

Assessment Evidence Guide For “Pesticides and Fertiliser Technology”

Level-4

**Perform preparation of on-farm compost using
Organic/inorganic Compounds**

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03A	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform preparation of on-farm compost using Organic/inorganic Compounds Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:.....
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Candidate is required to prepare a composts by using different organic/inorganic materials, assign by assessor and calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio. Assessment Task 2: Candidate is required to apply different types of composts in soil as per requirement. <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Visit the farm to make a list of available and suitable organic/inorganic materials</p> <p>Performance Criteria 2: Identify on-farm available and suitable organic/inorganic materials</p> <p>Performance Criteria 3: Perform the selection of Materials (organic/inorganic) according to the requirement</p> <p>Performance Criteria 4: Calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio</p>

	<p>Performance Criteria 5: Perform pre-mixing tasks (ditching, mulching, covering, etc.)</p> <p>Performance Criteria 6: Perform mixing by incorporation of Effective Microbes (EM) solution/Plant Growth Promoting Rhizobacteria (PGPR)</p> <p>Performance Criteria 7: Perform post mixing tasks based on moisture content, temperature, decomposition rate, etc.</p> <p>Performance Criteria 8: Perform periodic analysis during composting</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: Calculate the compost quantity, to be added in soil based on Lab analysis reports (compost and soil)</p> <p>Performance Criteria 2: Perform compost application in soil by using appropriate method.</p> <p>Performance Criteria 3: Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.</p> <p>Performance Criteria 4: Develop procedure for ongoing identification of hazards and risks and integrated within work systems and procedures</p>
	<p>Portfolios required at the time of assessment (if any) for</p>

Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1		Description of Assessment Task 1 Candidate is required to prepare a composts by using different organic/inorganic materials, assign by assessor and calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Visit the farm to make a list of available and suitable organic/inorganic materials			
2.	Identify on-farm available and suitable organic/inorganic materials			
3.	Perform the selection of Materials (organic/inorganic) according to the requirement			
4.	Calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio			
5.	Perform pre-mixing tasks (ditching, mulching, covering, etc.)			
6.	Perform mixing by incorporation of Effective Microbes (EM) solution/Plant Growth Promoting Rhizobacteria (PGPR)			
7.	Perform post mixing tasks based on moisture content, temperature, decomposition rate, etc.			
8.	Perform periodic analysis during composting			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Assessment Task 2		Description of Assessment Task 2 Candidate is required to apply different types of composts in soil as per requirement.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Calculate the compost quantity, to be added in soil based on Lab analysis reports (compost and soil)			
2.	Perform compost application in soil by using appropriate method.			
3.	Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.			
4.	Develop procedure for ongoing identification of hazards and risks and integrated within work systems and procedures			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03A	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform preparation of on-farm compost using Organic/inorganic Compounds Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): Assessment Time: 30mins		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What is compost?	
2. Enlist different organic material used in compost?	
3. What is different inorganic material used in compost?	
4. What is the procedure of compost formation?	
5. Enlist different tools used in compost formation?	
6. Why compost is preferred over chemical fertilizers?	
7. What is the meaning of a code of practice?	

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
8. What is preventive action?	
9. What are the elements of the workplace health and safety program?	

ANSWER KEY

Sr.	Answers
1.	Compost is the combination of organic (brown & green materials) and inorganic fertilizers
2.	<ul style="list-style-type: none">• Dead leaves• Rotten fruits and vegetables• Farm Yard Manure (FYM)• Green manure etc.
3.	Inorganic materials used in compost includes chemical fertilizers (DAP, Urea etc.).
4.	<p>There are following main steps involved in compost formation,</p> <ul style="list-style-type: none">• Select proper location• Choose the type of compost bin• Pit digging• Add different waste material• Mixing of material• Covering of material with polythene
5.	<ul style="list-style-type: none">• Spade• Scoop shovels• Pitch fork• Aerator• Loppers etc.
6.	Compost is preferred over chemical fertilizers because it is naturally bio degradable, provide all the essential nutrients to the crop, increase the fertility status of soil and enhance the crop productivity.
7.	A code of practice is a set of written rules which explains how people working in a particular profession should behave.
8.	Preventive action is any action we take to avoid injuries or illness related to workplace conditions
9.	<ul style="list-style-type: none">• There are two aspects to consider when establishing an occupational/workplace health and safety Program;• Preventive Action• Emergency management.

Assessment Evidence Guide

For

“Pesticides and Fertiliser Technology”

Level-4

Perform Vermicomposting

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03B	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Perform Vermicomposting • Establish and maintain the occupational Health and safety system • Perform Advance communication • Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): 		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>1. Assessment Task1: Candidate is required to prepare Vermicompost as per instructions given by assessor, including following tasks:</p> <ul style="list-style-type: none"> ○ Collection of farm waste ○ Performing Pre-application tasks ○ Worms application in material ○ Post management and care of Compost <p>2. Assessment Task 2: Candidate is required to apply Vermicompost in soil as per requirement.</p> <p>And complete:</p> <p>3. Knowledge assessment test (Written or Oral)</p> <p>4. Portfolios at the time of assessment (if any)</p>
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Visit the farm to make a list of available and suitable waste</p> <p>Performance Criteria 2: Perform collection and Select suitable site for Vermicomposting</p> <p>Performance Criteria 3: Select tools according to the requirement</p> <p>Performance Criteria 4: Perform Pre-Application tasks (ditching, ridging, mulching, covering, etc.) storage of farm waste appropriately</p>

	<p>Assessment Task 2</p> <p>Performance Criteria 1: Fulfill their requirements for Worms application by checking:</p> <ul style="list-style-type: none"> • Physical state of material (moisture content, temperature, rate of decomposition, etc.) • Growth stage of Worm • Incubation/Time period • Environmental condition, etc. <p>Performance Criteria 2: Perform application of Worms</p> <p>Performance Criteria 3: Perform on-farm analysis (Temperature, moisture content, pH etc.)</p> <p>Performance Criteria 4: Perform sampling of compost for lab analysis</p> <p>Performance Criteria 5: Perform packing and transportation of compost sample to the lab</p> <p>Performance Criteria 6: Calculate the Vermicompost quantity, to be added in soil based on Lab analysis reports (compost and soil)</p> <p>Performance Criteria 7: Perform Vermicompost application in soil by using appropriate method.</p>
	<p>Portfolios required at the time of assessment (if any) for</p>

Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1	Description of Assessment Task 1 Candidate is required to prepare Vermicompost as per instructions given by assessor, including following tasks: <ul style="list-style-type: none"> ○ Collection of farm waste ○ Performing Pre-application tasks ○ Worms application in material ○ Post management and care of Compost 		
During the practical assessment, candidate demonstrated the following:	Yes	No	Remarks
1. Visit the farm to make a list of available and suitable waste			
2. Perform collection and Select suitable site for Vermicomposting			
3. Select tools according to the requirement			
4. Perform Pre-Application tasks (ditching, ridging, mulching, covering, etc.) storage of farm waste appropriately			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>	
Each Assessment Task (with performance criteria)			

Assessment Task 2		Description of Assessment Task 2 Candidate is required to apply Vermicompost in soil as per requirement.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Fulfill their requirements for Worms application by checking: <ul style="list-style-type: none"> Physical state of material (moisture content, temperature, rate of decomposition, etc.) Growth stage of Worm Incubation/Time period Environmental condition, etc. 			
2.	Perform application of Worms			
3.	Perform on-farm analysis (Temperature, moisture content, pH etc.)			
4.	Perform sampling of compost for lab analysis			
5.	Perform packing and transportation of compost sample to the lab			
6.	Calculate the Vermicompost quantity, to be added in soil based on Lab analysis reports (compost and soil)			
7.	Perform Vermicompost application in soil by using appropriate method.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03B	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Vermicomposting Establish and Maintain the Occupational Health and Safety System Perform Advance Communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): Assessment Time: 30mins.		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What is Vermicompost?	
2. Enlist types of worms used for vermicomposting?	
3. Enlist different tools used in Vermicompost formation?	
4. State the factors on which the application of worms depends?	
5. How the quantity of Vermicompost is calculated for addition into soil?	
6. What are the advantages of Vermicompost?	

ANSWER KEY

Sr.	Answers
1.	It is the product of various species of worms (Earth worms etc.) and different organic waste
2.	<ul style="list-style-type: none">• Red wigglers• Earth worms• White wigglers• Red worms etc.
3.	<ul style="list-style-type: none">• Compost turner• Material crusher• Horizontal mixer• Packaging equipment etc.
4.	<ol style="list-style-type: none">1. Physical state of material (Moisture content, temperature and rate of decomposition)2. Growth stage of Worm3. Incubation/Time period4. Environmental condition etc.
5.	The quantity of Vermicompost is calculated for application into soil on basis of lab report recommendation
6.	<ul style="list-style-type: none">• Help in germination• Develop roots of plants• Improve the physical structure of the soil

Assessment Evidence Guide

For

“Pesticides and Fertiliser Technology”

Level-4

Perform First Aid for Pesticide Poisoning
(Formative Assessment)



National Vocational & Technical
Training Commission

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03C	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Perform First Aid for Pesticide Poisoning • Establish and maintain the occupational Health and safety system • Perform Advance communication • Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 1. Assessment Task1: Candidate is required identify symptoms of pesticide poisoning as per instructions given by assessor. 2. Assessment Task2: Candidate is required perform first aid according to situation given by assessor: <ul style="list-style-type: none"> • Oral intake of pesticide • Skin contact with pesticide • Inhalation of pesticide <p>And complete:</p> <ol style="list-style-type: none"> 3. Knowledge assessment test (Written or Oral) 4. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Identify Poison type and dose intake</p> <p>Performance Criteria 2: Find out the possible pathway of pesticide poisoning (by mouth, nose, skin, eyes, ears, etc.)</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: Move the effected person to the fresh air</p> <p>Performance Criteria 2: Hold the effected person in comfortable posture</p> <p>Performance Criteria 3: Perform Insufflation accordingly.</p>

	Performance Criteria 4: Take measures to vomit, if required. Performance Criteria 5: Seek medical help as soon as possible.
	Portfolios required at the time of assessment (if any) for

Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1		Description of Assessment Task 1 Candidate is required identify symptoms of pesticide poisoning as per instructions given by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Identify Poison type and dose intake			
2.	Find out the possible pathway of pesticide poisoning (by mouth, nose, skin, eyes, ears, etc.)			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Each Assessment Task (with performance criteria)				
Assessment Task		Description of Assessment Task 1 Candidate is required identify symptoms of pesticide poisoning as per instructions given by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Move the effected person to the fresh air			
2.	Hold the effected person in comfortable posture			
3.	Perform Insufflation accordingly.			
4.	Take measures to vomit, if required.			
5.	Seek medical help as soon as possible.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03C	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform First Aid for Pesticide Poisoning Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): Assessment Time: 30mins.		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What is pesticide poisoning?	
2. What is first aid?	
3. What are the different pathways of poison intake in human?	
4. What is insufflation?	
5. What precautions should be taken to avoid pesticide poisoning?	

ANSWER KEY

Sr.	Answers
1.	The poisoning which occurs on non-targeted site during application of pesticide i.e. human being, wildlife, birds and beneficial insects is called pesticide poisoning
2.	The first and immediate assistance given to pesticide poisoned victim is called first aid.
3.	<ul style="list-style-type: none">• Mouth• Nose• Skin• Eyes• Ears
4.	It is the artificial method of blowing air (Oxygen) into the mouth of pesticide poisoned victim for the purpose of restoration of victims breathing.
5.	<ul style="list-style-type: none">• Instruction on the labels of pesticide container must be followed• Pesticide application equipment's must be properly maintained• Use the recommended PPEs

Assessment Evidence Guide For “Pesticides and Fertiliser Technology”

Level-4

**Apply Biological Control Agents (BCA's)
(Formative Assessment)**



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03D	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Apply Biological Control Agents (BCA's) • Establish and maintain the occupational Health and safety system • Perform Advance communication • Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): 		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 1. Assessment Task1: Candidate is required to identify and apply Biological Control Agent (BCA) assign by assessor 2. Assessment Task 2: Candidate is required to evaluate the performance of Biological Control Agents according to their application. <p>And complete:</p> <ol style="list-style-type: none"> 3. Knowledge assessment test (Written or Oral) 4. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Visit the field to make a list of harmful insects</p> <p>Performance Criteria 2: Identify predators and parasites</p> <p>Performance Criteria 3: Maintain natural equilibrium below the economic threshold level (ETL)</p> <p>Performance Criteria 4: Analyse the types of hazards</p> <p>Performance Criteria 5: Perform selection of Bio-control agent</p> <p>Performance Criteria 6: Perform rearing of Bio-control agents</p> <p>Performance Criteria 7: Calculate exact population of BCA to keep the pest below EIL</p> <p>Performance Criteria 8: Perform pre application procedure</p> <p>Performance Criteria 9: Perform application of Bio-control Agents</p> <p>Performance Criteria 10: Perform post application tasks</p>

	Performance Criteria 11: Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.
	Assessment Task 2 Performance Criteria 1: Perform the assessment of the effects of BCA application. Performance Criteria 2: Prepare Datasheet/Reports
	Portfolios required at the time of assessment (if any) for

Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1		Description of Assessment Task 1 Candidate is required to collect Plant samples from		
		o		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Visit the field to make a list of harmful insects			
2.	Identify predators and parasites			
3.	Maintain natural equilibrium below the economic threshold level (ETL)			
4.	Analyse the types of hazards			
5.	Perform selection of Bio-control agent			
6.	Perform rearing of Bio-control agents			
7.	Calculate exact population of BCA to keep the pest below EIL			
8.	Perform pre application procedure			
9.	Perform application of Bio-control Agents			
10.	Perform post application tasks			
11.	Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Assessment Task 2		Description of Assessment Task 2 Candidate is required to evaluate the performance of Biological Control Agents according to their application.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Perform the assessment of the effects of BCA application.			
2.	Prepare Datasheet/Reports			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03D	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Apply Biological Control Agents (BCA's) Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What are biological control agents?	
2. Enlist biological control agents?	
3. Difference between predator and parasite?	
4. Enlist different examples of insect predators and parasites?	
5. Enlist the harmful insects of field crops?	
6. What are common crop hazards?	
7. What are the beneficial insects?	

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
8. What are the steps for rearing of beneficial insects?	
9. What is the purpose of code practice in practice/fertilizer?	
10. Enlist any four situations, which have highest exposure risk?	
11. What is code of practice for pesticides?	
12. What is preventive action?	
13. What are the elements of the workplace health and safety program?	

ANSWER KEY

Sr.	Answers
1.	A biological control agent is an organism that is used to control pest species and plant diseases
2.	<ul style="list-style-type: none"> • Biological control insects (Lady bird beetle, Greenlace wings, Dragon flies etc.) • Biological control microorganism (Trichoderma, PGPRs, etc.)
3.	Parasites are different from predators because parasites only take resources from one host, whereas predators feed on prey.
4.	<p>Insect Predators</p> <ul style="list-style-type: none"> • ladybird beetles • ground beetles • lacewings • Honey bee • Syrphid fly etc. <p>Insect parasites</p> <ul style="list-style-type: none"> • Lice • Aphid • Mites etc.
5.	Bugs , beetles , weevils, white fly , borers, aphid and bollworms etc.
6.	Damage caused by animals, insects, diseases, excessive chemical poisoning, climatic change etc.
7.	Any insect species that play important role in pollination and pest control.
8.	<ul style="list-style-type: none"> • Importation • Augmentation • Conservation
9.	This code of practice provides practical guidance on the safe use of pesticides/fertilizer, to protect the health and safety of workers using pesticides/fertilizer.
10.	<ul style="list-style-type: none"> • Handling the concerted product • Weighing product • Mixing • Loading • Spraying Re-entry
11.	The safe use of pesticides including herbicides in non- agricultural workplaces.
12.	Preventive action is any action we take to avoid injuries or illness related to workplace conditions
13.	<ul style="list-style-type: none"> • There are two aspects to consider when establishing an occupational/workplace health and safety Program; • Preventive Action • Emergency management.

Assessment Evidence Guide For “Pesticides and Fertiliser Technology”

Level-4

**Perform Urban Pest Management
(Formative Assessment)**



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03E	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> • Perform Urban Pest Management • Establish and maintain the occupational Health and safety system • Perform Advance communication • Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task1: Candidate is required to perform preliminary inspection of assigned area. Also prepare and apply pesticide according to inspection report.</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Conduct the site survey to identify the urban pest problem</p> <p>Performance Criteria 2: Prepare an inspection report</p> <p>Performance Criteria 3: Estimate Time, Cost, Supplies & required equipment</p> <p>Performance Criteria 4: Compile the information to make the quotation.</p> <p>Performance Criteria 5: Select and calibrate the tools and equipment.</p> <p>Performance Criteria 6: Perform application of pesticide on the target site</p> <p>Performance Criteria 7: Perform post spray care (Sign display/ tagging).</p> <p>Performance Criteria 8: Prepare a report for supervisor and customer</p>
	Portfolios required at the time of assessment (if any) for

Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1		Description of Assessment Task 1 Candidate is required to perform preliminary inspection of assigned area. Also prepare and apply pesticide according to inspection report.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Conduct the site survey to identify the urban pest problem			
2.	Prepare an inspection report			
3.	Estimate Time, Cost, Supplies & required equipment			
4.	Compile the information to make the quotation.			
5.	Select and calibrate the tools and equipment.			
6.	Perform application of pesticide on the target site			
7.	Perform post spray care (Sign display/ tagging).			
8.	Prepare a report for supervisor and customer			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code: 081PF03E	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Urban Pest Management Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What are urban pests?	
2. Enlist commonly found urban pests?	
3. What are the problems associated with Urban Pests?	
4. Enlist tools /equipment used in urban pests management?	
5. What is post pesticide procedure?	

ANSWER KEY

Sr.	Answers
1.	Urban pests are organisms which infest our homes, buildings and other frequently used areas occupied by humans.
2.	<ul style="list-style-type: none">• Termites• Mosquitoes• Lizard• Spiders• Rodents• Roaches• Flies• Ants• Bed bugs
3.	<ul style="list-style-type: none">• Human health risks• Spoilage of food commodity• Damage to building structure• Nuisance etc.
4.	<ul style="list-style-type: none">• Sprayers• Dusters• Foggers• Drill machines• Injectors etc
5.	<ul style="list-style-type: none">• Vacate the place for a specific time period.• Place a warning sign in treated area• Discard any food left outside.• Repair any leakages.• Don't clean immediately• Protect yourself.

**Assessment Evidence
Guide
For
“Pesticides and Fertilizer
Technology”
Level-4
(Summative Assessment)**



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code:	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures Perform preparation of on-farm compost using Organic/inorganic Compounds Perform Vermicomposting Perform First Aid for Pesticide Poisoning Apply Biological Control Agents (BCA's) Perform Urban Pest Management 	Assessment Date (DD/MM/YY): Assessment Time: 5 hours		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task1: Candidate is required to: <ul style="list-style-type: none"> Perform packaging and labeling of Vermicompost as per industrial standards Apply it on assigned area. Assessment Task 2: Candidate is required to select Biological Control Agents as per requirement and apply in the area assigned by assessor. Assessment Task 3: Candidate is required to apply pesticides on the basis of inspection report, in the area assigned by assessor. <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Visit the farm to make a list of available and suitable organic/inorganic materials</p>

	<p>Performance Criteria 2: Prepare a list based on available C/N ratio</p> <p>Performance Criteria 3: Perform the selection of Materials (organic/inorganic) according to the requirement</p> <p>Performance Criteria 4: Calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio</p> <p>Performance Criteria 5: Perform pre-mixing tasks (ditching, mulching, covering, etc.)</p> <p>Performance Criteria 6: Perform mixing by incorporation of Effective Microbes (EM) solution/Plant Growth Promoting Rhizobacteria (PGPR)</p> <p>Performance Criteria 7: Perform post mixing tasks based on moisture content, temperature, decomposition rate, etc.</p> <p>Performance Criteria 8: Perform periodic analysis during composting</p> <p>Performance Criteria 19: Perform on-farm analysis (Temperature, moisture content, pH etc.) until to get the final compost</p> <p>Performance Criteria 10: Perform sampling of compost according to the standard procedure for lab analysis</p> <p>Performance Criteria 11: Perform packing and transporting of compost sample to the lab</p> <p>Performance Criteria 12: Calculate the compost quantity, to be added in soil based on Lab analysis reports (compost and soil)</p> <p>Performance Criteria 13: Perform compost application in soil by using appropriate method.</p> <p>Performance Criteria 14: Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: Visit the field to make a list of harmful insects</p> <p>Performance Criteria 2: Identify predators and parasites</p> <p>Performance Criteria 3: Maintain natural equilibrium below the economic threshold level (ETL)</p> <p>Performance Criteria 4: Analyse the types of hazards</p> <p>Performance Criteria 5: Perform selection of Bio-control agent</p> <p>Performance Criteria 6: Calculate exact population of BCA to keep the pest below EIL</p> <p>Performance Criteria 7: Perform pre application procedure</p> <p>Performance Criteria 8: Perform application of Bio-control Agents</p> <p>Performance Criteria 9: Perform post application tasks</p> <p>Performance Criteria 10: Develop procedure for ongoing identification of hazards and risks and integrated within work systems and procedures</p>
	<p>Assessment Task 3</p> <p>Performance Criteria 1: Estimate Time, Cost, Supplies & required equipment</p> <p>Performance Criteria 2: Compile the information to make the quotation.</p> <p>Performance Criteria 3: Select and calibrate the tools and equipment.</p> <p>Performance Criteria 4: Perform application of pesticide on the target site.</p> <p>Performance Criteria 5: Perform post spray care (Sign display/ tagging).</p>

	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance Criteria 1: File/folder of Perform preparation of on-farm compost using Organic/inorganic Compounds</p> <p>Performance Criteria 2: Perform Vermicomposting</p> <p>Performance Criteria 3: File/folder of Perform First Aid for Pesticide Poisoning</p> <p>Performance Criteria 4: File/folder of Apply Biological Control Agents (BCA's)</p> <p>Performance Criteria 5: File/folder of Perform Urban Pest Management</p>
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Assessors Judgment Guide

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Observation Checklist

Assessment Task 1	Description of Assessment Task 1 Candidate is required to: <ul style="list-style-type: none"> ○ Perform packaging and labeling of Vermicompost as per industrial standards ○ Apply it on assigned area. 		
During the practical assessment, candidate demonstrated the following:	Yes	No	Remarks
1. Visit the farm to make a list of available and suitable organic/inorganic materials			
2. Prepare a list based on available C/N ratio			
3. Perform the selection of Materials (organic/inorganic) according to the requirement			
4. Calculate the proportion of materials based on C/N (Carbon/Nitrogen) ratio			
5. Perform pre-mixing tasks (ditching, mulching, covering, etc.)			
6. Perform mixing by incorporation of Effective Microbes (EM) solution/Plant Growth Promoting Rhizobacteria (PGPR)			
7. Perform post mixing tasks based on moisture content, temperature, decomposition rate, etc.			
8. Perform periodic analysis during composting			
9. Perform on-farm analysis (Temperature, moisture content, pH etc.) until to get the final compost			
10. Perform sampling of compost according to the standard procedure for lab analysis			
11. Perform packing and transporting of compost sample to the lab			
12. Calculate the compost quantity, to be added in soil based on Lab analysis reports (compost and soil)			
13. Perform compost application in soil by using appropriate method.			
14. Identify hazards and risks correctly and confirm according to occupational health and safety legislation, codes of practice and prevailing trends.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>	
Each Assessment Task (with performance criteria)			

Assessment Task 2		Description of Assessment Task 2		
		Candidate is required to select Biological Control Agents as per requirement and apply in the area assigned by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Visit the field to make a list of harmful insects			
2.	Identify predators and parasites			
3.	Maintain natural equilibrium below the economic threshold level (ETL)			
4.	Analyse the types of hazards			
5.	Perform selection of Bio-control agent			
6.	Calculate exact population of BCA to keep the pest below EIL			
7.	Perform pre application procedure			
8.	Perform application of Bio-control Agents			
9.	Perform post application tasks			
10.	Develop procedure for ongoing identification of hazards and risks and integrated within work systems and procedures			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Assessment Task 3		Description of Assessment Task 3		
		Candidate is required to apply pesticides on the basis of inspection report, in the area assigned by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Estimate Time, Cost, Supplies & required equipment			
2.	Compile the information to make the quotation.			
3.	Select and calibrate the tools and equipment.			
4.	Perform application of pesticide on the target site.			
5.	Perform post spray care (Sign display/ tagging).			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Portfolio			Description of Portfolio Candidate is required to present a portfolio including:		
Current <input type="checkbox"/>	Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>	
Portfolio meet the following performance standards:			Yes	No	Remarks
1.	File/folder of Perform preparation of on-farm compost using Organic/inorganic Compounds				
2.	Perform Vermicomposting				
3.	File/folder of Perform First Aid for Pesticide Poisoning				
4.	File/folder of Apply Biological Control Agents (BCA's)				
5.	File/folder of Perform Urban Pest Management				
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Title of Qualification: National Vocational Certificate Level 4 in Pesticide & Fertiliser Technology (Assistant Supervisor)	CS Code:	Level: 04	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Establish and maintain the occupational Health and safety system Perform Advance communication Analyse Workplace Policies and Procedures Perform preparation of on-farm compost using Organic/inorganic Compounds Perform Vermicomposting Perform First Aid for Pesticide Poisoning Apply Biological Control Agents (BCA's) Perform Urban Pest Management 	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
1. What are Personnel Protective Equipment's (PPEs)?	
2. How to treat the pesticide burn?	
3. What precautions should be adopted to avoid pesticide inhalation?	
4. What measures should be taken to rescue pesticide poisoned victim?	

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	
5. What is the remedy for pesticide exposure in eyes?	
6. How to dispose of empty pesticide containers?	

ANSWER KEY

Sr.	Answers
1.	<ul style="list-style-type: none">• Face mask• Full sleeve shirt• Goggles• Ear plug• Face shield• Helmet• Gloves• Long shoes etc.
2.	<ul style="list-style-type: none">• Wash effected skin with lukewarm water for at least 15 minutes• Apply ointments greases, powders or other drugs• Covered the burned area with loose, clean and soft cloth• Remove contaminated clothes• Seek medical help if required
3.	<ul style="list-style-type: none">• Move the effected person to a fresh air• Provide resuscitation if required• Seek medical help if required
4.	<ul style="list-style-type: none">• Move the effected person to a fresh air• Hold the effected person in comfortable posture• Perform Insufflation• Seek medical help if required
5.	<ul style="list-style-type: none">• Quickly washed eyes for 15 minutes with clean gently running water• If there is no running water bath eyes from a container frequently changing the water• Seek medical help if required
6.	<ul style="list-style-type: none">• All the container should be rinsed out with water at least 3 times• Container lids should be removed before disposal• Containers must be buried deep in an isolated area away from water supplies• Container should be made unusable by punching holes in the top and bottom