



National Competency Standards Level-4 for Environmental Technology "Environmental Technician"



National Vocational and Technical Training Commission (NAVTTC), Government of Pakistan





ACKNOWLEDGEMENTS

National Vocational and Technical Training Commission (NAVTTC) extends its gratitude and appreciation to representatives of business, industry, academia, government agencies, provincial TEVTAs, sector skill councils and trade associations who spared time and extended their expertise for the development of National Vocational Qualification for the trade of *Level-4 for Environmental Technology "Environmental Technician"*. This work would not have been possible without the technical support of the above personnel.

NAVTTC imitated development of CBT&A based qualifications for 200 traditional / hi-tech trades under the Prime **Minister's Hunarmand Pakistan Program**, focusing on Development & Standardization of 200 Technical & Vocational Education & Training (TVET) Qualifications. NAVTTC efforts have received full support from the Ministry of Federal Education and Professional Training which highly facilitated progress under this initiative.

It may not be out of place to mention here that all the experts of Industry, Academia and TVET experts of TEVTAS, BTEs and PVTC work diligently for making this qualification worthy and error free for which all credit goes to them. However, NAVTTC accepts the responsibility of all the errors and omissions still prevailing in the Qualification document.

It is also noteworthy that development of Skill Standards is a dynamic and ongoing process, and the developed skill standards needs periodic review and updating owing to the constant technological advancements, development in scientific knowledge, and growing experience of implementation at the grass root level as well as the demand of industry. NAVTTC will ensure to keep the qualifications abreast with the changing demands of both national and international job markets.

> Sajid Baloch Executive Director (NAVTTC)





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1. Introduction

Climate change is already happening in the world today, and largely caused by human emissions of greenhouse gases. Changes to the earth's climate have included: warming of the atmosphere and oceans, reduced snow and ice, a rise in the level of the oceans, and changes in rainfall patterns and climate extremes. According to the latest research from the Intergovernmental Panel on Climate Change (IPCC), we have less than 11 years to make the transformation necessary to avoid the worst impacts of climate change. The level of carbon dioxide in the atmosphere would have to be cut by 45 per cent by 2030 to prevent global warming above 1.5°C. In other words, the threshold at which the worst impacts of climate change could be averted.

This Environmental Technology program will provide you with theoretical and practical knowledge to protect, conserve and preserve the environment with a career as an environmental technologist. The program will give you the skills and knowledge you need to work in the laboratory or field as an Environmental Technologist. You will work for the protection, conservation and preservation of our natural environment. The course applies the chemical, physical and biological sciences to environmental issues, and relates these issues to various possible career paths.

The Environmental Technician duties include applying occupational health, safety and environmental (OHS&E) regulations at work place, participating in field investigation and inspection, analyze various environmental samples, operate various environmental equipment, generating reports, and assist in regulatory compliance and other duties.

Being conscious of the emerging trends in the market, National Vocational & Technical Training Commission (NAVTTC) has developed competency standards in consultation with the stakeholders including academia, researchers, industry, chambers and TEVTAs for Level-4 Environmental Technology "Environmental Technician" under National Vocational Qualifications Framework (NVQF). The competency standard document has been designed to help trainees develop professional skills and facilitate them in targeting job market on national and international level especially Middle East.





2. Purpose of the Qualification

The purpose of this qualification is to set the highly professional standards for "Environmental Technician" in order to compete local and international job market. The specific objectives of developing these qualifications are as under:

- Empower the youth with globally required employable skills.
- Cater the immediate need of skilled workers in GCC countries
- Produce competitive Environmental Technician
- Improve the quality and effectiveness of the training and assessment for Environmental Technician

3. Date of Validation

The National Competency Standards Level-4 for Environmental Technology "Environmental Technician" has been validated by the Qualifications Validation Committee (QVC) members on 29th April, 2022 and will remain valid for ten years i.e. 28th April, 2032.

4. Date of Review

The National Competency Standards Level-2 for Environmental Technology "Environmental Technician" has been validated by the Qualifications Validation Committee (QVC) members on 29th April, 2022 and shall be reviewed after three years 29th April, 2025





5. Codes of Qualifications

The International Standard Classification of Education (ISCED) is a framework for assembling, compiling and analyzing cross-nationally comparable statistics on education and training. ISCED codes for these qualifications are assigned as follows:

ISCED Classifica	ISCED Classification					
Code	Description					
0712-EPT (2)	National Competency Standards Level-2 for Environmental					
	Technology					
	"Environmental Services Attendant"					
0712-EPT (3)	National Competency Standards Level-3 for Environmental					
	Technology					
	"Assistant Environmental Technician"					
0712-EPT (4)	National Competency Standards Level-4 for Environmental					
	Technology					
	"Environmental Technician""					
0712-EPT (5)	National Competency Standards Level-5 for Environmental					
	Technology					
	"Environmental Supervisor"					





6. Members of Qualification Development Committee

The following members participated in the qualification development process at PITAC, Lahore. **Date:** 14-03-2022 to 18-03-2022

S#	Name	Name Designation Org	
1.	Mr. Muhammad Aasim	Assistant Director Coordinator	NAVTTC
2.	Mr. Aijaz Ahmed Zia	Data Annotation Specialist/ DACUM Facilitator	Pointivo (USA)
3.	Mr. Abdul Qayum Memon	Assistant Director Nomination from STEVTA	STEVTA
4.	Prof. Dr. Muhammad Hassan Mushtaq	Professor	EPPH, UVAS Lahore
5.	Dr. Furqan Awan	Lecturer	EPPH, UVAS Lahore
6.	Mr. Qais Raza	MSc Energy & Environmental Engineering Research Assistants	University of the Punjab
7.	Mr. Adeel Khan	Energy & Environmental Engineer Nomination from STEVTA	GPI Sachal, Karachi
8.	Mr. Naeem Ahmad	Quality Assurance Trainer and Auditor	Pak TIC Service Pvt. Ltd. Lahore
9.	Dr. Farzana Rashid	Professor	Lahore College for Women University (LCWU), Lahore





10.	Ms. Sheeba Bibi	CBT&A Expert	Bahria University,
			Islamabad
11.	Syed Abdulrehman	MSc Energy & Environmental	University of the Punjab
	Jaffery	Engineering Research	
		Assistants	
12.	Mr. Abid Shah	PhD Environmental Sciences	Philip Morris Mardan
		&Engineering Agronomist	Pakistan Ltd
13.	Mr. Hassaan Bin	Lecturer, Environmental	University of the Punjab
	Saadat	Sciences	





7. Qualification Validation Committee

The following members participated in the qualification development process at PITAC, Lahore. **Date:** 25-04-2022 to 29-04-2022

S#	Name	Status in Committee	Organization
1.	Mr. Muhammad Aasim	Assistant Director Coordinator	NAVTTC
2.	Mr. Aijaz Ahmed Zia	Data Annotation Specialist/ DACUM Facilitator	Pointivo (USA)
3.	Ms. Sumbal Ayaz	Co-DACUM Facilitator	Abacus Consultation
4.	Engr. Kifayatullah	HOD Representative B-TEVTA	GPI Khanozia
5.	Mr. Mushtaq Ahmed	Director M&E	P-TEVTA
6.	Engr. Rizwan Ahmed	Assistant Director (AA&R)	P-TEVTA
7.	Prof. Dr. Muhammad Hassan Mushtaq	Professor	EPPH, UVAS Lahore
8.	Mr. Adeel Khan	Energy &Environmental Engineering	Nomination from STEVTA
9.	Mr. Naeem Ahmed	Auditor	Pak TIC Services Pvt. Ltd Lahore
10.	Dr. Farzana Rashid	Professor	Lahore College for Women, (LCWU) Lahore





11.	Syed Adbul Rehman	MSc Energy &	University of the Punjab
	Jaffery	Environmental Engineering	
		Research Assistants,	
12.	Mr. Shaukat Ali Rana	Deputy Controller	PBTE
13.	Mr. Hassaan Bin Sadat	Lecturer Environmental	University of the Punjab
		Sciences	

8. Entry Requirements

The entry requirement for National Competency Standards Level-4 for Environmental Technology "Environmental Technician "is:

- 1. A person having Level 4 Environmental Technology Certificate of Assistant Environmental Technician
- 9. Regulation of the qualification and schedule of units

Not Applicable





10. Generic Modules with respective levels

- Health and SafetyDigital Skills
- Soft Skills

LEVEL 2
LEVEL 3
LEVEL 4





11. Summary of competencies

Sr	Competency	Occupation	NVQ F Categor			imated ntact H		Cr	
No	Standards	•	Level	У	Th	Pr	Total	Hr	
	Level 4								
1	Apply Occupational Health, Safety and Environmental (OHS&E) Regulations		4	Generic	20	90	110	11	
2	Observe Work Place Ethics-II	Environment al Technician	4	Generic	20	60	80	8	
3	Participate in field inspection and investigation		4	Technic al	25	135	160	16	
4	Analyze various Environmental Samples		4	Technic al	25	135	160	16	
5	Perform Physical, Chemical and Biological Tests on Air, Water and Soil Samples		4	Technic al	21	129	150	15	
6	Operate various Equipment related to Environmental Technology		4	Technic al	21	129	150	15	
7	Inspect and maintain equipment		4	Technic al	20	60	80	8	



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8	Generate Operational and Maintenance Report	4	Technic al	20	60	80	8
9	Manage Waste at Site	4	Technic al	15	45	60	6
10	Act as a liaison between Operational Staff and Management	4	Technic al	24	36	60	6
11	Assist the Supervisor in Cost Analysis related to Operations and Maintenance	4	Technic al	14	36	50	5
12	Assist in Regulatory Compliance and other Duties	4	Technic al	15	45	60	6
	Total			24 0	960	1200	120
	Percentage (%)			20	80		

Prosed Course Duration: 12 Months Estimated Contact Hours: 1200 Hours

Estimated Credit Hours: 120 Hours





OCCUPATIONS AND LEVELS DESCRIPTOR

Level	2	

Level 3 Level 4

Level 5

Sr. #	Occupations	No of Modules/CS	Level	Occupation Credit Hours	Training duration
1.	Environmental Services Attendant	7	2	60	6 Months
2.	Assistant Environmental Technician	7	3	60	6 Months
3.	Environmental Technician	12	4	120	12 Months
4.	Environmental Supervisor	9	5	120	12 Months





12. Qualification Levelling and Packaging

Level 4

(Environmental Technician)

- 1. Apply Occupational Health, Safety and Environmental (OHS&E) Regulations
- 2. Observe Workplace Ethics-II
- **3.** Participate in field investigation and inspection
- 4. Analyze Samples
- 5. Perform Chemical, Physical and Biological Tests on Air, Water and Soil Samples
- 6. Operate Equipment
- 7. Inspect and maintain equipment
- 8. Generate Operational and Maintenance Report
- 9. Manage Waste at Site
- **10.** Act as a liaison between Operational Staff and Management
- 11. Assist the Supervisor in Cost Analysis related to Operations and Maintenance
- **12.** Assist in Regulatory Compliance and other Duties





13. Detail of Qualifications and its Competency Standards

A. <u>Technical Competency Standards</u>

0712-EPT-1: Perform field inspection and investigation

Overview

This competency standard will provide knowledge and skills required for field inspection and investigation.

Competency Units	Performance Criteria		
CU1. Prepare for inspection	Trainee must be able to:		
	P1. Prepare for the field survey		
	P2. Identify and count cases (present and past)		
	P3. Consider previous incidental history		
CU2. Perform field survey	P1. Identify research goals and objectives		
	P2. Decide on the type of method		
	P3. Identify hazards in the field		
	P4. Conduct the survey and gather responses		
	P5. Tabulate and orient the data in terms of time, place,		
	and person		
CU3. Draft Survey report	P1. Follow the standard format for Survey report		
	P2. Provide suggestions for implementation and evaluation of control and prevention measuresP3. Generate Survey report		

Knowledge & Understanding





Trainee must be able to know and understand:

- Define the term "Field Survey "
- Explain types of hazards
- Explain how to conduct field survey
- Describe the control measures for different hazards
- Describe how to prepare a checklist for field survey
- Describe how to generate field inspection and investigation report

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft Office
3.	Multimedia
4.	PPEs
5.	Survey checklist
6.	First aid kit
7.	AV aids

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Conduct incident investigation with team using standard format





0712-EPT-2: Analyse various Environmental Samples

Overview

This competency standard will provide knowledge and skills required to analyze various environmental samples.

Competency	v Units	Performance Criteria
CU1. Perform samp	le tracking	Trainee must be able to:
		P1. Identify sample required
		P2. Collect sample in specific container
		P3. Label the samples
		P4. Preserve sample as prescribed condition
CU2. Perform tests	s on various	P1. Select equipment required for test
samples		P2. Prepare sample for analysis
		P3. Identify methods required for specific
		characterisation
		P4. Conduct desired analysis according to SOPs
		P5. Prepare stock solution of different
		concentrations
		P6. Prepare serial dilution
CU3. Record the res	sults	P1. Take readings of the analysis
		P2. Perform the analysis in replicate to evaluate the
		data
		P3. Take mean value of results
CU4. Prepare the ar	nalysis report	P1.Collect data
		P2. Perform appropriate calculation as per Standard
		method





P3. Interpret the result in appropriate method
P4. Generate report
P5. Ensure retention time of report

Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'Analysis'
- Describe how to collect samples from different environment
- Enlist different equipment required for sampling
- Explain the procedure of sample tracking
- Describe the term "sample handling"
- Enlist the sample pretreatment procedures
- Describe the working of pH meter
- Describe how to check sample pH
- Enlist different methods for sample preservation and storage
- Describe how to generate the report of results
- Describe how to conduct report on research

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system





2.	Microsoft Office
3.	Internet
4.	Practical manuals
5.	pH meter
6.	Vials/ Containers
7.	Glassware/Plastic ware
8.	Thermometer
9.	Barometer
10.	Labeling tapes
11.	Bunsen burners

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Perform tracking and analysis of the provided sample





0712-EPT-3: Perform Physical, Chemical and Biological Tests on Air, Water and Soil Samples

Overview

This competency standard will provide knowledge and skills required to perform physical, chemical and biological tests on air, water and soil samples.

Competency Units	Performance Criteria
CU1. Perform physical tests	P1. Select the equipment required for the tests
	P2. Prepare reagents required to conduct
	experiments
	P3. Perform experiment to find water pH, turbidity,
	TDS, TSS, density etc.
	P4. Conduct experiment to find out soil color, texture,
	structure, particle size, bulk density and soil
	permeability
	P5. Conduct experiment to measure the PM by using
	Air Sampler
CU2. Perform chemical tests	Trainee must be able to:
	P1. Prepare chemical reagents required for test
	P2. Select the appropriate equipment for the test
	P3. Perform test to measure Chemical Oxygen Demand
	(COD)
	P4. Perform tests to measure the concentration of
	different heavy metals in air/water/soil
CU3. Perform biological tests	P1. Prepare reagents required to conduct experiments
	P2. Select equipment required for test





P3.Conduct e	experin	nent to measu	re Bio	ological Ox	ygen
Demand (BOD)				
P4. Perform	the	experiment	to	identify	the
microorga	inisms	in air/water/so	il		

Knowledge & Understanding

Trainee must be able to know and understand:

- Enlist different chemicals required in environmental lab experiments
- Explain different experiments to perform analyses of air
- Explain different experiments to perform analyses of water
- Explain different experiments to perform analyses of soil
- Describe procedure for performing experiments on various equipment

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	PPEs
3.	Operating manuals/Protocols for air analysis
4.	Operating manuals/Protocols for water analysis
5.	Operating manuals/Protocols for soil analysis
6.	Microscopes
7.	Test tubes/vials
8.	Petri dish
9.	Glassware/Plastic ware
10.	Bunsen burners





11.	Colony counter
12.	Incubator
13.	Autoclave
14.	Chemical reagents
15.	Thermometer
16.	pH meter
17.	Fume hood/Laminar flow
18.	Auger
19.	Sieves
20.	CO _x /SO _x /NO _x meter
21.	Filter papers of different grades

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Conduct various experiments for Air/Water/Soil analysis





0712-EPT-4: Operate various Environmental Equipment

Overview

This competency standard will provide knowledge and skills required to operate various equipment related to environmental technology.

Competency Units	Performance Criteria
CU1. Select equipment for	Trainee must be able to:
Physical, Chemical and	P1. Select equipment required for water analysis
Biological analysis	P2. Select different equipment required for soil analysis
	P3. Select different equipment for air analysis
CU2. Check operations of	P1. Check performance of the equipment
equipment	P2. Follow Original Equipment Manufacturer (OEM)
	guidelines
	P3. Ensure the calibration of equipment
CU3. Operate equipment safely	P1. Use PPEs to ensure safety
	P2. Follow the safety guidelines associated with equipment
	P3. Disinfect the glassware/equipment as per requirement
	P4. Operate equipment for required test/analysis
	P5. Store equipment safely appropriately after use





Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'Equipment'
- Describe the operational manuals/SOPs for each equipment
- Explain working of different equipment required for air analysis
- Explain working of different equipment required for water analysis
- Explain working of different equipment required for soil analysis
- Define autoclave and explain its working

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft office
3.	pH meter
4.	Stop watch
5.	Separation sieves
6.	Soil push probe
7.	Bucket auger
8.	Hammer probe
9.	Oven
10.	Furnace
11.	Soil moisture tester
12.	Spectrophotometer
13.	Chemical reagents





14.	Glassware/Plastic ware
15.	Conductivity meter
16.	Dissolved Oxygen (DO) meter
17.	CO/CO ₂ meter
18.	Filter papers
19.	SO _x meter
20.	NO _x meter

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

• Demonstrate working of available equipment required for environmental technology





0712-EPT-5: Inspect and maintain equipment

Overview

This competency standard will provide knowledge and skills required for inspection and maintenance of equipment related to environmental technology.

Compete	ency Units		Performance Criteria
CU1. Conduct	Inspection	of	Trainee must be able to:
equipment			P1. Identify the equipment
			P2. Identify equipment issues through inspections
			according to standard operating procedure.
			P3. Detect damage or fault in equipment (if any)
			P4. Separate the faulty equipment
CU2. Check	calibration	of	P1. Determine the status of calibration
equipmen	ıt		P2. Compare equipment measurement with
			standard value
			P3. Check SOPs of Calibration
			P4. Request for equipment calibration
			P5. Label the calibrated equipment
CU3. Rectify	the faults	and	P1. Identify any minor and major faults in equipment
damages	(if any)		P2. Repair minor faults through servicing and maintenance
			P3. Prepare a requisition for repairing of equipment's
			major fault servicing





CU4.	Ensure	preventive	and	P1. Schedule	and	perform	regular	inspections	of
	corrective	maintenance		equipment					
				P2. Conduct re	gular	cleaning c	of equipmo	ent	
				P3. Lubricate r	noving	g parts to r	educe frid	ction	
				P4. Adjust con	trols f	or optimal	performa	ance and ene	rgy
				efficiency					
				P5. Repair and	l repla	ce any de	fective eq	uipment parts	5

Knowledge & Understanding

Trainee must be able to know and understand:

- Describe equipment maintenance
- Differentiate between preventive and corrective maintenance
- Describe how to inspect equipment
- Describe how to check If an equipment needs calibration

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items			
1.	Computer system			
2.	Microsoft Office			
3.	PPEs			
4.	Toolbox			
5.	Deadweights			





6.	Equipment (Environmental Technology)
7.	Operational and maintenance manuals

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Perform maintenance of the provided equipment.





0712-EPT-6: Generate Operational and Maintenance report

Overview

This competency standard will provide knowledge and skills required to prepare operational and maintenance report.

	Competency Units	Performance Criteria
CU1.	Collect data for report	Trainee must be able to:
		P1. Identify sources for data collection
		P2. Follow SOPs for data collection
		P3. Plan an approach and methods
		P4. Collect data
CU2.	Generate operational report	P1.Collect operational data
		P2. Draft the report
		P3. Get it verified from supervisor
CU3.	Generate maintenance	P1. Collect maintenance data
	report	P2. Draft the report
		P3. Get it verified from supervisor

Knowledge & Understanding

Trainee must be able to know and understand:

• Describe how to generate operation and maintenance reports for equipment.





Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft Office
3.	Equipment operational manuals
4.	Equipment maintenance manuals
5.	Equipment (Environmental Technology)
6.	Toolbox

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Generate operational and maintenance report of given equipment





0712-EPT-7: Manage Waste at Site

Overview

This competency standard will provide knowledge and skills required to manage waste at site.

Competency Units		Performance Criteria
CU1. Characterize the final	You	must be able to:
waste	P1.	Understand the composition of waste.
	P2.	Sort the generated waste (Fabric waste,
	С	hemical waste, Paper waste, etc.) at workplace
	P3.	Maintain record of reusable materials
CU2. Dispose off the final	You	must be able to:
waste	P1.	Arrange waste material for disposal
	P2.	Plan green waste management practices

Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'Waste'
- Describe different categories and classification of waste
- Describe different 'waste management techniques'
- Describe the term '3R's'
- Explain waste disposal methods





Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	PPEs
2.	Waste containers
3.	Labeling tapes/markers
4.	Waste collection tools

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Apply waste management techniques at desired site





0712-EPT-8: Act as a liaison between Operational Staff and Management

Overview

This competency standard will provide knowledge and skills required to act as a bridge between operational and top management.

Competency Units			Performance Criteria
CU1.	Communicate	effectively	Trainee must be able to:
wit	h team		P1. Use team communication channels
			P2. Practice effective listening
			P3. Communicate feedback
			P4. Act as a bridge between senior and junior staff
CU2.	Attend meetings	with the	P1. Discuss the meeting agenda with the supervisor
1	management		P2. Communicate purpose of meeting with team
			P3. Record minutes of meeting
CU3. /	Assist in resolv	ving team	P1. Record the issues discussed in meeting
i	issues		P2. Assist top management in finding out correction plans
			for relevant issues
			P3. Assist in implementing the correction plan

Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'communication'
- Enlist 7C's of communication





- Define the term 'active listening'
- Describe the importance of team communication in an organization

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft Office
3.	Internet
4.	Printer
5.	Scanner
6.	AV aids

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Forward the draft minutes of meeting to supervisor via email.





0712-EPT-9: Assist the Supervisor in Cost Analysis related to Operations and Maintenance

Overview

This competency standard will provide knowledge and skills required to perform cost analysis for operations and maintenance.

	Competency Units				Performance Criteria
CU1.	Keep	the	record	of	Trainee must be able to:
	operatio	onal co	osts		P1. Enlist the operational activities
					P2. Identify costs and benefits of operational procedures
					P3. Estimate costs and benefits of operational activities
					P4. Assign a monetary value to the costs and benefits
					P5. Compare costs and benefits
CU2.	Keep	the	record	of	P1. Enlist the maintenance activities
	mainten	ance c	cost		P2. Identify costs and benefit of maintenance procedures
					P3. Make a list of costs and benefits
					P4. Assign a monetary value to the costs and benefits
					P5. Compare costs and benefits
CU3.	Forward	the	cost an	alysis	P1.Compile the data for operational and maintenance
	data to the Supervisor			cost analysis	
					P2. Forward the data to the Supervisor

Knowledge & Understanding





Trainee must be able to know and understand:

- Define the term 'Cost-Benefit analysis'
- Describe the importance of cost benefit analysis
- Describe monetary value

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft office
3.	Printer
4.	Operational manuals
5.	Maintenance manuals

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Assist in performing cost analysis for operational and maintenance activities





0712-EPT-10: Assist in Regulatory Compliance and other Duties

Overview

This competency standard will provide knowledge and skills required for regulatory compliance and other duties to ensure smooth running of organizational activities.

	Competency	Units	Performance Criteria
CU1.	Follow	applicable	Trainee must be able to:
	regulations		P1. Identify applicable national regulations
			P2. Assist in implementation of applicable regulations
CU2.	Document	compliance	P1. Stay updated with changing laws and regulations
	processes		P2. Assist supervisor in implementation of SOPs
			P3. Assist in scheduling regular internal audits
			P4. Assist supervisor in documentation of compliance
CU3.	Maintain the re	cord	P1. Keep record for compliance
			P2. Use software to store data electronically
			P3. Follow retention time of record keeping

Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'compliance'
- Explain compliance management
- Define the term 'audit'





- Describe types of audits
- Describe various legal requirements of environmental parameters

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft Office
3.	Internet
4.	Audit checklist

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Prepare a list of changes in recent regulatory compliance





B. <u>Generic Competency Standards</u>

1022-OHS-11: Apply Occupational Health, Safety and Environmental (OHS&E) Regulations

Overview

This competency standard will provide knowledge and skills required to apply Occupational Health, Safety and Environmental (OHS&E) regulations.

Competency Units	Performance Criteria
CU1. Perform safety inspection	Trainee must be able to:
	P1.Follow organization health & safety policy &
	procedures
	P2. Use PPEs before starting any task
	P3. Conduct site survey
	P4. Identify different hazards at site
	P5. Ensure operational SOPs are being followed
	P6. Fill Job hazard analysis sheet
CU2. Take corrective measures	P1. Suggest the required control measures
	P2. Implement corrective measures
CU3. Assist in implementation of	of P1. Ensure the compliance of Health, Safety and
safety regulation	Environment (HSE) management system
	P2. Cooperate with management and health & safety
	Staff
	P3. Take reasonable care of own health & safety at
	work
	P4. Perform tasks related to operations & maintenance
	P5. Display caution notices at all important points





	P6.	Follow Permit-To-Work (PTW) in high risk jobs
	P7.	Ensure the review of approved written procedures
CU4. Assist in Implementation of	P1.	Meet/Maintain environmental local & international
Environmental Regulation		requirements according to defined procedures
	P2.	Ensure safety of people living in the vicinity
	P3.	Ensure safety of flora and fauna as per
		recommendations from local authorities
	P4.	Incorporate Pakistan Environmental Protection
		Act (PEPA) guidelines for environment protection

Knowledge & Understanding

Trainee must be able to know and understand:

- Define the term 'HSE'
- Define permit to work system
- Define EPA & PEPA
- Explain the environmental and safety regulations being followed in your region.

Tools and Equipment Required

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer system
2.	Microsoft Office
3.	Internet
4.	Emergency signs
5.	PPEs





6.	Survey checklist
7.	First aid kit
8.	Audio/Visual aids
9.	Environmental management system manual

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

> Perform safety inspections and suggest corrective measures





1022-OHS-12: Observe Work Place Ethics-II

Overview

This competency standard will provide knowledge and skills related to work place ethics.

	Competency Units	Performance Criteria
CU1.	Demonstrate integrity at	Trainee must be able to:
	workplace	P1. Refrain from sharing confidential information with
		others
		P2. Remain honest with colleagues
		P3. Avoid backbiting
		P4. Admit when you are wrong
CU2.	Put away things that distract	P1. Avoid using mobile phone at work place (if not
	from work (Discipline)	necessary)
		P2. Focus on what you are doing
		P3. Take interest in your work
CU3.	Spend your time wisely on	P1.Be regular and punctual
	tasks that align with	P2. Focus on your goals
	organizational goals	
CU4.	Practice time management	P1. Figure out how you are currently spending your time
		P2. Create a daily schedule and stick with it
		P3. Assign time limits to task
		P4. Learn to say no
		P5. Prioritize wisely
CU5.	Possess honesty	P1. Be truthful
		P2. Be straightforward
		P3. Stop comparing yourself to others
		P4. Be the best version of yourself





	P5. Do not exaggerate or embellish
CU6. Be flexible	P1. Focus on core values
	P2. Be open-minded
	P3. Develop skill set
	P4. Be optimistic
	P5. Stay calm
	P6. Plan ahead
	P7. Have a strong support network

Knowledge & Understanding

Trainee must be able to know and understand:

- > Define work ethics
- > Describe at least five traits of work ethics

Tools and Equipment Required

S. No.	Items
1.	Computer system
2.	Multimedia
3.	Audio Video (AV) aids
4.	Placards

The tools and equipment required for this competency standard are given below:





E	Sign boards
5.	Sign boards

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

Demonstrate role play to exhibit importance of work ethics