

€ TRAINING

Maintenance and Operation of Water Plants





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Introduction:

This training program focuses on equipping participants with essential skills and knowledge in maintaining and operating water treatment facilities. Participants will learn best practices, procedures, and regulations necessary to ensure efficient and safe operations of water treatment plants.

Program Objectives:

By the end of this program, participants will be able to:

- Understand the fundamentals of water treatment processes.
- Gain proficiency in the maintenance and operation of water treatment equipment.
- Learn regulatory requirements and compliance for water treatment plants.
- Develop skills in troubleshooting and resolving operational issues.
- Implement preventive maintenance strategies to ensure plant reliability.

Target Audience:

- Water plant operators and maintenance technicians.
- Environmental engineers specializing in water treatment.
- Regulatory compliance officers in the water industry.
- Utility managers and supervisors.
- Professionals seeking to enhance their expertise in water treatment plant operations.

Program Outline:

Unit 1:

Fundamentals of Water Treatment:

- Overview of Water Treatment Processes.
- Water Quality Parameters and Standards.
- Role of Water Treatment in Public Health.

- Environmental and Regulatory Considerations.
- Sustainability Practices in Water Treatment.

Unit 2:

Maintenance of Water Treatment Equipment:

- Equipment Overview: Pumps, Filters, and Chemical Feed Systems.
- Preventive Maintenance Techniques.
- Calibration and Testing Procedures.
- Emergency Response and Contingency Planning.
- Energy Efficiency in Equipment Operation.

Unit 3:

Operation of Water Treatment Processes:

- Process Control and Automation.
- Chemical Handling and Dosing.
- Monitoring and Sampling Techniques.
- Troubleshooting Common Process Issues.
- Data Management and Record-Keeping.

Unit 4:

Regulatory Compliance and Safety:

- Legal and Regulatory Framework for Water Treatment Plants.
- Health and Safety Protocols.
- Permitting and Reporting Requirements.
- Emergency Response Planning.
- Training and Certification for Plant Operators.

Unit 5:



Optimization and Efficiency:

- Performance Metrics and Key Performance Indicators KPIs.
- Continuous Improvement Strategies.
- Asset Management and Life Cycle Planning.
- Innovation and Technology in Water Treatment.
- Case Studies on Successful Water Treatment Plant Operations.