5. Chemical (biopesticide, synthetic)

	6.7. Sanitation
7. Tools and materials	Tools and materials may include: 7.1. Tools 7.1.1. Water and fertilizer • Knapsack sprayers • Measuring devices (cups, spoon) • Fertilizer • Pail • Measuring cup • PPEs 7.1.2. Control weeds • Knapsack sprayers • Shovel • Hoe • Bolo • PPEs 7.1.3. Pest control measures • Knapsack sprayers • Measuring devices (cups, spoon) • PPEs 7.1.4. Pruning and deadheading • Pruning shears • Pruning saw • PPEs 7.2. Materials 7.2.1. Water and fertilizer • Fertilizer 7.2.2. Control weeds • Herbicide 7.2.3. Pest control measures • Net • Pesticides 7.3. Equipment 7.3.1 Pest control measures 7.3.2 Power sprayer
8. Pruning techniques	Pruning techniques may include:

	8.1. Deleafing 8.2. Thinning 8.3. Pinching 8.4. Shearing
9. Deadheading techniques	Deadheading techniques may include: 9.1. Pinching 9.2. Snipping 9.3. Cutting back 9.4. Twisting off 9.5. Removing seed head

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Applied water and fertilizer 1.1.1. Applied watering methods. 1.1.2. Applied fertilizers. 1.1.3. Employed method of fertilizer application. 1.1.4. Followed safety practices. 1.2. Controlled weeds 1.2.1. Removed weeds. 1.2.2. Carried out mulching techniques. 1.2.3. Applied herbicide. 1.2.4. Followed safety practices. 1.3. Applied pest control measures 1.3.1. Monitored pests & diseases incidence. 1.3.2. Followed pest control measures. 1.3.3. Practiced safety measures. 1.4. Conducted pruning and deadheading. 1.4.1. Prepared tools and materials for pruning. 1.4.2. Performed pruning and deadheading techniques. 1.4.3. Followed safety procedures. 1.5. Monitored Growth 1.5.1. Monitored water and sunlight requirements. 1.5.2. Recorded schedule of fertilizer application.
2. Resource Implications	The following resources **MUST** be provided: 2.1. Farm or plantation area 2.2. Storage shed 2.3. Farm tools and equipment 2.4. Farm supplies 2.5. Logbooks 2.6. References (fertilizer and pesticide manual/ catalogue, protocols, field guides, etc.)
3. Methods of Assessment	Competency in this unit must be assessed through: 3.1. Direct Observation 3.2. Demonstration 3.3 Oral questioning 3.4. Third party report
4. Context for Assessment	4.1. Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY : CONDUCT HARVEST AND POST-HARVEST

UNIT CODE : AB-FLP1108209921304

UNIT DESCRIPTOR : This unit covers the knowledge, skills, and attitudes required to conduct harvest and post-harvest activities in flower production. It includes preparing for harvest, performing harvesting operations, and handling post-harvest processes.

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Prepare for Harvest	1.1. Flower maturity is identified according to ***physical indicators.*** 1.2. ***Agronomic history*** of matured flowers is checked following industry procedures. 1.3. ***Obstructions*** from the field are removed for efficient harvesting based on industry procedures. 1.4. ***Harvesting tools and materials are*** readied following industry procedures.	**SCIENCE** 1.1. Plant physical indicators 1.2. Temperature & humidity 1.3. Harvesting tools and materials **TECHNOLOGY** 1.4. Agronomic history **MATHEMATICS** 1.5. Measurement of humidity and temperature 1.6. Measurement of area, volume, and weight **COMMUNICATION** 1.7. Record Keeping	1.1. Identifying flower maturity. 1.2. Checking agronomic history of matured flowers. 1.3. Removing obstructions form the field 1.4. Readying harvesting tools and materials `
2. Perform Harvesting	2.1. ***Harvesting methods*** are implemented according to ***flowers and characteristics affecting harvest***.	**SCIENCE** 2.1. Flower Maturity Indices 2.2. Factors affecting quality of harvest	2.1. Implementing harvesting methods 2.2. Performing harvesting

	2.2. Harvesting is performed while observing GAP principles. 2.3. ***Flowers*** are treated according to the ***post-harvest treatment.*** 2.4. Recording is performed following industry procedure. 2.5. Safety practices are applied based on OSHS.	**TECHNOLOGY** 2.3. Harvesting Techniques (Cutting) **COMMUNICATION** 2.4. Harvest Record keeping **ENVIRONMENT RELATED LAWS AND ORDINANCES** 2.5. Good Agricultural Practices (GAP) principles	2.3. Treating flowers 2.4. Performing recording 2.5. Applying safety practices
3. Handle post-harvest	*3.1.* ***Post-harvest operations*** are carried out based on industry procedure 3.2. Use of ***post-harvest equipment*** is monitored in line with the manufacturer's manual. *3.3.* ***Damages*** to flowers are checked based on industry procedure. 3.4. ***Packaging*** is performed according to variety and destination. 3.5 Flowers are ***stored*** in cool dry places prior to distribution in line with industry procedures. 3.6. Recording is conducted	**SCIENCE** 3.1. Tools and equipment and its uses **TECHNOLOGY** 3.2. Post harvest handling to minimize damage 3.3. Packaging and storing practices **MATHEMATICS** 3.4. Basic mathematical operation **COMMUNICATION** 3.5. Record keeping **ENVIRONMENTAL RELATED LAWS AND ORDINANCES**	3.1. Carrying out post-harvest operations 3.2. Monitoring use of post-harvest equipment 3.3. Checking damages to flowers 3.4. Performing packaging 3.5. Storing flowers in a cool dry place 3.6. Conducting recording 3.7. Applying safety practices

	following industry procedure. 3.7. Safety practices are applied based on OSHS.	3.6. Safety Practices (Ergonomic practices, Chemical treatments)	

RANGE OF VARIABLES

VARIABLE	RANGE
1. Physical indicators	Physical indicators may include: 1.1. Change in color 1.2. Change in size 1.3. Change in texture
2. Agronomic history	Agronomic history may include: 2.1. Nursery source 2.2. Variety of flower plant 2.3. Planting calendar 2.3.1 Days after planting 2.3.2 Days after flower induction 2.3.3 Days at flowering
4. Obstructions	Obstructions may include: 4.1. Weeds 4.2. Dead branches 4.3. Stakes and wedges
5. Harvesting tools and materials	Harvesting tools and materials may include the following: 5.1. Tools: 5.1.1. Pruning Shears 5.1.2. Harvesting Knives 5.1.3. Scissors 5.1.4. Harvesting Sickle 5.2. Materials: 5.2.1. Buckets and Containers 5.2.2. Flower Preservatives 5.2.3. Plastic or Mesh Sleeves 5.2.4. Harvesting Apron or Bag 5.2.5. Gloves 5.2.6. Water Sprayer 5.2.7. Cutting Board or Surface 5.2.8. Collecting baskets with liners 5.2.9. Harvesting crates with liner 5.2.10. Container with clean water and preservative 5.2.11. Labels and markers
6. Harvesting methods	Harvesting methods may include: 6.1. Cutting using scissor 6.2. Cutting using knife 6.3. Cutting using pruning shear
7. Flowers	Flowers may include the following but not limited to: 7.1. Chrysanthemum 7.2. Rose 7.3. Daisy 7.4. Anthurium 7.5. Sunflower

	7.6. Baby's Breath 7.7. Dhalia
8. Post-harvest treatments	Post-harvest treatments may include the following: 8.1. Hot water treatment 8.2. Vapor heat treatment 8.3. Chemical treatment 8.4. Best practices in drying 8.5. Pre-cooling treatment
9. Characteristics affecting harvest	Characteristics affecting harvest may include: 9.1. Continued occurrence of physiological changes 9.2. High in water content 9.3. Susceptible to attack by pathogens and insects
10. Post-harvest operations	Post-harvest operations may include: 10.1. Washing 10.2. Cleaning 10.3. Sorting 10.4. Trimming 10.5. Chemical Treatment 10.6. Grading 10.7. Soaking 10.8. Misting 10.9. Storing in Chiller
11. Post-harvest equipment	Post-harvest equipment includes: 11.1. Hot water treatment machine 11.2. Sorter 11.3. Weighing scale
12. Damage	Damage may include: 12.1. Bruising 12.2. Wounding 12.3. Abrasion
13. Packaging	Packaging includes: 13.1. Crates (wooden, plastics and styro) 13.2. Paper wrap 13.3. Carton box 13.4. PEB (Polyethylene bags)
14. Storage of flowers	Storage of flowers include: 14.1. On-farm storage 14.2. Off-farm storage

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Prepared for harvest 1.1.1. Identified flower maturity. 1.2. Performed harvesting 1.2.1. Implemented harvesting methods. 1.2.2. Handled flowers. 1.2.3. Applied safety practices. 1.3. Handled post-harvest 1.3.1. Employed post-harvest operations. 1.3.2. Checked the damages of flowers. 1.3.3. Performed packaging. 1.3.4. *Stored* flowers in cool dry places. 1.3.5. Performed recording. 1.3.6. Applied safety practices.
2. Resource Implications	The following resources **MUST** be provided: 2.1. Facilities and equipment for harvest and post-harvest of flowers 2.2. Farm house 2.3. Packing area 2.4. Storage facilities 2.5. Farm tools and equipment 2.6. Logbooks 2.7. References
3. Methods of Assessment	Competency in this unit must be assessed through 3.1. Direct Observation 3.2. Demonstration 3.3. Oral questioning 3.4. Third party report
4. Context for Assessment	4.1. Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

GLOSSARY OF TERMS

Band - a localized fertilizer application method in which fertilizer is placed in a narrow strip below, beside, or both below and beside the seed at planting time to concentrate nutrients near the root zone.

Budding - a propagation technique where a bud from one plant is inserted into the stem of another plant so that it can grow and develop as a new plant.

Cultivation - the act of preparing and managing the soil for planting, which includes tilling, fertilizing, irrigating, and weeding to support plant growth.

Cut Flowers - flowers that are harvested with stems for decorative purposes, commonly used in bouquets, floral arrangements, and commercial display.

Deadheading - The practice of removing faded or spent flowers from a plant to promote continued blooming, improve plant appearance, and prevent seed development.

Disease Management - set of preventive and corrective practices used to control plant diseases, including monitoring, sanitation, and the use of fungicides or resistant varieties.

Floriculture - a branch of horticulture that involves the cultivation, care, and marketing of flowering and ornamental plants for commercial and decorative use.

Flower Beds - designated plots or areas of cultivated land specifically arranged and maintained for growing flowering plants.

Fungicide - a chemical or biological substance used to prevent, control, or eliminate fungal pathogens that affect plants.

Germination - the initial stage of plant growth where a seed develops into a seedling under favorable environmental conditions such as moisture, temperature, and light.

Greenhouse - a structure made of transparent material designed to create a controlled environment for growing plants, offering protection from weather extremes and pests.

Irrigation - the artificial application of water to soil or growing media to support plant growth, especially in periods of inadequate rainfall.

Localized (Fertilizer Application) - a targeted fertilizer application method where nutrients are applied in specific areas near the seed or plant base to maximize nutrient absorption and reduce waste.

Mulching - the application of organic or inorganic materials on the soil surface to conserve moisture, suppress weed growth, moderate soil temperature, and improve soil health.

Nursery - a facility or area where young plants, including flowers, are propagated and nurtured until they are ready for transplanting or sale.

Pest Control -the management of insects, animals, or organisms that damage plants using biological, mechanical, or chemical methods to minimize crop loss.

Pinching - a horticultural technique that involves removing the growing tip of a plant to encourage bushier growth, increased branching, and improved flowering.

Post-Harvest Handling - all activities carried out after harvesting flowers, including cleaning, grading, sorting, packaging, and storage, aimed at preserving quality and extending shelf life.

Preservation **-** the maintenance of favorable soil or plant conditions—such as mulching or dense plant cover—that naturally suppress weed growth and reduce the need for intervention.

Propagation **-** the process of creating new plants through seeds, cuttings, division, layering, or grafting to reproduce or multiply flowering plants.

Pruning - the selective cutting or removal of plant parts such as leaves, stems, or branches to enhance plant structure, control size, and improve flowering.

Seedling - a young plant that has recently germinated from a seed and developed its initial leaves and root system.

Side-dress - a method of applying fertilizer near the side of growing plants, usually in rows, after crop establishment to provide supplemental nutrients during growth.

Spacing - the intentional distance maintained between plants or rows to ensure optimal growth conditions, including sunlight exposure, airflow, and nutrient access.

Top-dress - the application of fertilizer or compost on the surface of the soil around established plants to provide nutrients without disturbing roots.

Transplanting - the process of moving a plant from one location to another, typically from a nursery tray or pot to a prepared flower bed or growing area.

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