

TRAINING REGULATIONS

RUBBER PRODUCTION NC II



AGRICULTURE, FORESTRY AND FISHERY SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

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

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

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

The Training Regulations (TR) serve as basis for the:

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

Each TR has four sections:

- Section 1 **Definition of Qualification** - describes the qualification and defines the competencies that comprise the qualification.
- Section 2 **Competency Standards** - was revised to include the Required Knowledge and Required Skills per element. These fields explicitly state the required knowledge and skills for competent performance of a unit of competency in an informed and effective manner. These also emphasize the application of knowledge and skills to situations where understanding is converted into a workplace outcome.
- Section 3 **Training Arrangements** - contain the information and requirements which serve as bases for training providers in designing and delivering competency-based curriculum for the qualification. The revisions to Section 3 entail identifying the Learning Activities leading to achievement of the identified Learning Outcome.
- Section 4 **Assessment and Certification Arrangements** - describe the policies governing assessment and certification procedures for the qualification.

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**TRAINING REGULATIONS FOR
RUBBER PRODUCTION NC II**

Section 1 RUBBER PRODUCTION QUALIFICATIONS

The **RUBBER PRODUCTION NC II** Qualification consists of competencies that a person must achieve to produce budstick, establish rubber nursery, perform budding operation, perform rubber farm maintenance and harvest latex. The person must handle a rubber plantation more than one (1) hectare. The proper handling of tools, applying of safety measures and practicing waste management were also required and emphasized for this qualification.

This Qualification is packaged from the competency map of the Agriculture, Forestry and Fishery Sector as shown in Annex A.

The units of competency comprising this qualification include the following:

CODE NO.	BASIC COMPETENCIES
400311210	Participate in workplace communication
400311211	Work in team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Exercise efficient and effective sustainable practices in the workplace
400311218	Practice entrepreneurial skills in the workplace

CODE NO.	COMMON COMPETENCIES
AGR321201	Apply safety measures in farm operations
AGR321202	Use farm tools and equipment
AGR321203	Perform estimation and calculations

CODE NO.	CORE COMPETENCIES
AFF611314	Produce budstick
AFF611315	Establish rubber nursery
AFF611316	Perform budding operation
AFF611317	Perform rubber farm maintenance
AFF611318	Harvest latex

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

- Plant propagator
- Nursery caretaker
- Nursery operator
- Budder
- Tapper
- Rubber farmer
- Rubber farm worker

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 **RUBBER PRODUCTION NC II**.

BASIC COMPETENCIES

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

UNIT CODE : **400311210**

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	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	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 <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>storage of information are used.</p> <p>1.7 Personal interaction is carried out clearly and concisely.</p>		<p>workplace requirements</p> <p>1.8 Basic business writing skills</p> <p>19 Interpersonal skills in the workplace</p> <p>2.0 Active-listening skills</p>
2. Perform duties following workplace instructions	<p>2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines.</p> <p>2.2 Routine written instruction are followed based on established procedures.</p> <p>2.3 Feedback is given to workplace supervisor based instructions/ information received.</p> <p>2.4 Workplace interactions are conducted in a courteous manner.</p> <p>2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from appropriate sources.</p> <p>2.6 Meetings outcomes are interpreted and implemented.</p>	<p>2.1 Effective verbal and non-verbal communication</p> <p>2.2 Different modes of communication</p> <p>2.3 Medium of communication in the workplace</p> <p>2.4 Organizational/ Workplace policies</p> <p>2.5 Communication procedures and systems</p> <p>2.6 Lines of communication</p> <p>2.7 Technology relevant to the enterprise and the individual's work responsibilities</p> <p>2.8 Effective questioning techniques (clarifying and probing)</p> <p>2.9 Workplace etiquette</p>	<p>2.1 Following simple spoken instructions</p> <p>2.2 Performing routine workplace duties following simple written notices</p> <p>2.3 Participating in workplace meetings and discussions</p> <p>2.4 Completing work- related documents</p> <p>2.5 Estimating, calculating and recording routine workplace measures</p> <p>2.6 Relating/ Responding to people of various levels in the workplace</p> <p>2.7 Gathering and providing information in response to workplace requirements</p> <p>2.8 Basic questioning/querying</p> <p>2.9 Skills in reading for information</p> <p>2.10 Skills in locating</p>
3. Complete relevant work- related documents	3.1 Range of forms relating to conditions of	3.1 Effective verbal and non-verbal communication	3.1 Completing work- related documents

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

RANGE OF VARIABLES

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

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 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
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Fax machine 2.2 Telephone 2.3 Notebook 2.4 Writing materials 2.5 Computer with Internet connection
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Demonstration with oral questioning 3.2 Interview 3.3 Written test 3.4 Third-party report
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 4.1 Competency may be assessed individually in the actual workplace or through an accredited institution

UNIT OF COMPETENCY : WORK IN TEAM ENVIRONMENT

UNIT CODE : 400311211

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Describe team role and scope	1.1 The role and objective of the team is identified from available sources of information . 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources.	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace 1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one’s role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified. 2.2 Roles and objectives of the team is identified from available sources of information . 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources.	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace 2.2 Developing ways in improving work structure and performing respective roles in the group or organization
3. Work as a team member	3.1 Effective and appropriate forms of communications are used and interactions undertaken with	3.1 Communication Process 3.2 Workplace communication protocol 3.3 Team planning	3.1 Communicating appropriately, consistent with the culture of the workplace 3.2 Interacting

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

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

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 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
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 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
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 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
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 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 <i>Italicized terms</i> 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	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk practices,

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<i>appropriate person</i> for decision.	systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions 2.6 Root cause analysis	processes and procedures 2.3 Identifying operating system 2.4 Identifying current industry standard diagnostic tools 2.5 Describing common malfunctions and resolutions 2.6 Determining the root cause of a routine malfunction
3. Recommend solutions to problems	3.1 Implementation of solutions are <i>planned.</i> 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

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 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.
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 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.
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Case Formulation 3.2 Life Narrative Inquiry 3.3 Standardized test <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 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 <i>Italicized terms</i> 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	2.1 Basic SWOT analysis 2.2 Strategies to improve one’s attitude in the workplace 2.3 Gibbs’ Reflective Cycle/Model (Description,	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of

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

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 <i>Italicized terms</i> 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

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

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 3.6 Researchers 3.7 Supervisors 3.8 Staff 3.9 Consultants (external) 3.10 People outside the organization in the same field or similar expertise/industry 3.11 Clients
4. Critical inquiry method	May include: 4.1 Preparation 4.2 Discussion 4.3 Clarification of goals 4.4 Negotiate towards a Win-Win outcome 4.5 Agreement 4.6 Implementation of a course of action 4.7 Effective verbal communication. See our pages: Verbal Communication and Effective Speaking. 4.8 Listening 4.9 Reducing misunderstandings is a key part of effective negotiation 4.10 Rapport Building 4.11 Problem Solving 4.12 Decision Making 4.13 Assertiveness 4.14 Dealing with Difficult Situations
5. Reporting skills	May include: 5.1 Data management 5.2 Coding 5.3 Data analysis and interpretation

VARIABLE	RANGE
	5.4 Coherent writing 5.5 Speaking

EVIDENCE GUIDE

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

UNIT OF COMPETENCY : PRESENT RELEVANT INFORMATION

UNIT CODE : 400311215

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> 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 organisational 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	2.1 Business mathematics and statistics 2.2 Data analysis techniques/ procedures 2.3 Reporting requirements to a	2.1 Computing business mathematics and statistics 2.2 Describing data analysis techniques/ procedures

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

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	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Determine data / information 1.2 Studied and applied gathered data/information 1.3 Recorded and studied studied data/information <p>These aspects may be best assessed using a range of scenarios what ifs as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.</p>
2. Resource Implications	<p>Specific resources for assessment</p> <ul style="list-style-type: none"> 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	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Written Test 3.2 Interview 3.3 Portfolio <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
4. Context for Assessment	<ul style="list-style-type: none"> 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 <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify OSH compliance requirements	1.1 Relevant OSH requirements, regulations, policies and procedures are identified in accordance with workplace policies and procedures. 1.2 OSH activity non-conformities are conveyed to appropriate personnel . 1.3 OSH preventive and control requirements are identified in accordance with OSH work policies and procedures.	1.1 OSH preventive and control requirements 1.2 Hierarchy of Controls 1.3 Hazard Prevention and Control 1.4 General OSH principles 1.5 Work standards and procedures 1.6 Safe handling procedures of tools, equipment and materials 1.7 Standard emergency plan and procedures in the workplace	1.1 Communication skills 1.2 Interpersonal skills 1.3 Critical thinking skills 1.4 Observation skills
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures. 2.2. Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures 2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills 2.6 Material, tool and equipment identification skills

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3. Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.		
3. Perform tasks in accordance with relevant OSH policies and procedures	3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures. 3.2 Work Activities are executed in accordance with OSH work standards. 3.3 <i>Non-compliance work activities</i> are reported to <i>appropriate personnel</i> .	3.1 OSH work standards 3.2 Industry related work activities 3.3 General OSH principles 3.4 OSH Violations 3.5 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

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 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
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Facilities, materials tools and equipment necessary for the activity
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation/Demonstration with oral questioning 3.2 Third party report
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 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 <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques. 1.2 Data are recorded in accordance with workplace protocol. 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established environmental work procedures.	1.1 Importance of Environmental Literacy 1.2 Environmental Work Procedures 1.3 Waste Minimization 1.4 Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1 Potential causes of inefficiency and/or ineffectiveness are listed. 2.2 Causes of inefficiency and/or ineffectiveness are identified through deductive reasoning. 2.3 Identified causes of inefficiency and/or ineffectiveness are validated thru established	2.1 Causes of environmental inefficiencies and ineffectiveness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	environmental procedures.		
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are reported to <i>appropriate personnel</i> . 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

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 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 effectiveness of resource utilization to appropriate personnel 1.6 Clarify feedback on information/concerns raised with appropriate personnel
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Workplace 2.2 Tools, materials and equipment relevant to the tasks 2.3 PPE 2.4 Manuals and references
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Demonstration 3.2 Oral questioning 3.3 Written examination
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 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 <i>Italicized terms</i> 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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	3.1 Preservation and optimization of	3.1 Optimization of workplace	3.1 Implementing preservation and

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
operations	<p>workplace resources is implemented in accordance with enterprise policy</p> <p>3.2 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements.</p> <p>3.3 Constructive contributions to office operations are made according to enterprise requirements.</p> <p>3.4 Ability to work within one's allotted time and finances is sustained.</p>	<p>resources</p> <p>3.2 5S procedures and concepts</p> <p>3.3 Criteria for cost-effectiveness</p> <p>3.4 Workplace productivity</p> <p>3.5 Impact of entrepreneurial mindset to workplace productivity</p> <p>3.6 Ways in fostering entrepreneurial attitudes:</p> <ul style="list-style-type: none"> • Quality-consciousness • Safety-consciousness 	<p>optimizing workplace resources</p> <p>3.2 Observing judicious use of workplace tools, equipment and materials</p> <p>3.3 Making constructive contributions to office operations</p> <p>3.4 Sustaining ability to work within allotted time and finances</p>

RANGE OF VARIABLES

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

EVIDENCE GUIDE

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

COMMON COMPETENCIES

UNIT OF COMPETENCY : **APPLY SAFETY MEASURES IN FARM OPERATIONS**

UNIT CODE : **AGR321201**

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 <i>Italicized terms</i> 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 2.5 Environmental	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

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

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 : AGR321202

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 <i>Italicized terms</i> 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 <i>farm equipment</i> 2.2 Instructional manual of the farm tools and equipment are carefully read prior to operation 2.3 <i>Pre-operation check-up</i> 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 2.6 Safety procedures	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 <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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 : AGR321203

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> 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. 2.4 Number computed	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 <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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.

CORE COMPETENCIES

UNIT OF COMPETENCY : PRODUCE BUDSTICK

UNIT CODE : AFF611314

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to establish budwood garden, maintain plant, harvest budstick and market budsticks.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Establish budwood garden	1.1 Soil is collected for laboratory analysis. 1.2 Land preparation is performed following industry standards. 1.3 Lay-outing is conducted following the industry standards. 1.4 Holing is performed according to industry standards. 1.5 True to type NSIC registered planting materials are planted based on industry standards. 1.6 Drainage canal is established based on soil terrain. 1.7 Safety practices are applied based on OSHS.	1.1 Soil moisture 1.2 Soil sampling 1.3 Land preparation 1.4 Reading and interpreting lay-out plan 1.5 Lay-outing dimension 1.6 Line staking 1.7 Measurement tools 1.8 Digging tools 1.9 Holing procedure 1.10 True-to-type rubber budded planting materials 1.11 Planting techniques 1.12 PhilGAP on Natural Rubber 1.13 OSHS	1.1 Preparing land 1.2 Mensuration skills 1.3 Lay-outing skills 1.4 Line staking skills 1.5 Using measurement tools 1.6 Using digging tools 1.7 Digging holes 1.8 Planting true-to-type rubber budded planting materials 1.9 Applying safety practices
2. Maintain plant	2.1 Fertilizer is applied according to plant requirement. 2.2 Watering is carried-out according to plant requirement and soil moisture. 2.3 Pesticides are applied based on pest and disease management. 2.4 Disease management is applied based on	2.1 Weed control 2.2 PNS/ BAFS 183: 2016 2.2.1 Pest Management 2.3 Pesticides 2.4 Waste management 2.5 Weed control 2.6 Monitoring procedures 2.7 OSHS 2.8 Record keeping	2.1 Sampling soil 2.2 Checking soil moisture 2.3 Applying fertilizer 2.4 Watering plant 2.5 Applying weed control 2.6 Conducting monitoring activities 2.7 Disposing wastes 2.8 Applying OSHS

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>disease occurrence.</p> <p>2.5 Weeds are controlled following industry standards.</p> <p>2.6 Pruning is performed following industry standards.</p> <p>2.7 Regular monitoring is conducted based on industry standards.</p> <p>2.8 Wastes are disposed following waste management.</p> <p>2.9 Reporting is performed following industry standards.</p> <p>2.10 Safety practices are applied based on OSHS.</p>	2.9 Reporting procedure	
3. Harvest budstick	<p>3.1 Tools and materials are prepared following industry standards.</p> <p>3.2 Quality budstick is selected based on industry standards.</p> <p>3.3 Harvesting techniques are applied following industry standards.</p> <p>3.4 Packing is performed based on established industry practices.</p> <p>3.5 Budsticks are handled and hauled following established industry practices.</p> <p>3.6 Record keeping is performed following industry standards.</p> <p>3.7 Safety practices are applied following OSHS.</p>	<p>3.1 Preparation of harvesting tools and materials</p> <p>3.2 Features of quality budstick</p> <p>3.3 Harvesting techniques</p> <p>3.4 Harvest for a day consumption</p> <p>3.5 Utilization of harvesting tools</p> <p>3.6 Packing techniques and procedures for budstick</p> <p>3.7 Handling of budsticks</p> <p>3.8 Record keeping</p> <p>3.9 OSHS</p>	<p>3.1 Preparing and checking functionality of tools.</p> <p>3.2 Preparing materials</p> <p>3.3 Selecting quality budstick</p> <p>3.4 Applying harvesting techniques</p> <p>3.5 Utilizing harvesting tools</p> <p>3.6 Packing budstick</p> <p>3.7 Performing record keeping</p> <p>3.8 Applying safety practices</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Lay-outing	May include: 1.1 Measurement of distance 1.2 Line staking 1.3 Determining East-West orientation on flat areas
2. Pesticides	May include: 2.1 Fungicide 2.2 Insecticide 2.3 Rodenticide
3. Tools and materials	May include: 3.1 Tools 3.1.1 Shovel 3.1.2 Digging bar 3.1.3 Measuring steel tape 3.1.4 Handsaw 3.1.5 Pruning shear 3.1.6 Bolo 3.2 Materials 3.2.1 Stick 3.2.2 Rope 3.2.3 Fertilizer 3.2.4 Fungicide 3.2.5 Insecticide 3.2.6 Rodenticide 3.2.7 Record book 3.2.8 Garbage bin 3.2.9 Packing materials: 3.2.9.1 Jute sack 3.2.9.2 Twine 3.2.9.3 Cellophane 3.2.9.4 Box 3.2.9.5 Used paper 3.2.9.6 Packaging tape
4. Quality budstick	May include: 4.1 Matured top whorl leaves 4.2 Size matching to rootstock
5. Harvesting techniques	May include: 5.1 Clone segregation 5.2 Early in the morning with favorable weather condition 5.3 Budstick shall match the rootstock
6. Handling of budsticks	May include: 6.1 Placement in damped jute sack, wrapped with used paper or cellophane, boxed, taped, and tied properly 6.2 Avoid exposure to sunlight 6.3 Maintain moisture

VARIABLE	RANGE
	6.4 Provide cushion to avoid bruising

EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Established budwood garden</p> <p>1.1.1 Collected soil.</p> <p>1.1.2 Performed land preparation.</p> <p>1.1.3 Conducted lay-outing.</p> <p>1.1.4 Performed holing.</p> <p>1.1.5 Planted true to type NSIC registered budded planting materials.</p> <p>1.1.6 Established drainage canal.</p> <p>1.1.7 Applied safety practices.</p> <p>1.2 Maintained plant</p> <p>1.2.1 Applied fertilizer.</p> <p>1.2.2 Carried-out watering.</p> <p>1.2.3 Applied pesticides.</p> <p>1.2.4 Applied disease management.</p> <p>1.2.5 Controlled weeds.</p> <p>1.2.6 Performed pruning.</p> <p>1.2.7 Conducted regular monitoring.</p> <p>1.2.8 Disposed wastes.</p> <p>1.2.9 Performed reporting.</p> <p>1.2.10 Applied safety practices.</p> <p>1.3 Harvested budstick</p> <p>1.3.1 Prepared tools and materials.</p> <p>1.3.2 Selected quality budstick.</p> <p>1.3.3 Applied harvesting techniques.</p> <p>1.3.4 Performed packing.</p> <p>1.3.5 Handled and hauled budsticks.</p> <p>1.3.6 Performed record keeping.</p> <p>1.3.7 Applied safety practices.</p>
<p>2. Resource Implications</p>	<p>The following resources MUST be provided:</p> <p>2.1 Actual and simulated workplace</p> <p>2.2 Materials, tools, and equipment needed to perform the required task</p> <p>2.3 References and manuals</p> <p>2.4 PPEs</p> <p>2.5 First aid kit</p>
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <p>3.1 Demonstration/ observation with oral questioning</p> <p>3.2 Written exam</p> <p>3.3 Oral questioning</p>
<p>4. Context for Assessment</p>	<p>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions</p>

UNIT OF COMPETENCY : ESTABLISH RUBBER NURSERY

UNIT CODE : AFF611315

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to establish rubber polybag nursery site, perform bagging, germinate seeds, maintain ready-to-bud rubber planting materials and maintain rubber budded planting materials.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Establish rubber polybag nursery site	1.1 Site selection is performed based on industry practices. 1.2 Clearing of nursery area is performed following industry practices. 1.3 Lay-outing is conducted following industry best practices. 1.4 Debris are disposed based on waste management. 1.5 Safety practices are applied following OSHS.	1.1 Site selection 1.2 Land preparation 1.3 Reading and interpreting lay-out plan 1.4 Lay-outing dimension 1.5 Line staking 1.6 Measuring tools 1.7 OSHS 1.8 Waste management	1.1 Selecting site 1.2 Clearing nursery area 1.3 Conducting lay-outing 1.4 Disposing debris 1.5 Practicing waste management 1.6 Employing safety 1.7 Using measuring tools 1.8 Mensuration skills 1.9 Communication skills
2. Perform bagging	2.1 Polyethylene bag is filled with potting media based on industry criteria. 2.2 Polyethylene bag is sourced out based on industry criteria. 2.3 Tools and materials are prepared following industry criteria. 2.4 Filled polybag is hauled and arranged to nursery site following industry standard.	2.1 Tools and materials 2.2 Filling of soil 2.3 Sourcing of polybag 2.4 Hauling procedure 2.5 Procedure in piling 2.6 OSHS	2.1 Sourcing out polybag 2.2 Preparing tools and materials 2.3 Filling polybag with top soil 2.4 Hauling filled polybag 2.5 Piling filled polybag 2.6 Practicing safety 2.7 Communication skills
3. Germinate seeds	3.1 Seeds are selected and procured according to seed	3.1 Seed quality standards 3.2 Selection of seed	3.1 Selecting quality seeds 3.2 Selecting seed

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>quality standards.</p> <p>3.2 Seed bed area is selected based on industry criteria.</p> <p>3.3 Seed bed is prepared and maintained based on required standards.</p> <p>3.4 Seeds are soaked and sown following industry criteria.</p> <p>3.5 Germinated seeds selection and culling are performed according to industry standards.</p> <p>3.6 Germinated seeds are transferred to polyethylene bag according to industry practices.</p> <p>3.7 Record keeping is done based on industry practices.</p> <p>3.8 Safety practices are applied following OSHS.</p>	<p>bed area</p> <p>3.3 Preparation of seed bed</p> <p>3.4 Maintenance of seed bed</p> <p>3.5 Seed soaking, sowing</p> <p>3.6 Germinated seed selection and culling</p> <p>3.7 Transferring germinated seed to polybag</p>	<p>bed area</p> <p>3.3 Preparing seed bed</p> <p>3.4 Maintaining seed bed</p> <p>3.5 Seed soaking, sowing</p> <p>3.6 Selecting and culling germinated seed</p> <p>3.7 Transferring germinated seed to polybag</p>
4. Maintain ready-to-bud rubber rootstocks	<p>4.1 Watering is done according to plant requirement.</p> <p>4.2 Fertilizer is applied according to plant requirement.</p> <p>4.3 Seedling pest and disease is identified based on the plant's appearance.</p> <p>4.4 Pesticides are applied based on pest and disease occurrence.</p> <p>4.5 Weeding is performed based on industry practices.</p> <p>4.6 Recordkeeping is</p>	<p>4.1 Ratio of water and fertigation</p> <p>4.2 Inorganic fertilizer</p> <p>4.3 Seedling diseases</p> <p>4.4 Application of pesticides</p> <p>4.5 Procedure in weeding</p> <p>4.6 Basic recordkeeping</p>	<p>4.1 Watering seedlings</p> <p>4.2 Applying fertilizer</p> <p>4.3 Identifying seedling disease</p> <p>4.4 Applying pesticides</p> <p>4.5 Conducting weeding</p> <p>4.6 Performing recordkeeping</p> <p>4.7 Practicing OSHS</p> <p>4.8 Communication skills</p>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>performed following industry practices.</p> <p>4.7 Safety practices are applied following OSHS.</p>		
5. Maintain budded rubber planting materials	<p>5.1 Cutback is performed to live budded seedling based on industry practices.</p> <p>5.2 Hardening is performed based on industry standards.</p> <p>5.3 Sprouts are pruned based on industry standards.</p> <p>5.4 Fertilizer and pesticides is applied following industry practices.</p> <p>5.5 Watering is performed following industry practices.</p> <p>5.6 Rubber budded seedling is selected for field planting following industry practices.</p> <p>5.7 Record keeping is performed following industry practices.</p> <p>5.8 Waste is disposed following waste management.</p> <p>5.9 Safety practices are applied based on OSHS.</p>	<p>5.1 Procedure of cutback</p> <p>5.2 Procedure in Hardening</p> <p>5.3 Procedure in side pruning</p> <p>5.4 Application of fertilizer and pesticides</p> <p>5.5 Watering</p> <p>5.6 Harvesting of budded seedling</p> <p>5.7 Record keeping procedure</p> <p>5.8 OSHS</p> <p>5.9 3Rs</p> <p>5.10 Waste management</p>	<p>5.1 Performing cutback</p> <p>5.2 Conducting hardening</p> <p>5.3 Performing side pruning</p> <p>5.4 Applying fertilizer and pesticides</p> <p>5.5 Watering budded planting materials</p> <p>5.6 Harvesting rubber budded seedling</p> <p>5.7 Performing record keeping</p> <p>5.8 Applying safety practices</p> <p>5.9 Managing wastes</p> <p>5.10 Operating maintenance equipment</p> <p>5.11 Utilizing tools</p> <p>5.12 Following manufacturer's manual</p>
6. Perform post activities	<p>6.1 Tools are maintained following industry standards.</p> <p>6.2 Materials are stored following industry standards.</p> <p>6.3 Inventory of tools and materials is prepared following industry standards.</p>	<p>6.1 Maintenance of tools</p> <p>6.2 Proper storing of materials</p> <p>6.3 Preparation of inventory of tools and materials</p>	<p>6.1 Maintaining tools</p> <p>6.2 Storing materials</p> <p>6.3 Preparing inventory of tools and materials</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Site selection	May include: 1.1 Open area 1.2 Near water source 1.3 Flat or undulated terrain 1.4 Rich top soil 1.5 Accessible to transport 1.6 Presence of drainage canal
2. Lay-outing	May include: 2.1 Measurement of distance 2.2 Line staking 2.3 Determination of East-West orientation 2.4 Flat or undulated terrain
3. Tools and materials	May include: 3.1 Tools 3.1.1 Shovel 3.1.2 Rice funnel 3.1.3 Pruning shear 3.1.4 Budding knife 3.1.5 Knapsack sprayer 3.2 Materials 3.2.1 Polybags 3.2.2 Water sprinkler 3.2.3 PPEs 3.2.3.1 Gloves 3.2.3.2 Masks 3.2.3.3 Long sleeve 3.2.3.4 Boots 3.2.3.5 Hat
4. Seed quality standards	May include: 4.1 Fresh 4.2 Shiny 4.3 Heavy
5. Selection of seed bed area	May include: 5.1 Shaded area 5.2 Near water source 5.3 Flat area
6. Required standards	May include: 6.1 Dimension 6.2 With fine river sand
7. Plant appearance	May include: 7.1 Leaves' appearance 7.1.1 With spots 7.1.2 Yellowing 7.1.3 With blasts 7.2 Latex dripping caused by insect bites

VARIABLE	RANGE
	7.3 Damage plant due to rodent bites
8. Pesticides	May include: 8.1 Fungicide 8.2 Insecticide 8.3 Rodenticide

EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Established rubber polybag nursery site</p> <ul style="list-style-type: none"> 1.1.1 Performed site selection. 1.1.2 Performed clearing of nursery area. 1.1.3 Conducted lay-outing. 1.1.4 Disposed debris. 1.1.5 Applied safety practices. <p>1.2 Performed bagging</p> <ul style="list-style-type: none"> 1.2.1 Filled polyethylene bag. 1.2.2 Sourced out polyethylene bag. 1.2.3 Prepared tools and materials. 1.2.4 Hauled and arranged filled polybag. <p>1.3 Germinated seeds</p> <ul style="list-style-type: none"> 1.3.1 Selected and procured seeds. 1.3.2 Selected seed bed area. 1.3.3 Prepared and maintained seed bed. 1.3.4 Soaked and sown seeds. 1.3.5 Performed germinated seeds selection and culling. 1.3.6 Transferred germinated seeds. 1.3.7 Done record keeping. 1.3.8 Applied safety practices. <p>1.4 Maintained ready-to-bud rubber rootstocks</p> <ul style="list-style-type: none"> 1.4.1 Done watering. 1.4.2 Applied fertilizer. 1.4.3 Identified seedling pest and disease. 1.4.4 Applied pesticides. 1.4.5 Performed weeding. 1.4.6 Performed recordkeeping. 1.4.7 Applied safety practices. <p>1.5 Maintained rubber budded rootstocks</p> <ul style="list-style-type: none"> 1.5.1 Performed cutback. 1.5.2 Performed hardening. 1.5.3 Pruned sprouts. 1.5.4 Applied fertilizer and pesticides. 1.5.5 Performed watering. 1.5.6 Selected rubber budded seedling. 1.5.7 Performed record keeping. 1.5.8 Disposed waste. 1.5.9 Applied safety practices. <p>1.6 Performed post activities</p> <ul style="list-style-type: none"> 1.6.1 Maintained tools. 1.6.2 Stored materials. 1.6.3 Prepared inventory of tools and materials.
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2. Resource Implications	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Demonstration/ observation with oral questioning 3.2 Written exam 3.3 Oral questioning
4. Context for Assessment	<ul style="list-style-type: none"> 4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions

UNIT OF COMPETENCY : PERFORM BUDDING OPERATION

UNIT CODE : AFF611316

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to prepare tools and materials, check weather condition, secure budstick, perform actual budding, rebudding, and perform cutback.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform preparatory activities	1.1 Tools and materials are identify following industry practices. 1.2 Tools and materials are prepared following industry practices. 1.3 Weather condition is checked based on industry practices. 1.4 Budding tape is sliced based on industry practice. 1.5 Safety practices are applied following OSHS.	1.1 Tools and materials 1.2 PPEs 1.3 OSHS 1.4 Preparation of tools and materials 1.5 Sharpening of tools 1.6 Procedure in slicing budding tape	1.1 Identifying tools and materials 1.2 Preparing tools and materials 1.3 Checking weather condition 1.4 Slicing budding tape 1.5 Applying safety practices
2. Secure budstick	2.1 Budstick is sourced out from accredited sources according to industry standards. 2.2 Arrangements with reliable sources are confirmed according to industry practices. 2.3 Quality budstick is selected based on industry standards. 2.4 Harvesting techniques are applied following industry standards. 2.5 Packing is performed based	2.1 Reliable sources of budstick and ready-to-bud planting materials 2.2 Budstick condition 2.3 Packing and handling of budstick 2.4 Harvesting of budstick	2.1 Sourcing-out of budstick and ready-to-bud planting materials 2.2 Determining budstick condition 2.3 Harvesting budstick 2.4 Packing and handling budsticks 2.5 Applying safety practices 2.6 Utilizing harvesting tools

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>on established industry practices.</p> <p>2.6 Budsticks are handled and hauled following established industry practices.</p> <p>2.7 Record keeping is performed following industry standards.</p> <p>2.8 Safety practices are applied following OSHS.</p>		
3. Perform actual budding	<p>3.1 Rootstock is cleaned prior to incision following industry practices.</p> <p>3.2 Size of incision in the rootstock was determined based on industry standards.</p> <p>3.3 Flap of ready-to-bud rubber rootstock is detached and cut following industry standards.</p> <p>3.4 Budpatch with bud eye is extracted from budstick based on industry standards.</p> <p>3.5 Bud patch is attached and taped to ready-to-bud rubber rootstock following industry practices.</p> <p>3.6 Live budded rubber rootstock are identified following industry standards.</p> <p>3.7 Budded rubber rootstocks are opened following industry practices.</p> <p>3.8 Rebudding is performed based</p>	<p>3.1 Quality budeye</p> <p>3.2 Techniques in detaching budeye</p> <p>3.3 Procedure in detaching flap</p> <p>3.4 Procedure in taping budded rubber seedling</p> <p>3.5 Procedure in cutting vacuum cellophane</p> <p>3.6 Basic recordkeeping</p>	<p>3.1 Detaching flap of ready-to-bud rubber seedling</p> <p>3.2 Selecting and detaching quality budeye</p> <p>3.3 Attaching and taping budeye</p> <p>3.4 Identifying live budded rubber planting materials</p> <p>3.5 Opening budded rubber planting materials</p> <p>3.6 Performing record keeping</p> <p>3.7 Applying safety practices</p> <p>3.8 Performing rebudding</p>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>on industry practices.</p> <p>3.9 Cutback is performed to budded rubber planting material.</p> <p>3.10 Record keeping is performed following industry practices.</p> <p>3.11 Safety practices are applied following industry practices.</p>		

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools and materials	May include: 1.1 Tools 1.1.1 Budding knife 1.1.2 Pruning saw 1.1.3 Pruning shear 1.2 Materials 1.2.1 Vacuum cellophane (budding tape) 1.2.2 Sand paper 1.2.3 Sharpening stone 1.2.4 Cloth 1.2.5 Jute sack 1.2.6 Banana bracts 1.2.7 Twine
2. Accredited sources	May include: 2.1 Government established budwood garden 2.2 Private owned budwood garden
3. Quality budstick	May include: 3.1 Matured top whorl leaves 3.2 Size matching to rootstock
4. Harvesting techniques	May include: 4.1 Clone segregation 4.2 Early in the morning with favorable weather condition 4.3 Budstick shall match the rootstock
5. Handling of budsticks	May include: 5.1 Placement in damped jute sack, wrapped with used paper or cellophane, boxed, taped, and tied properly 5.2 Avoid exposure to sunlight 5.3 Maintain moisture 5.4 Provide cushion to avoid bruising

EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Performed preparatory activities</p> <ul style="list-style-type: none"> 1.1.1 Identified tools and materials. 1.1.2 Prepared tools and materials. 1.1.3 Checked weather condition. 1.1.4 Sliced budding tape. 1.1.5 Applied safety practices. <p>1.2 Secured budstick</p> <ul style="list-style-type: none"> 1.2.1 Sourced out budstick. 1.2.2 Confirmed arrangements with reliable sources. 1.2.3 Selected quality budstick. 1.2.4 Applied harvesting techniques. 1.2.5 Performed packing. 1.2.6 Handled and hauled budsticks. 1.2.7 Performed record keeping. 1.2.8 Applied safety practices. <p>1.3 Performed actual budding</p> <ul style="list-style-type: none"> 1.3.1 Cleaned rootstock. 1.3.2 Determined size of incision. 1.3.3 Detached and cut flap of ready-to-bud rubber rootstock. 1.3.4 Extracted budpatch with bud eye. 1.3.5 Attached and taped bud patch. 1.3.6 Identified live budded rubber rootstock. 1.3.7 Opened budded rubber rootstocks. 1.3.8 Performed rebudding. 1.3.9 Performed cutback. 1.3.10 Performed record keeping. 1.3.11 Applied safety practices.
<p>2. Resource Implications</p>	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Demonstration/ observation with oral questioning 3.2 Written exam 3.3 Oral questioning
<p>4. Context for Assessment</p>	<p>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions</p>

UNIT OF COMPETENCY : PERFORM RUBBER FARM MAINTENANCE

UNIT CODE : AFF611317

UNIT DESCRIPTOR : This unit covers the knowledge and skills required to select planting site, conduct land preparation, perform site laying-out and staking, plant poly-bagged budded rubber seedling and perform maintenance activities.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Select planting site	1.1 Site inspection and validation was conducted based on industry standards. 1.2 Suitability of area is determined as rubber farm following industry practice. 1.3 Updates and information on climatic condition was obtained based on industry standards. 1.4 Soil sampling are conducted for laboratory soil analysis. 1.5 Result of soil analysis are used to determine soil nutrient deficiency.	1.1 Procedures of site inspection and validation 1.2 Suitability of area 1.3 Updates and information on weather condition 1.4 Soil sampling procedure 1.5 Result of soil analysis 1.6 OSHS	1.1 Conducting site inspection and validation 1.2 Checking water table 1.3 Determining suitability of area 1.4 Obtaining updates and information on weather condition 1.5 Conducting soil sampling 1.6 Using result of soil analysis 1.7 Applying OSHS
2. Conduct land preparation	2.1 Clearing operation is performed according to industry standards. 2.2 Equipment service was sourced out based on work requirements. 2.3 Land preparation activities are done following industry established practices.	2.1 Clearing operation 2.2 Sourcing of equipment service 2.3 Land preparation activities 2.4 Establishment of drainage canal to prevent water logging 2.5 Farm practices of securing farm	2.1 Performing clearing operation 2.2 Sourcing equipment service 2.3 Communicating with equipment service provider 2.4 Preparing land 2.5 Establishing drainage canal 2.6 Securing area

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.4 Drainage canal was established to prevent water logging. 2.5 Canals were established to ensure water drainage. 2.6 Area was secured through fencing following established farm practices. 2.7 Safety practices are applied based on OSHS.	area 2.6 OSHS on land preparation	through fencing 2.7 Employing OSHS
3. Conduct layouting and staking	3.1 Tools, materials and supplies are prepared according to work requirement and plan. 3.2 Line staking are used for establishing baseline according to industry standards. 3.3 Measurement and staking are performed based on plan. 3.4 Safety practices are employed based on OSHS.	3.1 Types and uses of tools, materials and supplies for layouting 3.2 Line staking procedures 3.3 Industry standards 3.4 Measurement and staking 3.5 Quincux layouting 3.6 OSHS	3.1 Preparing tools, materials and supplies 3.2 Using line staking for baseline establishment 3.3 Performing measurement and staking 3.4 Practicing OSHS
4. Perform holing	4.1 Tools and materials are prepared according work requirements. 4.2 Equipment and manpower services are sourced out based on work requirements. 4.3 Hole is dug following industry standards. 4.4 Safety measures are practiced following OSHS.	4.1 Tools and materials for holing 4.2 Sourcing out of equipment and manpower services 4.3 Hole digging procedure 4.4 OSHS for holing activities	4.1 Preparing tools and materials 4.2 Sourcing out equipment and manpower services 4.3 Digging hole 4.4 Practicing safety measures

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
5. Perform planting of budded planting material	5.1 Quality budded planting material are selected based on industry criteria . 5.2 Budded planting material are handled during transfer according to industry standards. 5.3 Basal fertilizer is applied following crop requirements. 5.4 Levelling and compacting hole base is done according to established practice. 5.5 Planting techniques are applied based on industry standards. 5.6 Safety practices are applied following OSHS.	5.1 Selection of quality budded rubber planting material 5.2 Industry criteria on selection of quality budded rubber planting material 5.3 Handling of budded rubber planting material 5.4 Levelling and compacting of hole base 5.5 Placing of budded planting material 5.6 Backfilling with top soil 5.7 Fertilizer application 5.8 Planting procedures of budded rubber planting material 5.9 Safety measures in planting procedures 5.10 Elephant foot	5.1 Selecting quality budded rubber planting material 5.2 Following industry criteria 5.3 Handling budded rubber planting material 5.4 Levelling and compacting hole base 5.5 Placing budded rubber planting material 5.6 Backfilling top soil 5.7 Applying fertilizer 5.8 Applying planting procedures 5.9 Applying safety measures
6. Perform routine farm maintenance	6.1 Weeding is performed based on industry standards. 6.2 Cover crop is planted and managed according to industry practice. 6.3 Application of fertilizer is done according to industry standards . 6.4 Replanting is performed according industry practice. 6.5 Pruning is conducted following established industry	6.1 Round weeding 6.2 Strip/linear weeding 6.3 Functions of sprayer 6.4 Side pruning 6.5 Management of cover crop 6.6 Fertilizer application 6.7 Replanting 6.8 Top pruning 6.9 Monitoring and controlling of pest and diseases 6.10 Marking of treated rubber tree 6.11 Restoration of wind-damaged	6.1 Performing weeding 6.2 Conducting pruning 6.3 Managing cover crop 6.4 Applying fertilizer 6.5 Performing replanting 6.6 Monitoring and controlling pest and diseases 6.7 Marking treated rubber trees 6.8 Restoring wind-damaged trees 6.9 Holing and planting cover crop 6.10 Managing fire

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>standards.</p> <p>6.6 Branch induction is performed following industry standards.</p> <p>6.7 Pest and diseases are monitored and controlled following GAP.</p> <p>6.8 Knapsack sprayer was prepared according to manufacturer's manual.</p> <p>6.9 Safety is applied following OSHS.</p>	<p>trees</p> <p>6.12 Holing and planting of cover crop</p> <p>6.13 Fire hazard management</p> <p>6.14 OSHS for maintenance of rubber farm</p> <p>6.15 Basic mathematical operation and calculation</p>	<p>hazard</p> <p>6.11 Practicing safety measures</p> <p>6.12 Basic mathematical skills</p>
7. Conduct post-farm maintenance activities	<p>7.1 Replanting is done on missing hills.</p> <p>7.2 Field culling and resupplying is performed based on industry standards.</p> <p>7.3 Wastes are segregated and composted following waste management.</p> <p>7.4 Maintenance and safe keeping of tools, materials and equipment are done according workplace procedure</p> <p>7.5 Recording and reporting of daily activities are carried out following industry procedures.</p> <p>7.6 Inventory of supplies and materials are done based on standard operating procedures.</p> <p>7.7 Safety practices are applied following OSHS.</p>	<p>7.1 Dead points</p> <p>7.2 Field culling and resupplying</p> <p>7.3 Waste management</p> <p>7.4 Maintenance and safekeeping of tools, materials and equipment</p> <p>7.5 Recording and reporting of daily activities</p> <p>7.6 Inventory of supplies and materials</p> <p>7.7 Basic mathematical operation</p> <p>7.8 Safety practices on post-farm management activities</p>	<p>7.1 Resupplying of dead points</p> <p>7.2 Performing field culling and resupplying</p> <p>7.3 Conducting waste management</p> <p>7.4 Maintaining and safe keeping of tools, materials and equipment</p> <p>7.5 Recording and reporting daily activities</p> <p>7.6 Conducting inventory supplies and materials</p> <p>7.7 Mathematical skills</p> <p>7.8 Practicing safety practices</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Suitability of area	This pertains to the following: 1.1 Elevation 1.2 Soil suitability 1.3 Topography 1.4 Water table 1.5 Rainfall 1.6 Accessibility of area
2. Climatic condition	Weather condition includes 2.1 Rainfall 2.2 Wind
3. Clearing operation	Clearing operation may include: 3.1 Tree felling 3.2 Uprooting and removal of stump 3.3 Removal of debris
4. Land preparation activities	This may include the following but is not limited to: 4.1 Ripping 4.2 Plowing 4.3 Harrowing 4.4 Terracing
5. Tools, materials and supplies	Tools, materials, supplies and equipment may include: 5.1 Tools 5.1.1 Digging bar 5.1.2 Shovel 5.1.3 Sickle 5.1.4 Selector knife 5.1.5 Grab hoe 5.1.6 Bark scraper (wood or steel) 5.1.7 Pruning saw 5.1.8 Pruning shear 5.1.9 Clip pruner 5.1.10 Cane knife 5.1.11 A frame (for staking) 5.1.12 Carpenters' label 5.2 Materials and Supplies 5.2.1 Compass 5.2.2 Pail 5.2.3 Measuring cup 5.2.4 Measuring tape 5.2.5 Plastic rope 5.2.6 Bamboo stick (marker) 5.2.7 Bamboo stick (as digger) 5.2.8 Bamboo pole (distance measurement) 5.2.9 Collector of used polybag (bamboo stick/wire) 5.2.10 Ready-to-plant budded rubber planting material

VARIABLE	RANGE
	5.2.11 Fertilizer 5.2.12 Paint brush 5.2.13 Plastic container (for fertilizer, liquid pesticides) 5.2.14 Jute sack 5.2.15 Pesticides 5.2.16 Fertilizers 5.2.17 Herbicides 5.2.18 Twine 5.2.19 Paint marker 5.2.20 Bamboo pole (as support) 5.2.21 Rope (for pulling wind- damaged trees) 5.2.22 Harness and safety belt 5.2.23 PPE 5.2.23.1 Eye protector 5.2.23.2 Cap 5.2.23.3 Rainboot 5.2.23.4 Longsleeves 5.2.23.5 Gloves 5.2.23.6 Mask 5.3 Equipment 5.3.1 Knapsack sprayer 5.3.2 Ladder
6. Industry criteria on quality budded rubber planting material	Industry criteria may include: 6.1 Damaged planting material 6.2 Damaged polybag 6.3 Polybag of spilled-out soil media
7. Fertilizer	Fertilizer includes: 7.1 Organic/Compost 7.2 Inorganic/chemicals/synthetics
8. Planting techniques	Planting techniques may include: 8.1 Levelling and compacting 8.2 Application of basal fertilizer 8.3 Placing of rubber budded rubber seedling 8.4 Backfilling 8.5 Burying bud union
9. Weeding	This includes the following but is not limited to: 9.1 Tree row/Strip weeding 9.2 Inter-row/General weeding 9.3 Round weeding 9.4 Rolling over tall weeds 9.5 Application of herbicides
10. Industry standards on fertilizer application	Industry standards on fertilizer application: 10.1 Plant requirement 10.2 Soil analysis result
11. Pruning	Pruning may include: 11.1 Side pruning 11.2 Top pruning

VARIABLE	RANGE
12. Monitoring of pest and diseases	Monitoring of pest and diseases may include: 12.1 Visual inspection of signs and symptoms, 12.2 Marking/tagging, 12.3 Record keeping
13. Controlling of pest and diseases	Controlling of pest and diseases may include: 13.1 Chemical treatment, 13.2 Manual removal of fungi, 13.3 Removal and disposal of infected bark and roots
14. Wastes	Wastes may include: 14.1 Plastics 14.2 Cellophane 14.3 Polyethylene bags 14.4 Chemicals

EVIDENCE GUIDE

<p>1. Critical Aspects of Competency:</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Selected planting site <ul style="list-style-type: none"> 1.1.1 Conducted site inspection and validation. 1.1.2 Determined suitability of area. 1.1.3 Obtained updates and information on climatic condition. 1.1.4 Conducted soil sampling. 1.1.5 Used result of soil analysis. 1.2 Conducted land preparation <ul style="list-style-type: none"> 1.2.1 Performed clearing operation. 1.2.2 Sourced out equipment service. 1.2.3 Done land preparation activities. 1.2.4 Established drainage canal. 1.2.5 Established canals. 1.2.6 Secured area. 1.2.7 Applied safety practices. 1.3 Conducted layouting and staking <ul style="list-style-type: none"> 1.3.1 Prepared tools, materials and supplies. 1.3.2 Used line staking. 1.3.3 Performed measurement and staking. 1.3.4 Employed safety practices. 1.4 Performed holing <ul style="list-style-type: none"> 1.4.1 Prepared tools and materials. 1.4.2 Sourced out equipment and manpower services. 1.4.3 Dug hole. 1.4.4 Practiced safety measures. 1.5 Performed planting of budded rubber planting material <ul style="list-style-type: none"> 1.5.1 Selected quality budded rubber planting material. 1.5.2 Handled budded rubber planting material. 1.5.3 Applied basal fertilizer. 1.5.4 Done levelling and compacting hole base. 1.5.5 Applied planting techniques. 1.5.6 Applied safety practices. 1.6 Performed routine farm maintenance <ul style="list-style-type: none"> 1.6.1 Performed weeding. 1.6.2 Planted and managed cover crop. 1.6.3 Done application of fertilizer. 1.6.4 Performed replanting. 1.6.5 Conducted pruning. 1.6.6 Performed branch induction. 1.6.7 Monitored and controlled pest and diseases. 1.6.8 Prepared knapsack sprayer. 1.6.9 Safety is applied following OSHS.
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	<p>1.7 Conducted post-farm management activities</p> <p>1.7.1 Done replanting.</p> <p>1.7.2 Performed field culling and resupplying.</p> <p>1.7.3 Segregated and composted wastes.</p> <p>1.7.4 Done tools, materials and equipment.</p> <p>1.7.5 Carried out recording and reporting of daily activities.</p> <p>1.7.6 Done inventory of supplies and materials.</p> <p>1.7.7 Applied safety practices.</p>
2. Resource Implications	<p>2.1 All supplies, materials and equipment needed during farm operations should be readily available at the farm site</p> <p>2.1.1 Tools and farm implements use in activities such as clearing and plowing sites, digging, among others.</p> <p>2.1.2 PPE</p> <p>2.1.2.1 Soil sampler</p> <p>2.1.2.2 Fertilizers</p> <p>2.1.2.3 Insecticides/pesticides</p> <p>2.1.2.4 Layout plan</p> <p>2.1.2.5 Digging tools</p> <p>2.1.2.6 Stakes</p> <p>2.1.2.7 Sprayer</p> <p>2.2 All workers involved in different activities must be fully oriented and cautioned on the different specific work activities of the farm</p> <p>2.3 Technical supervisors should have skills and ability in the successful implementation of work program activities</p> <p>2.4 Reference materials</p> <p>2.5 First aid kit</p>
3. Method of Assessment	<p>Competency in this unit must be assessed through:</p> <p>3.1 Demonstration/direct observation with oral questioning</p> <p>3.2 Written examination</p>
4. Context of Assessment	<p>4.1 Assessment may occur in an appropriately simulated environment through TESDA accredited assessment centers</p>

UNIT OF COMPETENCY : HARVEST LATEX

UNIT CODE : AFF611318

UNIT DESCRIPTOR : This unit covers the knowledge and skills required to perform pre-tapping operations, perform tapping, perform collection activities market rubber coagulum and cuplumps.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform pre-tapping operations	1.1 Girth inventory is performed based on standard pre-tapping procedure. 1.2 Panel marking is performed using template according to industry standards. 1.3 Tappable trees are pre-opened following industry practices. 1.4 Tapping tools, materials, supplies and equipment were prepared based on work requirements. 1.5 Area tasking was determined following industry standards. 1.6 Job assignments are coordinated from farm owner. 1.7 Written agreements are secured following industry standards. 1.8 Safety is applied following OSHS.	1.1 Girth size inventory 1.2 Dotting procedures 1.3 Preparation of tapping tools, materials, supplies and equipment 1.4 Installation of tapping paraphernalia and panel markings 1.5 Rubber tasking 1.6 Coordination of job assignments	1.1 Performing girth size 1.2 Conducting dotting activities 1.3 Preparing tapping tools, materials, supplies and equipment 1.4 Installing tapping paraphernalia 1.5 Determining rubber tasking 1.6 Coordinating job assignments
2. Perform tapping	2.1 Tapping techniques are performed based on industry standards. 2.2 Tapping paraphernalia are	2.1 Criteria of tappable trees 2.2 Measurement and determination of tappable trees 2.3 Utilization of	2.1 Measuring and determining tappable trees 2.2 Opening tappable trees 2.3 Utilizing opening

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	utilized following industry standards. 2.3 Tapping paraphernalia were maintained according to established farm practice. 2.4 Safety measures were applied based on OSHS.	opening gadgets 2.4 Removal and collection of treelace and scraps 2.5 Weed management 2.6 Maintenance of tapping tools 2.7 OSHS on rubber tapping activities	gadgets 2.4 Removing and collecting treelaces and scraps 2.5 Practicing safety 2.6 Managing weeds 2.7 Maintaining tapping tools 2.8 Mathematical skills
3. Coagulate latex	3.1 Formic acid solution is prepared following standard formula. 3.2 Formic acid is applied according to industry standards. 3.3 Safety practices are applied following OSHS.	3.1 Preparation of formic acid solution 3.2 Application of acid 3.3 OSHS	3.1 Preparing formic solution 3.2 Applying formic acid 3.3 Applying safety practices
4. Perform collection activities	4.1 Latex and cuplump are collected according to established farm standards. 4.2 Volume of latex is measured following industry standards. 4.3 Cuplump is weighed following industry standards. 4.4 Safety practices are done according to industry standard.	4.1 Collection and storage of latex and cuplump 4.2 Weighing of collected latex and cuplump 4.3 Recording of weight 4.4 Utilization of weighing scale 4.5 Safety on handling formic acid	4.1 Collecting and storing latex and cuplump 4.2 Weighing collected latex and cuplump 4.3 Recording collections. 4.4 Practicing safety 4.5 Utilizing weighing scale
5. Market rubber coagulum and cuplumps	5.1 Collected latex and cuplump are classified based on industry criteria. 5.2 Canvass for better price of latex and cuplumps are performed with reference to industry practice. 5.3 Costing of latex and cuplump are computed following	5.1 Classification of collected latex and cuplump 5.2 Computation for costing of latex and cuplump 5.3 Sharing arrangement for earnings 5.4 Canvassing for better price of latex and cuplumps	5.1 Classifying collected latex and cuplump 5.2 Computing costing of latex and cuplump 5.3 Following sharing arrangement for earnings 5.4 Canvassing better price of latex and

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	industry standards. 5.4 Arrangement on sharing of earnings is followed based industry practice. 5.5 Marketing transaction is completed following industry practice.	5.5 Completion of marketing transaction 5.6 Basic mathematical operation 5.7 Formalization of agreement 5.8 Negotiation procedures	cuplump 5.5 Completing marketing transaction 5.6 Negotiation skills 5.7 Communication skills 5.8 Mathematical and computation skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tapping tools, materials, supplies and equipment	<p>This may include but not limited to:</p> <ul style="list-style-type: none"> 1.1 Supplies and materials <ul style="list-style-type: none"> 1.1.1 Personal Protective Equipment <ul style="list-style-type: none"> 1.1.1.1 Rubber boots 1.1.1.2 Head gear 1.1.1.3 Goggles 1.1.1.4 Body protector (jacket, long sleeves) 1.1.1.5 Gloves 1.1.1.6 Mask 1.1.2 Tapping knife holder 1.1.3 Formic acid 1.1.4 Stirring stick 1.1.5 Record book 1.1.6 Spout 1.1.7 Rubber latex cups 1.1.8 Cup holder 1.1.9 Tying material 1.1.10 Measuring tape 1.1.11 Measuring stick (can be fabricated) 1.1.12 Bark marker 1.1.13 Collecting bucket 1.2 Tools <ul style="list-style-type: none"> 1.2.1 Tapping knife 1.2.2 Tapping knife holder 1.2.3 Tapping panel templates (fabricated) 1.2.4 Sharpening stone (fine and rough) 1.3 Equipment <ul style="list-style-type: none"> 1.3.1 Head-gear lights 1.3.2 Portable Weighing scales
2. Tapping paraphernalia	<p>Tapping paraphernalia includes:</p> <ul style="list-style-type: none"> 2.1 Latex collecting cups 2.2 Spout 2.3 Cup holder 2.4 Tapping knife 2.5 Tying material 2.6 Panel marking (template)

EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Performed pre-tapping operations</p> <p>1.1.1 Performed girth inventory.</p> <p>1.1.2 Performed panel marking.</p> <p>1.1.3 Pre-opened tappable trees.</p> <p>1.1.4 Prepared tapping tools, materials, supplies and equipment.</p> <p>1.1.5 Determined area tasking.</p> <p>1.1.6 Coordinated job assignments.</p> <p>1.1.7 Secured written agreements.</p> <p>1.1.8 Applied safety.</p> <p>1.2 Performed tapping</p> <p>1.2.1 Performed tapping techniques.</p> <p>1.2.2 Utilized tapping paraphernalia.</p> <p>1.2.3 Maintained tapping paraphernalia.</p> <p>1.2.4 Applied safety measures.</p> <p>1.3 Coagulated latex</p> <p>1.3.1 Prepared formic acid solution.</p> <p>1.3.2 Applied formic acid.</p> <p>1.3.3 Applied safety practices.</p> <p>1.4 Performed collection activities</p> <p>1.4.1 Collected latex and cuplump.</p> <p>1.4.2 Measured volume of latex.</p> <p>1.4.3 Wieghed cuplump.</p> <p>1.4.4 Done safety practices.</p> <p>1.5 Marketed rubber coagulum and cuplumps</p> <p>1.5.1 Classified collected latex and cuplump.</p> <p>1.5.2 Performed canvass for better price of latex and cuplumps.</p> <p>1.5.3 Computed costing of latex and cuplump.</p> <p>1.5.4 Followed arrangement on sharing of earnings.</p> <p>1.5.5 Completed marketing transaction.</p>
<p>2. Resource Implications</p>	<p>2.1 All supplies, materials and farm implements needed during farm operations should be readily available at the farm site:</p> <p>2.1.1 Rubber plantation</p> <p>2.1.2 Tools and equipment essential to rubber harvesting</p> <p>2.1.3 Supplies and materials in harvesting procedures</p> <p>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</p> <p>2.3 First aid kit</p> <p>2.4 Reference materials and manuals</p>

3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Demonstration/Direct observation with oral questioning 3.2 Written examination
4. Context of Assessment	4.1 Assessment may occur in an appropriately simulated environment through TESDA accredited assessment centers

SECTION 3 TRAINING ARRANGEMENTS

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

3.1 CURRICULUM DESIGN

TESDA shall provide the training on the development of competency-based curricula to enable training providers develop their own curricula with the components mentioned below.

Delivery of knowledge requirements for the basic, common and core units of competency specifically in the areas of mathematics, science/technology, communication/language and other academic subjects shall be contextualized. To this end, TVET providers shall develop a Contextual Learning Matrix (CLM) to accompany the curricula.

Course Title: **RUBBER PRODUCTION** **NC Level** **NC II**

Nominal Training Duration:

37	Hours (Basic Competencies)
72	Hours (Common Competencies)
212	Hours (Core Competencies)
321	TOTAL HOURS

The applicable training modality for this Training Regulation is a combination of institution-based under (Section 3.2.2.1), enterprise-based under (Section 3.2.2.2) and community-based under (Section 3.2.2.3) of which at least 40 hours shall be dedicated to actual workplace learning/ industry training. The training design shall follow the requirements of SIL as stipulated in TESDA Circular No. 089 series 2019 entitled *“Implementing Guidelines for Supervised Industry Learning (SIL)”*, particularly under Sections V, VI and VII thereof.

Course Description:

This course is designed to enhance the knowledge, skills and attitudes of an individual in the field of rubber production in accordance with industry standards. It covers specialized competencies such as producing budstick, establishing rubber nursery, performing budding operation, performing rubber farm management and harvesting latex.

Upon completion of the course, the learners are expected to demonstrate the above-mentioned competencies to be employed. To obtain this, all units prescribed for this qualification must be achieved.

BASIC COMPETENCIES – NATIONAL CERTIFICATE NC II
37 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
1. Participate in workplace communication	1.1 Obtain and convey workplace information	<ul style="list-style-type: none"> • Describe Organizational policies • Read: <ul style="list-style-type: none"> ○ Effective communication ○ Written communication ○ Communication procedures and systems • Identify: <ul style="list-style-type: none"> ○ Different modes of communication ○ Medium of communication ○ Flow of communication ○ Available technology relevant to the enterprise and the individual's work responsibilities • Prepare different Types of question • Gather different sources of information • Apply storage system in establishing workplace information • Demonstrate Telephone courtesy 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration 	<ul style="list-style-type: none"> • Oral evaluation • Written examination • Observation 	2 Hours
	1.2 Perform duties following workplace instructions	<ul style="list-style-type: none"> • Read: <ul style="list-style-type: none"> ○ Written notices and instructions ○ Workplace interactions and procedures • Read instructions on work related forms/documents 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration 	<ul style="list-style-type: none"> • Oral evaluation • Written examination • Observation 	2 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	1.3 Complete relevant work related documents	<ul style="list-style-type: none"> • Perform workplace duties scenario following workplace instructions • Describe Communication procedures and systems • Read: <ul style="list-style-type: none"> ○ Meeting protocols ○ Nature of workplace meetings ○ Workplace interactions ○ Barriers of communication • Read instructions on work related forms/documents • Practice: <ul style="list-style-type: none"> ○ Estimate, calculate and record routine workplace measures ○ Basic mathematical processes of addition, subtraction, division and multiplication • Demonstrate office activities in: <ul style="list-style-type: none"> ○ workplace meetings and discussions scenario • Perform workplace duties scenario following simple written notices • Follow simple spoken language • Identify the different Non-verbal communication • Demonstrate ability to relate to people of social range in the workplace • Gather and provide information in response to workplace requirements • Complete work related documents 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration • Role play 	<ul style="list-style-type: none"> • Oral evaluation • Written examination • Observation 	2 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
2. Work in a team environment	2.1 Describe team role and scope	<ul style="list-style-type: none"> • Discussion on team roles and scope • Participate in the discussion: <ul style="list-style-type: none"> ○ Definition of Team ○ Difference between team and group ○ Objectives and goals of team • Locate needed information from the different sources of information 	<ul style="list-style-type: none"> • Lecture/ Discussion • Group Work • Individual Work • Role Play 	<ul style="list-style-type: none"> • Role Play • Case Study • Written Test 	1 Hour
	2.2 Identify one's role and responsibility within team	<ul style="list-style-type: none"> • Role play: <ul style="list-style-type: none"> ○ individual role and responsibility • Role Play <ul style="list-style-type: none"> ○ Understanding Individual differences • Discussion on gender sensitivity 	<ul style="list-style-type: none"> • Role Play • Lecture/ Discussion 	<ul style="list-style-type: none"> • Role Play • Written Test 	1 Hour
	2.3 Work as a team member	<ul style="list-style-type: none"> • Participate in group planning activities • Role play: Communication protocols • Participate in the discussion of standard work procedures and practices 	<ul style="list-style-type: none"> • Group work • Role Play • Lecture/ Discussion 	<ul style="list-style-type: none"> • Role Play • Written Test 	1 Hour
3. Solve/address routine problems	3.1 Identify routine problems	<ul style="list-style-type: none"> • Review of the current industry hardware and software products and services • Identify correctly the industry maintenance, service and helpdesk practices, processes and procedures • Make use of the industry standard 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration • Role playing 	<ul style="list-style-type: none"> • Case Formulation • Life Narrative Inquiry (Interview) • Standardized test 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		diagnostic tools <ul style="list-style-type: none"> • Share best practices in determining basic malfunctions and resolutions to general problems in the workplace • Analyze routine/procedural problems 			
	3.2 Look for solutions to routine problems	<ul style="list-style-type: none"> • Review of the current industry hardware and software products and services • Identify correctly the industry maintenance, service and helpdesk practices, processes and procedures • Make use of the industry standard diagnostic tools • Share best practices in determining basic malfunctions and resolutions to general problems in the workplace • Formulate possible solutions to problems and document procedures for reporting 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration • Role playing 	<ul style="list-style-type: none"> • Case Formulation • Life Narrative Inquiry (Interview) • Standardized test 	1 Hour
	3.3 Recommend solutions to problems	<ul style="list-style-type: none"> • Discuss standard operating procedures and documentation processes 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration • Role playing 	<ul style="list-style-type: none"> • Case Formulation • Life Narrative Inquiry (Interview) • Standardized test 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
4. Develop Career and Life Decisions	4.1 Manage one's emotion	<ul style="list-style-type: none"> • Demonstrate self-management strategies that assist in regulating behavior and achieving personal and learning goals • Explain enablers and barriers in achieving personal and career goals • Identify techniques in handling negative emotions and unpleasant situation in the workplace such as frustration, anger, worry, anxiety, etc. • Manage properly one's emotions and recognize situations that cannot be changed and accept them and remain professional • Recall instances that demonstrate self- discipline, working independently and showing initiative to achieve personal and career goals • Share experiences that show confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace 	<ul style="list-style-type: none"> • Discussion • Interactive Lecture • Brainstorming • Demonstration • Role-playing 	<ul style="list-style-type: none"> • Demonstration or simulation with oral questioning • Case problems involving workplace diversity issues 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	4.2 Develop reflective practice	<ul style="list-style-type: none"> • Enumerate strategies to improve one's attitude in the workplace • Explain Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan) • Use basic SWOT analysis as self-assessment strategy • Develop reflective practice through realization of limitations, likes/ dislikes through showing of self-confidence • Demonstrate self-acceptance and being able to accept challenges 	<ul style="list-style-type: none"> • Small Group Discussion • Interactive Lecture • Brainstorming • Demonstration • 5 Role-playing 	<ul style="list-style-type: none"> • Demonstration or simulation with oral questioning • Case problems involving workplace diversity issues 	1 Hour
	4.3 Boost self-confidence and develop self-regulation	<ul style="list-style-type: none"> • Describe the components of self-regulation based on Self-Regulation Theory (SRT) • Explain personality development concepts • Cite self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis, psycho-spiritual concepts) • Perform effective communication skills – reading, writing, conversing skills • Show affective skills – flexibility, adaptability, etc. • Determine strengths and weaknesses 	<ul style="list-style-type: none"> • Small Group Discussion • Interactive Lecture • Brainstorming • Demonstration • Role-playing 	<ul style="list-style-type: none"> • Demonstration or simulation with oral questioning • Case problems involving workplace diversity issues 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
5. Contribute to workplace innovation	5.1 Identify opportunities to do things better	<ul style="list-style-type: none"> Identify different roles of individuals in contributing to doing things better in the workplace Appreciate positive impacts and challenges in innovation Show mastery of the different types of changes and levels of participation in the workplace Discuss 7 habits of highly effective people 	<ul style="list-style-type: none"> Interactive Lecture Appreciative Inquiry Demonstration Group work 	<ul style="list-style-type: none"> Psychological and behavioral Interviews Performance Evaluation Life Narrative Inquiry Review of portfolios of evidence and third-party workplace reports of on-the-job performance. Standardized assessment of character strengths and virtues applied 	1 Hour
	5.2 Discuss and develop ideas with others	<ul style="list-style-type: none"> Identify different roles of individuals in contributing to doing things better in the workplace Appreciate positive impacts and challenges in innovation Show mastery of the different types of changes and levels of participation in the workplace Discuss 7 habits of highly effective people Communicate ideas through small group discussions and meetings 	<ul style="list-style-type: none"> Interactive Lecture Appreciative Inquiry Demonstration Group work 	<ul style="list-style-type: none"> Psychological and behavioral Interviews Performance Evaluation Life Narrative Inquiry Review of portfolios of evidence and third-party workplace reports of on-the- 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
				job performance. • Standardized assessment of character strengths and virtues applied	
	5.3 Integrate ideas for change in the workplace	<ul style="list-style-type: none"> • Identify different roles of individuals in contributing to doing things better in the workplace • Appreciate positive impacts and challenges in innovation • Show mastery of the different types of changes and levels of participation in the workplace • Discuss 7 habits of highly effective people • Communicate ideas through small group discussions and meetings • Demonstrate basic skills in data analysis 	<ul style="list-style-type: none"> • Interactive Lecture • Appreciative Inquiry • Demonstration • Group work 	<ul style="list-style-type: none"> • Psychological and behavioral Interviews • Performance Evaluation • Life Narrative Inquiry • Review of portfolios of evidence and third-party workplace reports of on-the-job performance. • Standardized assessment of character strengths and virtues applied 	1 Hour
6. Present relevant information	6.1 Gather data/information	<ul style="list-style-type: none"> • Lecture and discussion on: <ul style="list-style-type: none"> ○ Organisational protocols ○ Confidentiality and accuracy ○ Business mathematics and statistics ○ Legislation, policy and procedures relating to the 	<ul style="list-style-type: none"> • Group discussion • Lecture • Demonstration • Role Play 	<ul style="list-style-type: none"> • Oral evaluation • Written Test • Observation • Presentation 	2 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		conduct of evaluations • Reviewing data/ information			
	6.2 Assess gathered data/ information	• Lecture and discussion on: <ul style="list-style-type: none"> ○ Data analysis techniques/ procedures ○ Organisational values, ethics and codes of conduct ○ Trends and anomalies • Computing business mathematics and statistics • Application of data analysis techniques	• Group discussion • Lecture • Demonstration • Role Play • Practical exercises	• Oral evaluation • Written Test • Observation • Presentation	3 Hours
	6.3 Record and present information	• Lecture and discussion on: <ul style="list-style-type: none"> ○ Reporting requirements to a range of audiences ○ Recommendations for possible improvements • Analysis and comparison of interim and final reports' outcomes • Reporting of data findings	• Group discussion • Lecture • Demonstration • Role Play • Practical exercises	• Oral evaluation • Written Test • Observation • Presentation	3 Hours
7. Practice Occupational Safety And Health Policies And Procedures	7.1 Identify OSH compliance requirements	• Discussion regarding: <ul style="list-style-type: none"> ○ Hierarchy of Controls ○ Hazard Prevention and Controls ○ Work Standards and Procedures ○ Personal Protective Equipment 	• Lecture • Group Discussion	• Written Exam • Demonstration • Observation • Interviews / • Questioning	1 Hour
	7.2 Prepare OSH requirements for compliance	• Identification of required safety materials, tools and equipment • Handling of safety control resources	• Lecture • Group Discussion	• Written Exam • Demonstration • Observation • Interviews / • Questioning	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	7.3 Perform tasks in accordance with relevant OSH policies and procedures	<ul style="list-style-type: none"> • Discussion of General OSH Standards and Principles • Performing industry related work activities in accordance with OSH Standards 	<ul style="list-style-type: none"> • Lecture • Group Discussion 	<ul style="list-style-type: none"> • Written Exam • Demonstration • Observation • Interviews / • Questioning 	2 Hours
8. Exercise Efficient and Effective Sustainable Practices in the Workplace	8.1 Identify the efficiency and effectiveness of resource utilization	<ul style="list-style-type: none"> • Discussion on the process how Environmental Policies coherence is achieved • Discussion on Necessary Skills in response to changing environmental policies needs <ul style="list-style-type: none"> ○ Waste Skills ○ Energy Skills ○ Water Skills ○ Building Skills ○ Transport Skills ○ Material Skills 	<ul style="list-style-type: none"> • Lecture • Group Discussion • Simulation • Demonstration 	<ul style="list-style-type: none"> • Written Exam • Demonstration • Observation • Interviews / • Questioning 	1 Hour
	8.2 Determine causes of inefficiency and/or ineffectiveness of resource utilization	<ul style="list-style-type: none"> • Discussion of Environmental Protection and Resource Efficiency Targets • Analysis on the Relevant Work Procedure 	<ul style="list-style-type: none"> • Lecture • Group Discussion • Demonstration 	<ul style="list-style-type: none"> • Written Exam • Demonstration • Observation • Interviews / • Questioning 	1 Hour
	8.3 Convey inefficient and ineffective environmental practices	<ul style="list-style-type: none"> • Identification of (re)training needs and usage of environment friendly methods and technologies • Identification of environmental corrective actions • Practicing Environment Awareness 	<ul style="list-style-type: none"> • Lecture • Group Discussion • Role Play • Demonstration 	<ul style="list-style-type: none"> • Written Exam • Demonstration • Observation • Interviews / • Questioning 	1 Hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
9. Practice Entrepreneurial Skills in the Workplace	9.1 Apply entrepreneurial workplace best practices	<ul style="list-style-type: none"> • Case studies on Best entrepreneurial practices • Discussion on Quality procedures and practices • Case studies on Cost consciousness in resource utilization 	<ul style="list-style-type: none"> • Case Study • Lecture/Discussion 	<ul style="list-style-type: none"> • Case Study • Written Test • Interview 	1 Hour
	9.2 Communicate entrepreneurial workplace best practices	<ul style="list-style-type: none"> • Discussion on communicating entrepreneurial workplace best practices 	<ul style="list-style-type: none"> • Lecture/Discussion 	<ul style="list-style-type: none"> • Written Test • Interview 	1 Hour
	9.3 Implement cost-effective operations	<ul style="list-style-type: none"> • Case studies on Preservation, optimization and judicious use of workplace resources 	<ul style="list-style-type: none"> • Case Study • Lecture/Discussion 	<ul style="list-style-type: none"> • Case Study • Written Test • Interview 	2 Hours

COMMON COMPETENCIES
72 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
1. Apply safety measures in farm operations	1.1 Determine areas of concern for safety measures	<ul style="list-style-type: none"> Identify work tasks in farm operations 	<ul style="list-style-type: none"> Lecture Discussion Incomplete worksheet Power point presentation Video presentation 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	(Total- 7 hrs) 1 hr
		<ul style="list-style-type: none"> Discuss safety measures in a workplace during farm operations 	<ul style="list-style-type: none"> Lecture Discussion Incomplete worksheet Power point presentation Video presentation Role playing 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr
		<ul style="list-style-type: none"> Explain farm operations situations and period when to observe safety 	<ul style="list-style-type: none"> Lecture Discussion Incomplete worksheet Power point presentation Video presentation Role playing 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> Identify appropriate tools materials and outfits to be used 	<ul style="list-style-type: none"> Lecture Discussion Incomplete worksheet Power point presentation Video presentation 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	2 hrs
		<ul style="list-style-type: none"> Prepare tools, materials and outfits for the farm operation 	<ul style="list-style-type: none"> Lecture Discussion Power point presentation Video presentation Demonstration 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	2 hrs
	1.2 Apply appropriate safety measures	<ul style="list-style-type: none"> Enumerate uses and functions of tools and materials 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Demonstration 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	(Total-11 hrs.) 1 hr
		<ul style="list-style-type: none"> Explain procedures of wearing personal protective equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Discuss topics on effectivity, shelf life and expirations of materials to be used. 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
			<ul style="list-style-type: none"> • Incomplete worksheet 	<ul style="list-style-type: none"> • 	
		<ul style="list-style-type: none"> • Identify the emergency procedures. 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • 	2 hrs
		<ul style="list-style-type: none"> • Identify hazards in a farm workplace. 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning 	2 hrs
		<ul style="list-style-type: none"> • Use tools and materials. 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	2 hrs
		<ul style="list-style-type: none"> • Wear personal protective equipment 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	0.5 hr
		<ul style="list-style-type: none"> • Prepare report on hazards in the workplace 	<ul style="list-style-type: none"> • Discussion • Power point 	<ul style="list-style-type: none"> • Written examination 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
			<ul style="list-style-type: none"> presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Interview • Oral questioning • Demonstration 	
		<ul style="list-style-type: none"> • Report on hazards in the workplace 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Role playing 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	0.5 hr
	1.3 Safekeep/ dispose of tools, materials and outfit	<ul style="list-style-type: none"> • Explain cleaning and storing procedures of the used tools and outfit 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning 	(Total– 6 hrs) 1 hr
		<ul style="list-style-type: none"> • State labelling and storing procedures for unused materials 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning 	1 hr
		<ul style="list-style-type: none"> • Explain proper wastes disposal 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning 	1 hr
		<ul style="list-style-type: none"> • Clean and store used tools and outfit 	<ul style="list-style-type: none"> • Discussion • Power point 	<ul style="list-style-type: none"> • Written examination 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
			<ul style="list-style-type: none"> presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Interview • Oral questioning • Demonstration 	
2. Use farm tools and equipment	2.1 Select and use farm tools	<ul style="list-style-type: none"> • Label and store unused materials 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
		<ul style="list-style-type: none"> • Dispose waste materials 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
		<ul style="list-style-type: none"> • Identify farm tools 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	(Total-6 hrs) 1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> • Describe faults and defective tools 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
		<ul style="list-style-type: none"> • Discuss using of tools and equipment relating to manufacturer's manual 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
		<ul style="list-style-type: none"> • Check farm tools for faults and defects 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
		<ul style="list-style-type: none"> • Use tools and equipment relating to manufacturer's manual 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	2 hrs

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	2.2 Select and operate farm equipment	<ul style="list-style-type: none"> Identify farm equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	(Total-19 hrs) 1 hr
		<ul style="list-style-type: none"> Explain importance of reading manufacturer's manual 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Discuss pre-operation check and its importance 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Identify different types of faults in farm equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Enumerate reporting procedures 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet Role playing 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> Enumerate procedures in using farm equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Discuss safety procedures for farm operation 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Read manufacturer's manual 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet Demonstration 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr
		<ul style="list-style-type: none"> Conduct pre-operation check-up 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet Demonstration Hands-on 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr
		<ul style="list-style-type: none"> Report identified faults 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
			<ul style="list-style-type: none"> • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Demonstration 	
		<ul style="list-style-type: none"> • Operate farm equipment 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on • Field visit 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	8 hrs
		<ul style="list-style-type: none"> • Follow safety procedures 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
	2.3 Perform preventive maintenance	<ul style="list-style-type: none"> • Enumerate cleaning procedures for tools and equipment 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	(Total-7 hrs) 1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> Discuss significance of routine check-up and maintenance 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr
		<ul style="list-style-type: none"> Explain procedures in storing tools and equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet 	<ul style="list-style-type: none"> Written examination Interview Oral questioning 	1 hr
		<ul style="list-style-type: none"> Clean tools and equipment 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet Demonstration Hands-on 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	2 hrs
		<ul style="list-style-type: none"> Perform routine check –up and maintenance 	<ul style="list-style-type: none"> Discussion Power point presentation Video presentation Incomplete worksheet Demonstration Hands-on 	<ul style="list-style-type: none"> Written examination Interview Oral questioning Demonstration 	1 hr

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> • Store tools and equipment 	<ul style="list-style-type: none"> • Discussion • Power point presentation • Video presentation • Incomplete worksheet • Demonstration • Hands-on 	<ul style="list-style-type: none"> • Written examination • Interview • Oral questioning • Demonstration 	1 hr
3. Perform estimation and calculation	3.1 Perform estimation	<ul style="list-style-type: none"> • Identify job requirements and work task/activity 	<ul style="list-style-type: none"> • Lecture • Discussion 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	(Total-8 hrs) 1 hr
		<ul style="list-style-type: none"> • Identify materials and resources of job requirements 	<ul style="list-style-type: none"> • Lecture • Discussion 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	1 hr
		<ul style="list-style-type: none"> • Estimate time to complete work task/activity 	<ul style="list-style-type: none"> • Lecture • Discussion • Demonstration • Video presentation 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	2 hrs
		<ul style="list-style-type: none"> • Estimate quantities of materials and resources 	<ul style="list-style-type: none"> • Lecture • Discussion • Demonstration 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	2 hrs
		<ul style="list-style-type: none"> • Prepare and submit bill of materials 	<ul style="list-style-type: none"> • Lecture • Discussion • Demonstration 	<ul style="list-style-type: none"> • Written exam • Oral questioning • Demonstration 	2 hrs
	3.2 Perform basic workplace calculation	<ul style="list-style-type: none"> • Describe different types of calculation 	<ul style="list-style-type: none"> • Lecture • Discussion 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	(Total-8 hrs) 1 hr
		<ul style="list-style-type: none"> • Discuss different methods of calculation 	<ul style="list-style-type: none"> • Lecture • Discussion 	<ul style="list-style-type: none"> • Written exam • Oral questioning 	1 hr

CORE COMPETENCIES
212 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
1. Produce budstick	1.1 Establish budwood garden	1.1.1 Discuss and explain the following: <ul style="list-style-type: none"> • Soil moisture • Soil sampling • Land preparation • Reading and interpreting lay-out plan • Lay-outing dimension • Line staking • Measurement tools • Digging tools • Holing procedure • True-to-type rubber budded planting material • Planting techniques • PhilGAP on Natural Rubber • OSHS 1.1.2 Establish budwood garden.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours
	1.2 Maintain plant	1.2.1 Discuss and explain the following: <ul style="list-style-type: none"> • Weed control • PNS/ BAFS 183: 2016 <ul style="list-style-type: none"> ○ Pest Management • Pesticides • Waste management • Weed control • Monitoring procedures • OSHS 	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	16 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	1.3 Harvest budstick	<ul style="list-style-type: none"> • Record keeping • Reporting procedure 1.2.2 Maintain plant. 1.3.1 Discuss and explain the following: <ul style="list-style-type: none"> • Preparation of harvesting tools and materials • Features of quality budstick • Harvesting techniques • Harvest for a day consumption • Utilization of harvesting tools • Packing techniques and procedures for budstick • Handling of budsticks • Record keeping • OSHS 1.3.2 Harvest budstick.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours
2. Establish rubber nursery	2.1 Establish rubber polybag nursery site	2.1.1 Discuss and explain the following: <ul style="list-style-type: none"> • Site selection • Land preparation • Reading and interpreting lay-out plan • Lay-outing dimension • Line staking • Measuring tools • OSHS • Waste management 2.1.2 Establish rubber polybag nursery site.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	2.2 Perform bagging	2.2.1 Discuss and explain the following: <ul style="list-style-type: none"> • Tools and materials • Filling of soil • Sourcing of polybag • Hauling procedure • Procedure in piling • OSHS 2.2.2 Perform bagging.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	4 hours
	2.3 Germinate seeds	2.3.1 Discuss and explain the following: <ul style="list-style-type: none"> • Seed quality standards • Selection of seed bed area • Preparation of seed bed • Maintenance of seed bed • Seed soaking, sowing • Germinated seed selection and culling • Transferring germinated seed to polybag 2.3.2 Germinate seeds.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours
	2.4 Maintain ready-to-bud rubber rootstocks	2.4.1 Discuss and explain the following: <ul style="list-style-type: none"> • Ratio of water and fertigation • Inorganic fertilizer • Seedling diseases • Application of pesticides • Procedure in weeding • Basic recordkeeping 2.4.2 Maintain ready-to-bud rubber planting material.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	2.5 Maintain rubber budded rootstocks	2.5.1 Discuss and explain the following: <ul style="list-style-type: none"> • Procedure of cutback • Procedure in Hardening • Procedure in side pruning • Application of fertilizer and pesticides • Watering • Harvesting of budded seedling • Record keeping procedure • OSHS • 3Rs • Waste management 2.5.2 Maintain rubber budded planting material.	<ul style="list-style-type: none"> • Lecture • Discussion • Self-paced • Demonstration • Video showing 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	8 hours
	2.6 Perform post activities	2.6.1 Discuss and explain the following: <ul style="list-style-type: none"> • Maintenance of tools • Proper storing of materials • Preparation of inventory of tools and materials 2.6.2 Perform post activities.	<ul style="list-style-type: none"> • Lecture • Discussion • Demonstration 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	4 hours
3. Perform budding operation	3.1 Perform preparatory activities	3.1.1 Discuss and explain the following: <ul style="list-style-type: none"> • Tools and materials • PPEs • OSHS • Preparation of tools and materials • Sharpening of tools • Procedure in slicing budding 	<ul style="list-style-type: none"> • Lecture • Discussion • Demonstration 	<ul style="list-style-type: none"> • Demonstration • Oral Questioning • Written exam 	4 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		tape 3.1.2 Perform preparatory activities.			
	3.2 Secure budstick	3.2.1 Discuss and explain the following: <ul style="list-style-type: none"> Reliable sources of budstick and ready-to-bud planting material Budstick condition Packing and handling of budstick Harvesting of budstick 3.2.2 Perform preparatory activities.	<ul style="list-style-type: none"> Lecture Discussion Demonstration 	<ul style="list-style-type: none"> Demonstration Oral Questioning Written exam 	4 hours
	3.3 Perform actual budding	3.3.1 Discuss and explain the following: <ul style="list-style-type: none"> Quality budeye Techniques in detaching budeye Procedure in detaching flap Procedure in taping budded rubber seedling Procedure in cutting vacuum cellophane Basic recordkeeping 3.3.2 Perform actual budding.	<ul style="list-style-type: none"> Lecture Discussion Demonstration Video showing 	<ul style="list-style-type: none"> Demonstration Oral Questioning Written exam 	20 hours
4. Perform rubber farm maintenance	4.1 Select planting site	4.1.1 Discuss the following: <ul style="list-style-type: none"> Procedures of site inspection and validation Suitability of area Updates and information on weather condition Soil sampling procedure Result of soil analysis 	<ul style="list-style-type: none"> Lecture-discussion Demonstration Video showing Site visit 	<ul style="list-style-type: none"> Written examination Demonstration Oral questioning Direct observation 	8 hrs

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> • OSHS 4.1.2 Select planting site			
	4.2 Conduct land preparation	4.2.1 Explain the following: <ul style="list-style-type: none"> • Clearing operation • Sourcing of equipment service • Land preparation activities • Establishment of drainage canal to prevent water logging • Farm practices of securing farm area • OSHS on land preparation 4.2.2 Conduct land preparation	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	8 hrs
	4.3 Conduct layouting and staking	4.3.1 Discuss the following: <ul style="list-style-type: none"> • Types and uses of tools, materials and supplies for layouting • Line staking procedures • Industry standards • Measurement and staking • Quincux layouting • OSHS 4.3.2 Conduct layouting and staking	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	8 hrs.
	4.4 Perform holing	4.4.1 Explain the following: <ul style="list-style-type: none"> • Tools and materials for holing • Sourcing out of equipment and manpower services • Hole digging procedure • OSHS for holing activities 4.4.2 Perform holing	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	2 hrs

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	4.5 Perform planting of budded rubber planting material	4.5.1 Discuss the following: <ul style="list-style-type: none"> • Selection of quality budded rubber planting material • Industry criteria on selection of quality budded rubber planting material • Handling of budded rubber planting material • Levelling and compacting of hole base • Placing of budded rubber planting material • Backfilling with top soil • Fertilizer application • Planting procedures of budded rubber planting material • Safety measures in planting procedures • Elephant foot 4.5.2 Perform planting of budded rubber planting material	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	2 hrs
	4.6 Perform routine farm maintenance	4.6.1 Explain the following: <ul style="list-style-type: none"> • Round weeding • Strip/linear weeding • Functions of sprayer • Side pruning • Management of cover crop • Fertilizer application • Replanting • Top pruning • Monitoring and controlling of 	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	24 hrs.

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		pest and diseases <ul style="list-style-type: none"> • Marking of treated rubber tree • Restoration of wind-damaged trees • Holing and planting of cover crop • Fire hazard management • OSHS for maintenance of rubber farm • Basic mathematical operation and calculation 4.6.2 Perform routine farm maintenance			
	4.7 Conduct post-farm maintenance activities	4.7.1 Discuss the following: <ul style="list-style-type: none"> • Dead points • Field culling and resupplying • Waste management • Maintenance and safekeeping of tools, materials and equipment • Recording and reporting of daily activities • Inventory of supplies and materials • Basic mathematical operation • Safety practices on post-farm management activities 4.7.2 Conduct post-farm management activities	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	8 hrs.

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
5. Harvest latex	5.1 Perform pre-tapping operations	5.1.1 Discuss the following: <ul style="list-style-type: none"> • Girth size inventory • Dotting procedures • Preparation of tapping tools, materials, supplies and equipment • Installation of tapping paraphernalia and panel markings • Rubber tasking • Coordination of job assignments 5.1.2 Perform pre-tapping operations	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	16 hrs
	5.2 Perform tapping	5.2.1 Explain the following: <ul style="list-style-type: none"> • Criteria of tappable trees • Measurement and determination of tappable trees • Utilization of opening gadgets • Removal and collection of treelace and scraps • Weed management • Maintenance of tapping tools • OSHS on rubber tapping activities 5.2.2 Perform tapping	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	32 hrs
	5.3 Coagulate latex	5.3.1 Explain the following: <ul style="list-style-type: none"> • Preparation of formic acid solution • Application of acid 	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning 	1 hour

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> • OSHS 5.3.2 Coagulate latex	<ul style="list-style-type: none"> • Field visit 	<ul style="list-style-type: none"> • Direct observation 	
	5.4 Perform collection activities	5.4.1 Discuss the following: <ul style="list-style-type: none"> • Collection and storage of latex and cuplump • Weighing of collected latex and cuplump • Recording of weight • Utilization of weighing scale • Safety on handling formic acid 5.4.2 Perform collection activities	<ul style="list-style-type: none"> • Lecture-discussion • Audio-video presentation • Demonstration • Field visit 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	2 hrs
	5.5 Market rubber coagulum and cuplumps	5.5.1 Explain the following: <ul style="list-style-type: none"> • Classification of collected latex and cuplump • Computation for costing of latex and cuplump • Sharing arrangement for earnings • Canvassing for better price of latex and cuplumps • Completion of marketing transaction • Basic mathematical operation • Formalization of agreement • Negotiation procedures 5.5.2 Market rubber coagulum and cuplumps	<ul style="list-style-type: none"> • Lecture-discussion • Demonstration • Role-playing 	<ul style="list-style-type: none"> • Written examination • Demonstration • Oral questioning • Direct observation 	1 hr

3.2 TRAINING DELIVERY

1. **The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the principles of competency-based TVET.**
 - a. Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards)
 - b. Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies;
 - c. Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology.
 - d. Assessment is based in the collection of evidence of the performance of work to the industry required standards;
 - e. Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual performance of the competency as the primary source of evidence.
 - f. Training program allows for recognition of prior learning (RPL) or current competencies;
 - g. Training completion is based on satisfactory completion of all specified competencies not on the specified nominal duration of learning.
2. **The competency-based TVET system recognizes various types of delivery modes, both on-and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities and their variations/components may be adopted singly or in combination with other modalities when designing and delivering training programs:**

2.1 School/Institution- Based:

- Dual Training System (DTS)/Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and Regulations of the DTS Law and the TESDA Guidelines on the DTP;
- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video, computer technologies or other modern technology that can be used to facilitate learning and formal and non-formal training. Specific guidelines on this mode shall be issued by the TESDA Secretariat.
- Supervised Industry Training (SIT) or on-the-job training (OJT) is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies as prescribed in the training regulations. It is

imperative that the deployment of trainees in the workplace is adhered to training programs agreed by the institution and enterprise and status and progress of trainees are closely monitored by the training institutions to prevent opportunity for work exploitation.

- The classroom-based or in-center instruction uses of learner-centered methods as well as laboratory or field-work components.

2.2 Enterprise-Based:

- **Formal Apprenticeship** – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation.
- **Informal Apprenticeship** - is based on a training (and working) agreement between an apprentice and a master craftsperson wherein the agreement may be written or oral and the master craftsperson commits to training the apprentice in all the skills relevant to his or her trade over a significant period of time, usually between one and four years, while the apprentice commits to contributing productively to the work of the business. Training is integrated into the production process and apprentices learn by working alongside the experienced craftsperson.
- **Enterprise-based Training**- where training is implemented within the company in accordance with the requirements of the specific company. Specific guidelines on this mode shall be issued by the TESDA Secretariat.

2.3 Community-Based – short term program conducted by non-government organizations (NGOs), LGUs, training centers and other TVET providers which are intended to address the specific needs of a community. Such programs can be conducted in informal settings such as barangay hall, basketball courts, etc. These programs can also be mobile training program (MTP).

3.3 TRAINEE ENTRY REQUIREMENTS

Trainees or students who would like to enroll in this program must possess the following requirements:

- Must have basic communication skills
- Must have basic arithmetic skills

This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program

3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

RUBBER PRODUCTION NC II

Recommended list of tools, equipment and materials for the training of 25 trainees for Rubber Production NC II.

Up-to-date tools, materials, and equipment of equivalent functions can be used as alternatives. This also applies in consideration of community practices and their availability in the local market.

A. FULL QUALIFICATION

TOOLS	
QTY	DESCRIPTION
5 pcs	Shovel, spade shape
2 pcs	Digging bar, 1.5m
2 pcs	Measuring steel tape, 6m
5 pcs	Handsaw
5 pcs	Pruning shear, small
5 pcs	Pruning saw, small
5 pcs	Bolo
5 pcs	Rice funnel
26 pcs	Budding knife, small
5pcs	Selector knife
3 pcs	Cane knife
5 pcs	Tapping knife
5 pcs	Tapping knife holder
3 pcs	Tapping panel templates, 30 and 45 degree
1 pc	Knapsack sprayer, 16 L capacity
5pcs	Sickle
5pcs	Grab hoe
5pcs	Bark scraper (wood or steel)
5pcs	Clip pruner
3 pcs	A frame (for staking)
5 pcs	Sharpening stone, fine and rough

EQUIPMENT	
QTY	DESCRIPTION
2 units	Knapsack sprayer
2 units	Ladder (30 steps)
10 units	Head-gear lights
2 units	Weighing scales, 5K capacity

MATERIALS	
QTY	DESCRIPTION
100 pcs	Sticks
100 pcs	Bamboo stick, 0.5 m in L
25 pcs	Bamboo pole, 1m in L
50m	Rope, 5mm thickness
2 Kilos	Fertilizer, complete
4 kg	Fertilizers (75 gms/transplanted planting material)
4 kg	Fertilizer (150 g phosphorus, 0-22-0)/per plant
1L	Herbicides
100 ml	Fungicide
100 ml	Insecticide
1 pack	Rodenticide 100g/pack
5 pcs	Record book, 50pp
1 pc	Garbage bin, small
25 pcs	Jute sack
1 roll	Twine, small
2 pcs	Box
1 pack	Used paper
1 roll	Packaging tape, 1"
5 packs	Polybags 100pcs/pack, 8"x20"
2 pcs	Water sprinkler
5 pcs	Pail, small
5 sets	Measuring cup
5 pcs	Measuring tape
26 pcs	Vacuum cellophane (budding tape), 1x1m
5 pcs	Sand paper grit 1,000
5 pcs	Sharpening stone
25 pcs	Cloth
5 pcs	Banana bracts
20 m	Plastic rope, ballpen size, 5mm dia.
100 m	Rope # 1
25 pcs	Collector of used polybag, 1m in L
25 pcs	Ready-to-plant budded rubber planting material
25 pcs	Paint brush
10 pcs	Plastic container
1L	Pesticides
25 pcs	Paint marker
25 pcs	Bamboo stick (as digger)
5 pcs	Tapping knife holder

MATERIALS	
QTY	DESCRIPTION
5 L	Formic acid
25 pcs	Stirring stick
5 pcs	Record book
50 pcs	Spout
50 pcs	Rubber latex cups
50 pcs	Cup holder
1 roll	Twine, small
5 pcs	Measuring tape
5 pcs	Measuring stick
10 m	Twine
10 pcs	Containers (harvesting) 10 L capacity
25 pcs	Bark marker
5 pcs	Collecting bucket, 20 Liters or 20 Kilos capacity
	PPEs:
5 pcs	Hat
5 sets	Harness and safety belt
26 pcs	Vacuum cellophane (budding tape), 1x1m
5 sets	Personal Protective Equipment <ul style="list-style-type: none"> • Rubber boots • Head gear • Goggles • Body protector (jacket, long sleeves) • Gloves • Mask
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.
2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

B. PER COC

COC 1 – PRODUCE BUDSTICK

TOOLS	
QTY	DESCRIPTION
5 pcs	Shovel, spade shape
2 pcs	Digging bar, 1.5m
2 pcs	Measuring steel tape, 6m
5 pcs	Handsaw
5 pcs	Pruning shear, small
5 pcs	Bolo

EQUIPMENT	
QTY	DESCRIPTION
	None

MATERIALS	
QTY	DESCRIPTION
100 pcs	Sticks
50m	Rope, 5mm thickness
2 Kilos	Fertilizer, complete
100 ml	Fungicide
100 ml	Insecticide
1 pack	Rodenticide 100g/pack
5 pcs	Record book, 50pp
1 pc	Garbage bin, small
5 pcs	Jute sack
1 roll	Twine, small
26 pcs	Vacuum cellophane (budding tape), 1x1m
2 pcs	Box
1 pack	Used paper
1 roll	Packaging tape, 1"
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.
2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

COC 2 – ESTABLISH RUBBER NURSERY

TOOLS	
QTY	DESCRIPTION
5 pcs	Shovel, spade shape
5 pcs	Rice funnel
5 pcs	Pruning shear, small
26 pcs	Budding knife, small
1 pc	Knapsack sprayer, 16 L capacity

EQUIPMENT	
QTY	DESCRIPTION
	none

MATERIALS	
QTY	DESCRIPTION
5 packs	Polybags 100pcs/pack, 8"x20"
2 pcs	Water sprinkler
100 ml	Fungicide

MATERIALS	
QTY	DESCRIPTION
100 ml	Insecticide
1 pack	Rodenticide 100g/pack
5 pcs	Pail, small
	PPEs:
6 pairs	Gloves
26 pcs	Mask
6 pairs	Boots
5 pcs	Long sleeves
5 pcs	Hat
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.
2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

COC 3 – PERFORM BUDDING OPERATIONS

TOOLS	
QTY	DESCRIPTION
26 pcs	Budding knife, small
5 pcs	Pruning saw, small
5 pcs	Pruning shear, small

EQUIPMENT	
QTY	DESCRIPTION
	none

MATERIALS	
QTY	DESCRIPTION
26 pcs	Vacuum cellophane (budding tape), 1x1m
5 pcs	Sand paper grit 1,000
5 pcs	Sharpening stone
25 pcs	Cloth
5 pcs	Jute sack
5 pcs	Banana bracts
1 roll	Twine, small
	PPEs:
6 pairs	Gloves
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.

2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

COC 4 – PERFORM RUBBER FARM MAINTENANCE

TOOLS	
QTY	DESCRIPTION
5pcs	Digging bar
5pcs	Shovel
5pcs	Sickle
5pcs	Selector knife
5pcs	Grab hoe
5pcs	Bark scraper (wood or steel)
5pcs	Pruning saw
5pcs	Pruning shear
5pcs	Clip pruner
3 pcs	Cane knife
3 pcs	A frame (for staking)

EQUIPMENT	
QTY	DESCRIPTION
2 units	Knapsack sprayer
2 units	Ladder (30 steps)

MATERIALS	
QTY	DESCRIPTION
3 pcs	Compass, small
5 pcs	Pail, small
5 sets	Measuring cup
5 pcs	Measuring tape
20 m	Plastic rope, ballpen size, 5mm dia.
100 pcs	Bamboo stick, 0.5 m in L
25 pcs	Bamboo pole, 1m in L
25 pcs	Collector of used polybag, 1m in L
25 pcs	Ready-to-plant budded rubber planting material
4 kg	Fertilizer (150 g phosphorus, 0-22-0)/per plant
25 pcs	Paint brush
10 pcs	Plastic container
25 pcs	Jute sack
1L	Pesticides
4 kg	Fertilizers (75 gms/transplanted planting material)
1L	Herbicides
10 m	Twine, 5mm
25 pcs	Paint marker
50 pcs	Bamboo pole
100 m	Rope # 1
25 pcs	Bamboo stick (as digger)

MATERIALS	
QTY	DESCRIPTION
5 sets	Harness and safety belt
5 sets	Personal Protective Equipment <ul style="list-style-type: none"> • Rubber boots • Head gear • Goggles • Body protector (jacket, long sleeves) • Gloves • Mask
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.
2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

COC 5 – HARVEST LATEX

TOOLS	
QTY	DESCRIPTION
5 pcs	Tapping knife
5 pcs	Tapping knife holder
3 pcs	Tapping panel templates, 30 and 45 degree
5 pcs	Sharpening stone, fine and rough

EQUIPMENT	
QTY	DESCRIPTION
10 units	Head-gear lights
2 units	Weighing scales, 5K capacity

MATERIALS	
QTY	DESCRIPTION
5 sets	Personal Protective Equipment <ul style="list-style-type: none"> • Rubber boots • Head gear • Goggles • Body protector (jacket, long sleeves) • Gloves • Mask
5 pcs	Tapping knife holder
5 L	Formic acid
25 pcs	Stirring stick
5 pcs	Record book
50 pcs	Spout
50 pcs	Rubber latex cups
50 pcs	Cup holder

MATERIALS	
QTY	DESCRIPTION
1 roll	Twine, small
5 pcs	Measuring tape
5 pcs	Measuring stick
10 pcs	Containers (harvesting) 10 L capacity
25 pcs	Bark marker
5 pcs	Collecting bucket, 20 Liters or 20 Kilos capacity
1 gallon	70% alcohol*
20 pcs	Face shield*

NOTE:

1. Access to and use of equipment/facilities can be provided through cooperative arrangements or MOA with other partner/companies.
2. Items with asterisk (*) will be required during the pandemic as mandated by the existing guidelines issued by the government in line with protection against virus and other infectious diseases for trainees and trainers.

3.5 TRAINING FACILITIES

RUBBER PRODUCTION NC II

Based on a class intake of 25 learners/trainees.

SPACE REQUIREMENT	SIZE IN METERS	AREA IN SQ. METERS	TOTAL AREA IN SQ. METERS
A. Building (permanent)			184.30
• Lecture Room/Workshop			40.00
• Learning Resource Center	3.00 x 5.00		15.00
• Activity Room			30.00
- Wash room	2X1	2.00	
- Store room	4X4	16.00	
- Rest room (male, female & PWD)	3X4	12.00	
• Facilities/ Equipment/ Circulation Area (30% of teaching accommodation)			99.30
B. Experimental Rubber Farm			5,000.00
TOTAL			5,184.30

NOTE: Access to and use of equipment /facilities can be provided through cooperative arrangements or MOA with other partner- companies/institutions.

3.6 TRAINER'S QUALIFICATIONS FOR AGRI-FISHERY SECTOR

Trainers who will deliver the training on **RUBBER PRODUCTION NC II** should have the following:

FOR NEW TRAINERS

- Must be a holder of NTTC I (NC + TM1) on **RUBBER PRODUCTION NC II** and;
- Must have at least 2 years' industry experience within the last five (5) years.

FOR EXISTING TRAINERS

- Must be a holder of National TVET Trainer Certificate (NTTC) Level I on **RUBBER PRODUCTION NC II** and;
- Must have at least 40 hours industry immersion for the last three (3) years.
Or
- Must have at least 40 hours participation in seminars, workshops, and forum relevant to rubber production.

3.7 INSTITUTIONAL ASSESSMENT

Institutional Assessment is gathering of evidences to determine the achievements of the requirements of the qualification to enable the trainer make judgement whether the trainee is competent or not competent.

SECTION 4 ASSESSMENT AND CERTIFICATION ARRANGEMENTS

Competency Assessment is the process of collecting evidence and making judgments whether competency has been achieved. The purpose of assessment is to confirm that an individual can perform to the standards expected at the workplace as expressed in relevant competency standards.

The assessment process is based on evidence or information gathered to prove achievement of competencies. The process may be applied to a full qualification or employable unit(s) of competency in partial fulfillment of the requirements of the national qualification.

4.1. NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS

4.1.1 To attain the national qualification of RUBBER PRODUCTION NC II, the candidate must demonstrate competence in all units listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.

4.1.2 A Certificate of Competency (COC) is issued by the Authority to individuals who were assessed as competent in units of competencies, namely:

COC 1: Produce budstick

COC 2: Establish rubber nursery

COC 3: Perform budding operation

COC 4: Perform rubber farm maintenance

COC 5: Harvest latex

Upon accumulation and submission of all the COCs acquired, an individual shall be issued the corresponding National Certificate for the Qualification.

4.1.3 Assessment shall cover all competencies with basic and common integrated or assessed concurrently with the core units of competency.

4.1.4 Any of the following are qualified to apply for assessment and certification:

4.1.4.1 Graduates of WTR-registered, NTR-registered programs or formal/non-formal/informal including enterprise-based trainings related to Rubber Production NC II.

4.1.4.2 Experienced workers (wage employed or self-employed) who gained competencies related to all the core competencies of Rubber Production NC II, for at least 6 months in the last 2 years.

4.1.5 Recognition of Prior Learning (RPL). Candidates who have gained competencies through education, informal training, previous work

and/or life experiences related to all the core competencies of Rubber Production NC II, for at least 1 of year (within the last 5 years) may apply for recognition in this Qualification through Portfolio Assessment.

Requirements and implementation procedure of Portfolio Assessment must be consistent with **TESDA Circular No. 47, series of 2018** on *“Implementing Guidelines on the Implementation of Portfolio Assessment Leading to Recognition of Prior Learning (RPL) within the TESDA Assessment and Certification System, and with TESDA Circular No. 118, series of 2019* on *“Addendum to the Implementing Guidelines on the Implementation Portfolio Assessment Leading to Recognition of Prior Learning (RPL) within the TESDA Assessment and Certification System.”*

- 4.1.6 Holders of National Certificate (NC) or Certificates of Competency (COC) in Rubber Production NC II are required to undergo re-assessment under the amended Training Regulations (TRs), upon expiration of their Certificates.
- 4.1.7 The guidelines on assessment and certification are discussed in detail in the “Procedures Manual on Assessment and Certification” and “Guidelines on the Implementation of the “Philippine TVET Competency Assessment and Certification System (PTCACS).”

4.2. COMPETENCY ASSESSMENT REQUISITE

- 4.2.1 **Self-Assessment Guide.** The self-assessment guide (SAG) is accomplished by the candidate prior to actual competency assessment. SAG is a pre-assessment tool to help the candidate and the assessor determine what evidence is available, where gaps exist, including readiness for assessment.

This document can:

- a.) Identify the candidate’s skills and knowledge
 - b.) Highlight gaps in candidate’s skills and knowledge
 - c.) Provide critical guidance to the assessor and candidate on the evidence that need to be presented
 - d.) Assist the candidate to identify key areas in which practice is needed or additional information or skills that should be gained prior to assessment
- 4.2.2 **Accredited Assessment Center.** Only Assessment Center accredited by TESDA is authorized to conduct competency assessment. Assessment centers undergo a quality assured procedure for accreditation before they are authorized by TESDA to manage the assessment for National Certification.

4.2.3 **Accredited Competency Assessor.** Only accredited competency assessor is authorized to conduct assessment of competence. Competency assessors undergo a quality assured system of accreditation procedure before they are authorized by TESDA to assess the competencies of candidates for National Certification.

COMPETENCY MAP RUBBER PRODUCTION NC II

BASIC COMPETENCY

Receive and respond to workplace communication	Participate in workplace communication	Lead workplace communication	Utilize specialized communication skill	Manage and sustain effective communication strategies
Work with others	Work in a team environment	Lead small teams	Develop and lead teams	Manage and sustain high performing teams
Solve/address routine problems	Solve/address general workplace problems	Apply critical thinking and problem solving techniques in the workplace	Perform higher-order thinking processes and apply techniques in the workplace	Evaluate higher order thinking skills and adjust problem solving techniques
Enhance self-management skills	Develop career and life decisions	Work in a diverse environment	Contribute to the practice of social justice in the workplace	Advocate strategic thinking for global citizenship
Support innovation	Contribute to workplace innovation	Propose methods of applying learning and innovation in the organization	Manage innovative work instructions	Incorporate innovation into work procedures
Access and maintain information	Present relevant information	Use information systematically	Manage and evaluate usage of information	Develop systems in managing, and maintaining information
Follow occupational safety and health policies and procedures	Practice occupational safety and health policies and procedures	Evaluate occupational safety and health work practices	Lead in improvement of occupational safety and health program, policies and procedures	Manage implementation of OSH programs in the workplace
Apply environmental work standards	Exercise efficient and effective sustainable practices in the workplace	Evaluate environmental work practices	Lead towards improvement of environmental work programs, policies and procedures	Manage implementation of environmental programs in the workplace
Adopt entrepreneurial mindset in the workplace	Practice entrepreneurial skills in the workplace	Facilitate entrepreneurial skills for micro-small-medium enterprises (MSMEs)	Sustain entrepreneurial skills	Develop and sustain a high-performing enterprise

COMMON COMPETENCY

Apply safety measures in farm operations	Use farm tools and equipment	Perform estimation and calculations	Apply basic first aid	Apply food safety and sanitation
Prevent and fight fire	Provide first aid treatment on board	Protect marine environment	Comply with emergency procedures	Process farm wastes
Develop and update industry knowledge	Perform record keeping	Provide Quality Customer Service	Comply with Quality and Ethical Standards	Maintain service records
Conduct Diagnosis	Perform Shop Maintenance			

CORE COMPETENCY (FORESTRY)

Establish rubber budwood and seedlings nursery	Plant rubber trees/rubber seedlings	Perform budding operation	Harvest latex	Operate bamboo nursery
Establish bamboo farm	Conduct bamboo clump rehabilitation	Conduct harvesting and post-harvesting operations	Produce budstick	Establish rubber nursery
Perform rubber farm maintenance				

GLOSSARY OF TERMS

1) ACID SOLUTION	Refers to acetic acid, formic acid, vinegar.
2) AREA TASKING	Refers to the specific area with significant number of tappable trees.
3) BUDDER	one that performs budding operations
4) BUDDING	is a form of asexual reproduction in which a new organism grows on another one. The new organism remains attached as it grows, separating from the parent organism only when it is mature. Since the reproduction is asexual, the newly created organism is a clone and is genetically identical to the parent organism. A new organism grows from an outgrowth or bud on the parent.
5) BUD UNION	Refers to the point where a new clone will emerge.
6) CLONES	Refers to an organism or cell, or group of organisms or cells, produced asexually from one ancestor or stock, to which they are genetically identical.
7) CLONE SEGREGATION	Also known as budstick tagging.
8) CUPLUMP	With formic acid
9) FIELD CULLING	Refers to the removal of stunted plant.
10)FINAL CULLING	Harvesting of budded planting material.
11)FLAP	Refers to skin of ready-to-bud seedling (rootstock).
12)GERMINATED SEEDS	Also known as ready-to-bud planting material.
13)GERMINATING MEDIUM	Type of sand preferably fine river sand
14)GIRTH	Refers to the circumference of the tree.
15)HARDENING	Refers to cutting of existing roots outside the polybag.
16)INSECT PEST	a destructive or harmful insect.
17)IRRIGATION	any method of supplying water to sustain plant growth
18)LATEX	As found in nature is a milky fluid found in 10% of all flowering plants (angiosperms). It is a complex emulsion consisting of proteins, alkaloids, starches, sugars, oils, tannins, resins, and gums that coagulates on exposure to air. It is usually exuded after tissue injury. In most plants, latex is white, but some have yellow, orange, or scarlet latex.
19)MISSING HILLS	Also known as dead points.
20)OPENING OF BUDDED RUBBER SEEDLING	Also known as removal of tape.
21)PLANTING MATERIALS	Refers to budded rubber planting materias
22)POST-MAINTENANCE	Refers to the activities of replanting, field culling and resupplying, waste segregation and composting, maintenance and safekeeping of tools, materials and equipment, recording, and inventory.
23)QUINCUNX	triangular arrangement of lay-outing

24)READY-TO-BUD SEEDLINGS	Also known as buddable rootstocks.
25)ROOTSTOCK	Also known as ready-to-bud
26)RUBBER FARM MAINTENANCE	Also known as rubber farm management. It refers to the process of selecting planting site, conducting land preparation, performing site laying-out and staking, planting poly-bagged budded rubber seedling and perform maintenance activities
27)RUBBER SEEDLINGS	Also known as ready-to-bud rubber seedlings
28)REGULAR MONITORING	Water-based paint used on final coat and fine details
29)SCION	Refers to live budded rubber seedlings.
30)SEED SOAKING	Pre-germination of seeds.
31)SIDE PRUNING	Refers to removal of unwanted and/or excess sprout.
32)SOIL SAMPLING	Protective coating applied to finished paper mache to prevent it from being damaged by insects and other elements.
33)SPROUTS	Also known as shoots. Refers to the early emergence of undesired sprouts.
34)STANDARD	the set of criteria and specifications of quality determining the grades, described as product characteristics such as maturity, color, cleanliness, shape, free from decay and blemishes and uniformity of size
35)TAPPERS	performs tapping job
36)TAPING (RUBBER)	is the process by which the sap (latex) is collected from a rubber tree. An incision is made in the tree's bark, which cuts through the planting cycle to optimise the latex yield.
37)TRANSPLANTS	seedlings produced for transplanting



TRAINING REGULATIONS (TR) DOCUMENT REVISION HISTORY

Qualification Title: Rubber Production NC II
Qualification Code: AFFRPT221

Revision No.	Document Types*	Qualification Title	TESDA Board Resolution No./ Date	Deployment Circular (TESDA Circular/ Implementing Guidelines)
00	Document Created	Rubber Production NC II	TBR No. 2012-05 05-09-2012	N/A
01	Document Amended	Rubber Production NC II	TBR No. 2021-04 02-09-2021	

Legend: *Description Types
- Document Created
- Document Amended
- Document Superseded

ACKNOWLEDGEMENTS

The Technical Education and Skills Development Authority (TESDA) is particularly grateful for the valuable technical support provided by the following industry stakeholders for the review and development of this Training Regulations. The time and inputs generously given during this undertaking are also highly appreciated and recognized as they made significant contributions to the constitution of this TR.

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