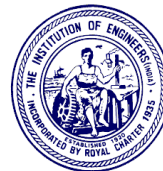




Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

ESCI Road, Gachibowli, Hyderabad – 500 032. Telangana, India



Environment Management Division

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME

AI & ML-Driven Solutions for Urban Water Supply, Sewerage and Sanitation Management (Hands-on Training)



15-17 December 2026

Interactive Sessions | Digital Learning | Assessments | 24/7 Experts Online/Offline Support

Introduction

Urban water supply, sewerage and sanitation systems are becoming increasingly complex due to rapid urbanisation, growing service demands, water scarcity, ageing infrastructure, operational challenges and the need for efficient resource management. Digital technologies, including Artificial Intelligence (AI), Machine Learning (ML), Internet of Things (IoT), GIS and data analytics, are creating new opportunities to improve the planning, operation and management of urban water and sanitation services.

AI and ML can support Urban Local Bodies (ULBs) and water utilities in areas such as water-demand forecasting, non-revenue water (NRW) management, leak detection, asset management, predictive maintenance, water-quality monitoring, sewer-network management, wastewater treatment optimisation and sanitation service planning.

This programme provides participants with an understanding of the applications of AI and ML across the urban water supply, sewerage and sanitation value chain, with emphasis on practical, data-driven solutions. Through demonstrations, case studies and hands-on exercises, participants will explore how available operational and spatial data can be used to support better decision-making, improve efficiency and strengthen urban water and sanitation management.

Objectives

The programme aims to build participants' understanding of AI, ML and data-driven approaches for urban water supply, sewerage and sanitation management. It will enable participants to identify practical applications of AI/ML, understand relevant data requirements and use selected digital tools through hands-on exercises, demonstrations and real-world case studies.

Course Coverage

- Introduction to AI, Machine Learning and Data Analytics for Urban Water & Sanitation
- AI/ML Applications in Urban Water Supply Management
- Water Demand Forecasting and Consumption Analysis
- Non-Revenue Water (NRW), Leak Detection and Network Optimisation
- Smart Water Networks, IoT and Real-Time Monitoring
- AI/ML Applications in Sewerage and Sanitation Management
- Predictive Maintenance and Asset Management of Water & Sewerage Infrastructure
- AI-Based Water Quality and Wastewater Treatment Monitoring
- Data Management, Dashboards and Decision-Support Systems
- Generative AI and Emerging Digital Technologies for Urban Utilities
- Indian Case Studies and Good Practices
- Hands-on Exercises, Demonstrations and Practical Applications

Methodology

Methodology of the programme includes classroom Sessions with Lectures/discussions, with audio visual aid; bench - marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive, demanding active participation from all the participants.

(An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

Target Participants

Commissioners and senior officials from **Municipal Corporations, Urban Local Bodies (ULBs), Urban Development Authorities and Municipal Administration Departments**; Water Supply, Sewerage and Public Health Engineers; Town Planning and Sanitation Officers; officials from **PHEDs, Water Boards and Urban Water Utilities**; officers involved in wastewater treatment, sanitation and infrastructure management; GIS, IT and digital governance professionals; data analysts and technology professionals working in urban infrastructure; representatives from **Pollution Control Boards, research and academic institutions, technology developers, consulting organisations and private sector agencies** involved in urban water supply, sewerage, sanitation and smart-city/digital solutions.

Programme Dates, Prog. Code & Timings

Dates: 15-17 December 2026, (Prog. Code:6122) & Timings: 10:00 AM onwards at ESCI Campus, Gachibowli, Hyderabad.

Course Director

Ms. Anita Aggarwal

Faculty & Head, Environment Management Division,
Engineering Staff College of India,
ESCI Road, Gachibowli, Hyderabad 500 032
Phone: Direct 040 6630 4120, 4122 Fax: 040-66304163
Mob: 8374362306, Email: em@escihyd.org

Faculty/Speaker Details

Apart from the core internal faculty, Experienced Professionals/Faculties/Sector experts will be delivering the lively lecture with practical knowledge & case study.

Course Fee

- **Course Fee (Residential) – Rs. 18,000/-*** (Rupees Eighteen Thousand only) per participant. Fee includes course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme. ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- **Non-Residential Fee:** 10% discount on course fee is allowed for non-residential participants.
- **Group Incentive:** 10% discount for five or more participants, if sponsored by the same Organization

* **GST @18%** is to be paid extra and above the training fee as training. **PAN Card No.** AAATT3439Q. **GST No:** 36AAATT3439Q1ZV, **HS No.:** 999293 (under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994).

Programme fee is to be paid in favour of “**THE IE(I) – ENGINEERING STAFF COLLEGE OF INDIA**” in the form of demand draft payable at Hyderabad. Alternatively the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI – **SB A/c No. 10007111201 with The SBI, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by NEFT/ RTGS. IFSC Code No. SBIN 0004159 – MICR No.500002075. PAN Card No AAATT3439Q; GSTIN No. 36AAATT3439Q1ZV.** While using EFT method of payment, please ensure to communicate us your company name, Contact details, our invoice reference and programme title. **Kindly provide your organization GSTIN No and TAN No along with your nominations.**

Registration

Online registration shall be available on ESCI web portal : www.escihyd.org

To register please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to : **Course Director.** (or) Contact us at : Mr. GNM. Rao (Prog. Manager) – 9866431555.

A Certificate of participation will be awarded to each participant on conclusion of the programme.

Environment Management, Engineering Staff College of India

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