

# € TRAINING

Wastewater Management





# Wastewater Management

## Introduction:

This training program provides professionals with essential skills to manage wastewater treatment systems and reclaim water resources effectively. Through it, participants gain insights into wastewater reclamation processes, enabling them to address challenges in a holistic and sustainable manner.

## Program Objectives:

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

- Assess their needs and water resources available.
- Select appropriate water treatment techniques based on the above data.
- Develop relevant monitoring regimes to ensure the effectiveness of treatment.
- Apply selected water treatment techniques and optimize their application.
- Be aware of technical restrictions in the application of water treatment techniques.

## Targeted Audience:

- Project managers.
- Water treatment engineers/Plant engineers.
- Maintenance personnel in the process industries.
- Regulatory authorities hygiene and health & safety inspectors.
- Facility management companies personnel.
- Maintenance personnel in the hotel and catering industry.

## Program Outlines:

### Unit 1:

#### Fundamentals of Wastewater Treatment:

- Introduction to wastewater treatment and reclamation.
- Understanding the characteristics and composition of wastewater.

- Overview of primary, secondary, and tertiary treatment processes.
- Principles of biological, physical, and chemical treatment methods.
- Case studies demonstrating successful wastewater treatment implementations.

## Unit 2:

### Advanced Wastewater Treatment Technologies:

- Exploration of advanced treatment technologies such as membrane filtration, activated carbon adsorption, and advanced oxidation processes.
- Understanding the principles and applications of each technology.
- Comparison of different treatment methods in terms of efficiency, cost-effectiveness, and environmental impact.
- Hands-on demonstrations and simulations of advanced treatment processes.
- Discussion of emerging trends and innovations in wastewater treatment technology.

## Unit 3:

### Practical Management of Wastewater Treatment Systems:

- Design and operation of wastewater treatment plants.
- Maintenance and troubleshooting of treatment equipment and systems.
- Optimization of treatment processes to meet effluent quality standards.
- Monitoring and control techniques for ensuring effective wastewater treatment.
- Regulatory compliance and reporting requirements for wastewater discharge.

## Unit 4:

### Wastewater Reclamation and Reuse:

- Introduction to wastewater reclamation and reuse concepts.
- Understanding the benefits and challenges of reclaimed water use.
- Treatment technologies and processes for producing reclaimed water suitable for various applications.
- Case studies showcasing successful wastewater reclamation projects.
- Planning and implementation of wastewater reuse programs.

## Unit 5:

### Sustainability and Environmental Considerations:

- Importance of sustainability in wastewater management.
- Integration of water resource management and wastewater treatment.
- Energy efficiency and resource recovery in wastewater treatment processes.
- Environmental impacts of wastewater discharge and mitigation strategies.
- Strategies for promoting public acceptance and community engagement in wastewater management initiatives.