

**Assessment Evidence
Guide
For
“Assistant Environmental
Technician”**

Level-3

**Exercise/Apply basic concepts of Environmental
Technology**

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 0712-EPT-1	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Exercise/Apply basic concepts of Environmental Technology Observe Work Ethics-I 	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 style="text-align: center;">Assessment Task 1: Candidate is required to draw energy conversion diagrams and perform inter-conversion of energy as per given instructions</p> <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: Familiar with different types of energy kinetic energy such as electrical, radiant and thermal etc.</p> <p>Performance Criteria 2: Familiar with potential energy such as mechanical, nuclear, chemical and gravitational etc.</p> <p>Performance Criteria 3: Identify inter-conversion of energy</p> <p>Performance Criteria 4: Identify the renewable energy sources such as solar, biomass, hydropower, wind and geothermal, tidal etc.</p> <p>Performance Criteria 5: Identify the non-renewable energy sources such as coal, natural gas, nuclear and fossil fuels</p> <p>Performance Criteria 6: Understand the importance of both renewable and non-renewable energy sources</p> <p>Performance Criteria 7: Comprehend the types of Environmental Standards</p> <p>Performance Criteria 8: Understand the National Environmental Quality Standards (NEQS)</p> <p>Performance Criteria 9: Understand applicable requirement of NEQS as per organizational scope</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 draw energy conversion diagrams and perform inter-conversion of energy as per given instructions		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Familiar with different types of energy kinetic energy such as electrical, radiant and thermal etc.			
2.	Familiar with potential energy such as mechanical, nuclear, chemical and gravitational etc.			
3.	Identify inter-conversion of energy			
4.	Identify the renewable energy sources such as solar, biomass, hydropower, wind and geothermal, tidal etc.			
5.	Identify the non-renewable energy sources such as coal, natural gas, nuclear and fossil fuels			
6.	Understand the importance of both renewable and non-renewable energy sources			
7.	Comprehend the types of Environmental Standards			
8.	Understand the National Environmental Quality Standards (NEQS)			
9.	Understand applicable requirement of NEQS as per organizational scope			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: Observe Work Ethics-I	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Exercise/Apply basic concepts of Environmental Technology Observe Work Ethics-I 	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. Differentiate between kinetic and potential energy.	
2. Enlist renewable energy sources and give examples for each.	
3. Define inter-conversion of energy.	
4. Enlist the Environmental Standards for a given industry/sector.	

ANSWER KEY

Sr.	Answers
1.	<p>(A) Kinetic energy is associated with bodies that are in motion. Two classes of kinetic energy can be distinguished; (a) Mechanical kinetic energy is associated with any object that is in motion, meaning it is travelling from one place to another (b) Thermal kinetic energy is associated with the rate that atoms or molecules are vibrating. Such vibrations are frozen at -273°C (absolute zero), but are progressively more vigorous at higher temperatures, corresponding to a larger content of thermal kinetic energy, which is also referred to as heat. Potential Energy (B) Potential energy is the stored ability to perform work. To actually perform work, potential energy must be transformed into electromagnetic or kinetic energy. There are a number of kinds of potential energy: Gravitational potential energy results from gravity. Chemical potential energy is stored in the bonds between atoms within molecules. Chemical potential energy can be liberated by exothermic reactions</p>
2.	<p>Five main sources of renewable energy</p> <ul style="list-style-type: none">• Solar energy from the sun.• Geothermal energy from heat inside the earth.• Wind energy.• Biomass from plants.• Hydropower from flowing water
3.	<p>Like matter, energy comes in different types. Energy can be converted from one form into another, but all of the energy present before a change occurs always exists in some form after the change is completed.</p>
4.	<p>Environmental standards are administrative regulations or civil law rules. Implemented for the treatment and maintenance of the environment. Environmental standards are typically set by government and can include prohibition of specific activities, mandating the frequency and methods of monitoring, and requiring permits for the use of land or water. Standards differ depending on the type of environmental activity</p>

Assessment Evidence Guide

For

“Assistant Environmental Technician”

Level-3

Collect/Prepare Sample for Analysis

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 0712-EPT-2	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Collect/Prepare Samples for Analysis Observe Work Ethics-I 	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 Task 1: Collect and prepare environmental samples from a given site for further analysis</p> <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: Identify source of samples</p> <p>Performance Criteria 2: Identify the purpose of samples to be analyzed</p> <p>Performance Criteria 3: Identify and inspect possible hazard and risks related to sample source</p> <p>Performance Criteria 4: Use PPEs before collecting sample</p> <p>Performance Criteria 5: Inspect the tools and equipment for sample collection</p> <p>Performance Criteria 6: Follow Standard Operating Procedures (SOPs) for sample collection</p> <p>Performance Criteria 7: Label and store the collected sample</p> <p>Performance Criteria 8: Process the collected sample, if necessary</p> <p>Performance Criteria 9: Check the SOPs requirement for sample analysis</p> <p>Performance Criteria 10: Store and label the processed sample for analysis</p>

	Portfolios required at the time of assessment (if any) for
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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 Collect and prepare environmental sample from a given site for further analysis		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Identify source of samples			
2.	Identify the purpose of samples to be analyzed			
3.	Identify and inspect possible hazard and risks related to sample source			
4.	Use PPEs before collecting sample			
5.	Inspect the tools and equipment for sample collection			
6.	Follow Standard Operating Procedures (SOPs) for sample collection			
7.	Label and store the collected sample			
8.	Process the collected sample, if necessary			
9.	Check the SOPs requirement for sample analysis			
10.	Store and label the processed sample for analysis			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 0712-EPT-2	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Collect/Prepare Samples for Analysis Observe Work Ethics-I 	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. Define the term sample.	
2. Define the term hazard.	
3. Enlist any three PPEs for sample collection.	
4. Describe basic steps of sample collection.	
5. Enlist different materials and equipment necessary for sample preparation.	

ANSWER KEY

Sr.	Answers
1.	A sample is a representative subset of whole. The elements of a sample are known as sample points, sampling units or observations. For example, a sample of air containing hazardous environmental traces
2.	A hazard is a potential source of harm. The probability of that harm being realized in a specific <i>incident</i> , combined with the magnitude of potential harm. Environmental hazards include long term environmental deterioration such as acidification of soils and build-up of atmospheric carbon dioxide
3.	Sample collection PPEs include; a. Safety Cap b. Safety Goggles c. Gloves d. Safety Shoes e. Mask
4.	Sample collection steps include; a. Identify of sample site b. Wear appropriate PPEs c. Take sample d. Store collected sample
5.	Sample preparation material and equipment involves following; a. PPEs b. Reagents c. Glassware d. Laboratory equipment

**Assessment Evidence
Guide
For
“Assistant Environmental
Technician”
Level-3
Assist in Laboratory and Filed Operations**

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician” (Environmental Technician)	CS Code: 0712-EPT-3	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Assist in Laboratory and Field Operations Observe Workplace Ethics-I 	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1: Candidate is required to prepare reagents and materials required for site inspection.</p> <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>Assessment Task 1</p> <p>Performance Criteria 1: Identify required materials and equipment Performance Criteria 2: Check the specific requirements for site inspection Performance Criteria 3: Prepare reagents and other required materials Performance Criteria 4: Label and store the required material and reagents Performance Criteria 5: Follow work ethics as per company policy Performance Criteria 6: Ensure punctuality and dedication Performance Criteria 7: Practice self-accountability</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 Assist in preparing reagents and materials required for site inspection by following workplace ethics		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Identify required materials and equipment			
2.	Check the specific requirements for site inspection			
3.	Prepare regents and other required materials			
4.	Label and store the required material and reagents			
5.	Follow work ethics as per company policy			
6.	Ensure punctuality and dedication			
7.	Practice self-accountability			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician” (Environmental Technician)	CS Code: 0712-EPT-3	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Assist in Laboratory and Field Operations Observe Workplace Ethics-I 	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 do you mean by site inspection?	
2. What is the purpose of reagents	
3. Write 3 precautionary measures to store water samples	
4. Write basic steps of record keeping.	
5. Define work ethics.	

ANSWER KEY

Answer Key

Question No.	Answer
1.	Conduct a site inspection of the internal and external grounds of a facility to effectively identify the problematic areas with environmental regulatory violations
2.	A substance or mixture for use in chemical analysis or other reactions.
3.	Seal sample container Store at prescribed temperature Use plastic container
4.	Environmental ethics is a branch of applied philosophy that studies the conceptual foundations of environmental values as well as more concrete issues surrounding societal attitudes, actions, and policies to protect and sustain biodiversity and ecological systems
5.	There are three basic pairs of principles: justice and sustainability; sufficiency and compassion; solidarity and participation. These principles demonstrate how environmental concerns challenge us to extend these principles to include the well-being of the natural world and our human duties to it.

**Assessment Evidence
Guide
For
“Assistant Environmental
Technician”**

Level-3

Perform Basic Computer Operations

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 081PF02A	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Basic Computer Operations 	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>3. Assessment Task 1: Candidate is required to install MS Office application and using MS word prepare a soil or plant analysis Report, specified by assessor.</p> <p>4. Assessment Task 2: Candidate is required to prepare a presentation on assigned task using Power Point.</p> <p>5. Assessment Task 3: Candidate is required to prepare a spreadsheet in MS Excel, specified by assessor.</p> <p>And complete:</p> <p>6. Knowledge assessment test (Written or Oral)</p> <p>7. 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: Connect computer components and peripherals as per requirement.</p> <p>Performance Criteria 2: Install Drivers and applications according to the software specification.</p> <p>Performance Criteria 3: Troubleshoot Applications to trace and fix faults in a specific application to bring it in a running condition.</p> <p>Performance Criteria 4: Compose a document as per the requirement.</p> <p>Performance Criteria 5: Format Word Document according to given requirements.</p> <p>Performance Criteria 6: Print Word Documents according to requirements.</p>

	<p>Assessment Task 2</p> <p>Performance Criteria 1: Insert Slides with different Layouts according to requirements of presentation.</p> <p>Performance Criteria 2: Insert text, tables, images, etc. according to the requirement.</p> <p>Performance Criteria 3: Apply a set of effects to animate the slide according to requirement.</p> <p>Performance Criteria 4: Apply Slide Transitions on Slides according to requirement.</p> <p>Performance Criteria 5: Apply Sound Effects on Objects/text/images according to requirement.</p> <p>Performance Criteria 6: Present a presentation according to 7Cs of communication.</p>
	<p>Assessment Task 3</p> <p>Performance Criteria 1: Develop a worksheet as per given data.</p> <p>Performance Criteria 2: Format the worksheet according to given criteria.</p> <p>Performance Criteria 3: Apply Formulas according to the requirement.</p> <p>Performance Criteria 4: Generate Charts/Graphs according to the given data.</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 install MS Office application and using MS word prepare a soil or plant analysis Report, specified by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
10.	Connect computer components and peripherals as per requirement.			
11.	Install Drivers and applications according to the software specification.			
12.	Troubleshoot Applications to trace and fix faults in a specific application to bring it in a running condition.			
13.	Compose a document as per the requirement.			
14.	Format Word Document according to given requirements.			
15.	Print Word Documents according to requirements.			
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 prepare a presentation on types of different Pests using Power Point.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Insert Slides with different Layouts according to requirements of presentation.			
2.	Insert text, tables, images, etc. according to the requirement.			
3.	Apply a set of effects to animate the slide according to requirement.			
4.	Apply Slide Transitions on Slides according to requirement.			
5.	Apply Sound Effects on Objects/text/images according to requirement.			
6.	Present a presentation according to 7Cs of communication.			
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 prepare a spreadsheet in MS Excel, specified by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Develop a worksheet as per given data.			
2.	Format the worksheet according to given criteria.			
3.	Apply Formulas according to the requirement.			
4.	Generate Charts/Graphs according to the given data.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 081PF02A	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Perform Basic Computer Operations Identify and implement Workplace Policies and Procedures Apply work health and safety practices Communicate at workplace 	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)	
5. Ctrl+Esc	
6. Ctrl+Shift+Esc	
7. Ctrl+X	
8. Ctrl+V	
9. Ctrl+A	
10. What is MS Excel spreadsheet?	
11. Enlist any four uses of Microsoft Power Point?	

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)

12. What are the benefits of PowerPoint?

13. What are PPE requirements?

14. Red rectangle/square with black X



15. Green rectangle with white cross



16. What are the 5 C's of communication?

17. Write any five barriers to communication?

ANSWER KEY

Sr.	Answers
5.	Opens the Start menu.
6.	Opens Windows Task Manager.
7.	Cut
8.	Paste
9.	Select whole document
10.	Spreadsheets present tables of values arranged in rows and columns that can be manipulated mathematically using both basic and complex arithmetic operations and functions.
11.	<ul style="list-style-type: none"> • Documents • Performed calculations • Analyzed data • Reports in slides shows
12.	<ul style="list-style-type: none"> • Increasing visual impact. • Improving audience focus. • Providing annotations and highlights. • Analyzing and synthesizing complexities. • Enriching curriculum with interdisciplinary. • Increasing spontaneity and interactivity. • Increasing wonder
13.	PPE is equipment that will protect the user against health or safety risks at work.
14.	Harmful
15.	First aid station
16.	<ul style="list-style-type: none"> • Clarity, • Consistency, • Creativity • Content • Connections
17.	<ul style="list-style-type: none"> • The use of jargon. Over-complicated or unfamiliar terms. • Emotional barriers and taboos. • Lack of attention, interest, distractions, or irrelevance to the receiver. • Differences in perception and viewpoint. • Physical disabilities such as hearing problems or speech difficulties. • Language differences and the difficulty in understanding unfamiliar accents. • Cultural differences.

Assessment Evidence Guide

For

“Assistant Environmental Technician”

Level-3

Assist in Maintenance of Equipment

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 0712-EPT-4	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Assist in Maintenance of Equipment Observe Work Ethics-I Perform Basic Computer Operations 	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: Perform maintenance of a given faulty equipment and prepare maintenance report.</p> <p>And complete:</p> <p>2. Knowledge assessment test (Written or Oral)</p> <p>3. 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: Identify the faulty equipment</p> <p>Performance Criteria 2: Use appropriate PPEs</p> <p>Performance Criteria 3: Inspect the out of order equipment</p> <p>Performance Criteria 4: Identify the required resources for maintenance</p> <p>Performance Criteria 5: Perform maintenance of equipment</p> <p>Performance Criteria 6: Use standard checklist for maintenance record</p> <p>Performance Criteria 5: Collect evidence(s) of maintenance of the equipment for report</p> <p>Performance Criteria 6: Save the collected data</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 maintenance of a given faulty equipment and prepare maintenance report		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
11.	Identify the faulty equipment			
12.	Use appropriate PPEs			
13.	Inspect the out of order equipment			
14.	Identify the required resources for maintenance			
15.	Perform maintenance of equipment			
16.	Use standard checklist for maintenance record			
17.	Collect evidence(s) of maintenance of the equipment for report			
18.	Save the collected data			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code: 0712-EPT-4	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Assist in Maintenance of Equipment Observe Work Ethics-I Perform Basic Computer Operations 	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. Define maintenance.	
2. Enlist types of maintenance.	
3. Differentiate between preventive and corrective maintenance.	
4. Enlist any five tools required for maintenance.	
5. Enlist any five PPEs?	
6. PPEs stand for?	
7. Enlist any three most common workplace accidents?	

ANSWER KEY

Sr.	Answers
1.	Equipment maintenance is a process used to keep the equipment in reliable working order. It may include routine upkeep as well as corrective repair work.
2.	Generally, there are six main maintenance strategies: <ul style="list-style-type: none">• Reactive (run-to-failure)• Predetermined maintenance• Preventive maintenance• Corrective maintenance• Condition-based maintenance• Predictive maintenance
3.	Corrective maintenance prevents recurrence, while preventive maintenance prevents occurrence
4.	These are some of the most common tools that maintenance professionals use: <ul style="list-style-type: none">• Safety gear• Storage equipment• Power tools• Hand tools• Electrical tools• Cleaning supplies• Landscaping equipment
5.	<ul style="list-style-type: none">• Safety helmets• Gloves• Eye protection• Safety footwear• Safety harnesses• Protective clothing
6.	Personal protective equipment.
7.	<ul style="list-style-type: none">• Slips, trips and falls• Being caught in or struck by moving machinery.• Transportation and vehicle-related accidents.• Fire and explosions.• Overexertion and repetitive stress injuries.

**Assessment Evidence
Guide
For
“Assistant Environmental
Technician”
Level-3
Maintain Routine Record**

(Formative Assessment)



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician” (Environmental Technician)	CS Code: 0712-EPT-5	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Maintain Routine Record Observe Work Ethics-I Perform Basic Computer Operations 	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	During a practical assessment, under observation by an assessor, you will complete: Assessment Task 1: Candidate is required to prepare formats to maintain routine record of inventory and operations using Microsoft Office Assessment Task 2: Candidate is required to enter given data in prepared formats
Minimum Evidence Required	Assessment Task 1 Performance Criteria 1: Follow Standard Operating Procedures (SOPs) for record management Performance Criteria 2: Identify relevant list of records of inventory and operations Performance Criteria 3: Record details of the material issued or received Performance Criteria 4: Inspect routine operations Performance Criteria 5: Collect record of any operational and maintenance emergency Performance Criteria 6: Put operational and inventory data into Microsoft Office
	Assessment Task 2: Performance Criteria 1: Prepare files of Microsoft Word/Excel Performance Criteria 2: Save the file Performance Criteria 3: Email prepared file to concerned person Performance Criteria 4: Print the file for record keeping
	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 prepare formats to maintain routine record of inventory and operations using Microsoft Office		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
8.	Visually inspect colour/other changes in the crops			
9.	Identify the deficiency symptoms in crops			
10.	Prepare an inspection report			
11.	Identify the workplace policy & procedures			
12.	Comply with duty of care requirements			
13.	Put operational and inventory data into Microsoft Office			
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 enter given data in prepared formats		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Prepare files of Microsoft Word/Excel			
2.	Save the file			
3.	Email prepared file to concerned person			
4.	Print the file for record keeping			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		
Each Assessment Task (with performance criteria)				

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician” (Environmental Technician)	CS Code: 0712-EPT-5	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Maintain Routine Record Observe Work Ethics-I Perform Basic Computer Operations 	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. Define the term record.	
2. Define the term inventory.	
3. Write full forms of LIFO and FIFO	
4. Write basic steps of record keeping.	
5. Name any two Web mail.	
6. Name any five browsers.	

ANSWER KEY

Answer Key

Question No.	Answer
6.	A record is a basic data structure collected through an activity either soft or hard form. A record is a collection of fields, possibly of different data types, typically in a fixed number and sequence. A personnel record might contain a name, a salary, and a rank
7.	Inventory refers to the act of counting or listing items. As an accounting term, inventory is a current asset and refers to all stock in the various production stages. By keeping stock, both retailers and manufacturers can continue to sell or build items. For example, raw materials, finished goods, equipment, tools.
8.	Record keeping SOP steps include; <ul style="list-style-type: none">a. Identify datab. Collect datac. Verify datad. Save datae. Process dataf. Transfer data
9.	Widely used web mails are following; <ul style="list-style-type: none">a. Gmailb. Yahooc. Outlookd. Hotmail
10.	Widely used search engines include following; <ul style="list-style-type: none">a. Google Chromeb. Firefoxc. Microsoft Edged. Internet Exploree. Opera

**Assessment Evidence
Guide
For
“Assistant Environmental
Technician”
Level-3
(Summative Assessment)**



**National Vocational & Technical
Training Commission**

Instruction Sheet for the Candidate

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code:	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Observe Work Ethics-I Perform Basic Computer Operations Exercise/Apply Basic Concepts of Environmental Technology Collect/Prepare Samples for Analysis Assist in Laboratory and Field Operations Assist in Maintenance of Equipment Maintain Routine Record 	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 arrange given inventory at designated area as per Inventory Layers Assessment Task 2: Candidate is required to prepare a representative sample from given water/soil sample for environmental analysis and prepare a report of all the activities using Microsoft Office. <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: Identify fault in given equipment Performance Criteria 2: Use appropriate PPEs Performance Criteria 3: Perform maintenance of equipment Performance Criteria 4: Collect evidence of maintenance Performance Criteria 5: Write draft maintenance report</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 6: Identify the sample Performance Criteria 7: Take relevant tools and laboratory-wares for sample collection</p>

	<p>Performance Criteria 8: Collect appropriate amount of sample for analysis</p> <p>Performance Criteria 9: Prepare the sample for analysis</p> <p>Performance Criteria 10: Label and store the prepared sample</p> <p>Performance Criteria 11: Prepare reagents for sample analysis</p> <p>Performance Criteria 12: Label and store the prepared reagents</p> <p>Performance Criteria 13: Maintain record of the material used in laboratory operations</p> <p>Performance Criteria 14: Write draft report of sample collection using Microsoft Office</p> <p>Performance Criteria 15: Save the file</p> <p>Performance Criteria 16: E-mail the file to concerned person</p> <p>Performance Criteria 17: Print and scan the file for record keeping</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 arrange given inventory at designated area as per Inventory Layers		
During the practical assessment, candidate demonstrated the following:	Yes	No	Remarks
1. Identify fault in given equipment			
2. Use appropriate PPEs			
3. Perform maintenance of equipment			
4. Collect evidence of maintenance			
5. Write draft maintenance report			
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 prepare a representative sample from given water/soil sample for environmental analysis and prepare a report of all the activities using Microsoft Office.		
During the practical assessment, candidate demonstrated the following:	Yes	No	Remarks
1. Identify the sample			
2. Take relevant tools and laboratory-wares for sample collection			
3. Collect appropriate amount of sample for analysis			
4. Prepare the sample for analysis			
5. Label and store the prepared sample			
6. Prepare reagents for sample analysis			
7. Label and store the prepared reagents			
8. Maintain record of the material used in laboratory operations			
9. Write draft report of sample collection using Microsoft Office			
10. Save the file			
11. E-mail the file to concerned person			
12. Print and scan the file for record keeping			
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.				
2.				
3.				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Title of Qualification: National Competency Standards Level-3 for Environmental Technology “Assistant Environmental Technician”	CS Code:	Level: 03	Version: 01
Competency Standard Title: <ul style="list-style-type: none"> Observe Work Ethics-I Perform Basic Computer Operations Exercise/Apply Basic Concepts of Environmental Technology Collect/Prepare Samples for Analysis Assist in Laboratory and Field Operations Assist in Maintenance of Equipment Maintain Routine Record 	Assessment Date (DD/MM/YY): Assessment Time: 30 minutes		

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. Differentiate between renewable and non-renewable resources of energy.	
2. Enlist various environmental standards being followed in Pakistan.	
3. Why maintenance of equipment is necessary in the laboratory?	

4. Describe procedures for handling different types of samples.	
5. Enlist different types of materials and equipment necessary for environmental laboratory operations	
6. Define the terms FIFO, FEFO, LIFO	
7. Describe the types of peripheral devices and software applications	

Answer Key

Question No.	Answer	
1.	Renewable Resources	Non-renewable Resources
	Deletion	
	Renewable resources cannot be depleted over time	Non-renewable resources deplete over time
	Sources	
	Renewable resources include sunlight, water, wind and also geothermal sources such as hot springs and fumaroles	Non-renewable energy includes fossil fuels such as coal and petroleum.
	Environmental Impact	
	Most renewable resources have low carbon emissions and low carbon footprint	Non-renewable energy has a comparatively higher carbon footprint and carbon emissions.
	Cost	
	The upfront cost of renewable energy is high. – For instance, generating electricity using technologies running on renewable energy is costlier than generating it with fossil fuels	Non-renewable energy has a comparatively lower upfront cost
2.	Area Requirement	
	Requires a large land/ offshore area, especially for wind farms and solar farms	Comparatively lower area requirements
	a. Pakistan Environmental Protection Ordinance 1983	
	b. Pakistan Environmental Protection Act (PEPA), 1997	
	c. Environment Protection Department Requirements	
3.	The maintenance of any equipment is necessary for following reasons;	
	a. It maintains and enhance shelf life of equipment	
	b. It helps in smooth operations of laboratory tasks	
	c. It helps in collecting accurate quantity sample	
	d. It helps in getting required results	
4.	The SOP of sample handling include following main steps;	
	a. Identification of sample hazards	
	b. Wearing appropriate PPEs	
	c. Pick the sample carefully	
	d. Label the sample	
	e. Store the sample at appropriate place	
5.	Most widely used laboratory and filed equipment and tools are following;	
	a. Glassware	
	b. Plastic ware	
	c. Testing equipment	
	d. Analysis equipment	
	e. Spillage kit	
	f. First aid kit	
6.	These are inventory management terminologies.	
	a. FIFO: First In First Out	
	b. FEFO: First Expire First Out	
	c. LIFO: Last In First Out	

7.	<p>Main types of computer devices and applications are given below;</p> <p>a. Peripheral Devices and Hardware</p> <ul style="list-style-type: none">▪ Monitor▪ CPU▪ Keyboard▪ Mouse▪ Trackball▪ Touchpad <p>b. Applications and Software</p> <ul style="list-style-type: none">▪ Microsoft Windows▪ Microsoft Office▪ Google Chrome▪ Firefox▪ Skype▪ Windows Media Player
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