

PHYSICO-CHEMICAL WATER ANALYSIS PROCEDURES

“Ensuring Water Quality Through Accurate Testing and Scientific Analysis”

Schedule

Date	Venue	Fees (Online)
11 - 12 May 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Water quality assessment is essential for public health, environmental protection, and industrial compliance. Physico-chemical water analysis plays a vital role in monitoring water safety by measuring parameters such as pH, turbidity, hardness, alkalinity, dissolved solids, and chemical contaminants.

This intensive 2-day training provides participants with practical knowledge of physico-chemical water testing procedures, standard methods, and quality control practices. The course focuses on laboratory techniques, interpretation of results, and compliance with international water quality standards.

Objectives

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

- Understand the importance of physico-chemical water analysis
- Identify key water quality parameters and their significance
- Apply standard sampling and preservation techniques
- Perform common physico-chemical tests accurately
- Use laboratory instruments and reagents correctly
- Interpret analytical results and ensure data reliability
- Follow quality assurance and safety procedures

Why Attend

- Gain practical skills in water quality testing
- Improve accuracy and reliability of laboratory results
- Learn internationally accepted water analysis methods
- Enhance compliance with environmental and health regulations
- Strengthen laboratory and technical competencies
- Ideal for professionals involved in water testing and monitoring

Target Audience

This program is designed for:

- Laboratory analysts and technicians
- Environmental and water quality officers
- HSE professionals
- Water treatment plant operators
- Environmental engineers and chemists
- Quality control and compliance staff

Individual Benefits

Key competencies that will be developed include:

- Proficiency in physico-chemical water testing techniques
- Improved laboratory handling and measurement skills
- Ability to interpret water quality data
- Better understanding of water safety standards
- Enhanced professional confidence in analytical work
- Knowledge of laboratory safety and QA/QC practices

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved accuracy of water quality monitoring
- Enhanced compliance with regulatory requirements
- Reduced risk of reporting errors and non-conformance
- Stronger laboratory performance and credibility
- Better environmental and public health protection
- Improved operational decision-making

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Fundamentals of physico-chemical water analysis and standards
- Case Studies – Real-world water quality assessment examples
- Workshops – Step-by-step procedures for water testing methods
- Peer Exchange – Discussions on laboratory challenges and best practices
- Tools – Standard test methods, calculation sheets, and reporting templates

Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks included

Day 1: Fundamentals of Physico-Chemical Water Analysis

Module 1: Introduction to Water Quality and Standards (09:00 – 10:30)

- Importance of water quality assessment
- Drinking water and environmental standards
- Key physico-chemical parameters

Module 2: Sampling and Sample Preservation (10:45 – 12:15)

- Sampling techniques
- Preservation and storage methods

Module 3: Physical Parameters Analysis (01:00 – 02:15)

- pH, temperature, turbidity, conductivity
- Total dissolved solids (TDS)

Module 4: Workshop – Basic Water Testing Procedures (02:30 – 03:30)

- Practical examples and calculations

Day 2: Chemical Parameters, QA/QC, and Reporting

Module 1: Chemical Parameters Analysis (09:00 – 10:30)

- Hardness, alkalinity, chlorides, sulphates
- Nutrients and chemical contaminants

Module 2: Laboratory Instruments and Reagents (10:45 – 12:15)

- Use and calibration of equipment
- Reagent preparation and handling

Module 3: Quality Assurance and Safety (01:00 – 02:15)

- QA/QC procedures
- Laboratory safety practices

Module 4: Workshop – Data Interpretation and Reporting (02:30 – 03:30)

- Result interpretation
- Preparing accurate test reports

Certification

Participants will receive a Certificate of Completion in Physico-Chemical Water Analysis Procedures, validating their knowledge and practical competence in conducting physico-chemical water quality testing in accordance with standard laboratory practices.

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