

5-Day Training Course

on WATER QUALITY AND ITS MANAGEMENT

 17–21 August 2026



Organized by



आपो हि स्या मयोयुवः

Environmental Hydrology Division
National Institute of Hydrology
Roorkee – 247667 (Uttarakhand)



WHO CAN PARTICIPATE

- Academicians from Govt. & private sectors
- Engineers and policymakers
- Postgraduate Students (relevant disciplines)
- Research scholars
- Field-level technical Officers



COURSE CONTENT

- Water Quality Fundamentals & Standards
- Monitoring, Sampling & Assessment
- Advanced Analytical Techniques & Instrumentation
- Data Analysis, QA/QC & Interpretation
- Emerging Contaminants & Pollution Management
- Advanced Water & Wastewater Treatment Technologies
- Nature-Based Solutions & Resource Recovery
- AI/ML & Smart Water Technologies
- Water Quality Modelling & Decision Support
- Aquatic Ecosystem Management & E-Flows
- Microplastics & Emerging Water Challenges
- Water Governance & Sustainable Management
- Hands-on Laboratory Sessions, Case Studies & Field Visit



INTRODUCTION

Water is essential for sustaining life and supporting key sectors such as domestic use, agriculture, and industry. However, water quality is equally critical as its quantity. Recently, increasing demand for freshwater driven by population growth, urbanization, industrial activities, and intensive agriculture has placed significant stress on water systems, resulting in widespread quality deterioration. Contributing factors include excessive water extraction, inadequate treatment of wastewater, unregulated discharge of pollutants, and overuse of agrochemicals. Industrial effluents, containing toxic substances have further exacerbated contamination of surface and groundwater sources. Further, the changing life style aggravates the problem of emerging contaminants in the water bodies.

These issues pose serious risks to human health, ecosystems, and long-term water security. Effective water quality management now demands an integrated approach involving advanced monitoring techniques, contaminant transport modelling, sustainable treatment technologies, and strict regulatory compliance.



OBJECTIVES

- To impart knowledge and recent advancements in the field of water quality and its management
- To offer hands-on training in advanced instrumentation techniques
- To train field engineers, officers, scientists and researchers for better planning and design of water quality monitoring programmes to deal with water quality related issues and problems



ABOUT NIH



National Institute of Hydrology (NIH) is a premier Research and Development organization under the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India. It was established as an autonomous society in 1978 with its headquarters at Roorkee, Uttarakhand. The main objectives of NIH are to undertake, aid, promote and coordinate systematic and scientific work in all aspects of hydrology and water resources management. The institute was declared a Science and Technology (S&T) organization in 1987.

The Institute is an ISO 9001:2015 Certified organization. Over the years, the Institute has grown as a center of excellence for pursuing research activities in hydrology and water resources with emphasis on technology transfer and demand driven, user-defined, strategic research. The research in the Institute has been carried out under six scientific divisions at the headquarter at Roorkee and seven Regional Centres located at Jammu, Patna, Guwahati, Jodhpur, Bhopal, Belgaum, and Kakinada. The institute has state of the art laboratories for Water Quality, Nuclear Hydrology, Soil & Water Remote Sensing, and Hydrological Instrumentation.

The institute pursues capacity development by way of organizing specialized training courses.



REGISTRATION



REGISTRATION FEE:

Students/Research Scholar: INR 8,000/-
Govt. Organization/PSUs: INR 11,000/-
Private/NGOs/Industry: INR 12,000/-



Account Name: NIH PROJECT



Account No.: 4044000100174852



Bank: PUNJAB NATIONAL BANK (PNB)



Branch: IIT Roorkee



IFSC Code: PUNB0404400

LAST DATE OF REGISTRATION
11 August 2026



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COURSE COORDINATOR (S)

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For course-related queries, please contact:
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MAJOR LAB FACILITIES IN WATER QUALITY LAB



- 💧 Ion Chromatograph with Auto Titrator
- 💧 Triple Quadrupole Gas Chromatography Mass Spectrometer (GC-MS/MS)
- 💧 Micro-FTIR (Micro-Fourier Transform Infrared Spectroscopy)
- 💧 Electrochemical Workstation
- 💧 Liquid Chromatography-Inductively Coupled Plasma Mass Spectrometry (LC-ICP-MS)
- 💧 Parallel Evaporation and Concentration System
- 💧 Total Kjeldahl Nitrogen (TKN) System
- 💧 Total Organic Carbon (TOC) Analyzer
- 💧 Auto Titrator Potentiometric (ATP)
- 💧 Toxicity Characteristic Leaching Procedure (TCLP)
- 💧 Bacteriological Testing Kit

Payment



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