Engineering Staff College of India

An Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, Gachi Bowli, Hyderabad-500 032
(IMS [ISO 9001:2015, ISO 14001:2015, ISO 50001:2018, ISO 45001:2018],
ISO/IEC 17025:2017 Certified, AICTE & CEA Recognized Institution)

CIVIL & TRANSPORTATION ENGINEERING DIVISION

Training and Development Programme On

Role of AI in Infrastructure Assessment & Rehabilitation

17th – 19th November, 2026

Venue : Mussoorie Uttarakhand / ESCI, Hyderabad

Centre for Promotion of Professional Excellence

INTRODUCTION:

Artificial Intelligence (AI) transforms infrastructure assessment and rehabilitation by automating defect detection, predicting structural failures, and optimizing repair schedules. Rehabilitation of civil engineering structures refers to the process of restoring, upgrading, strengthening, or extending the service life of existing structures that have deteriorated due to aging, environmental exposure, overloading, design deficiencies, natural disasters, or poor maintenance. Now Rehabilitation of civil engineering structures is undergoing a transformation through Artificial Intelligence (AI), which enables engineers to move from reactive maintenance (repair after damage) to predictive and condition-based rehabilitation. AI can analyze large volumes of inspection, sensor, drone, and historical maintenance data to identify defects, assess structural health, predict deterioration, and recommend optimal rehabilitation strategies.

By shifting the industry from reactive maintenance to proactive lifecycle management AI plays significant role in critical assets like bridges, roads, and pipelines and by combining data analytics, machine learning, computer vision, robotics, and predictive modeling, AI helps engineers improve safety, reduce costs, minimizes human error and extend the service life of assets.

OBJECTIVES:

- To familiarize participants with Predictive Maintenance and Asset Management.
- To impart knowledge and Understand AI concepts relevant to Civil Infrastructure.
- To describe various Latest Techniques and AI applications in Rehabilitation planning.
- To know about Use Drones, Sensors, Computer Vision, and Digital Twins.

COURSE COVERAGE :

- Overview of Role of AI in Infrastructure Assessment & Rehabilitation
- Fundamentals of AI for Infrastructure Engineering
- AI and Digital Transformation, Infrastructure Asset Management and GIS and Remote Sensing Applications
- Building Information Modeling (BIM), Digital Design and BIM - AI integration examples
- Predictive and Condition-Based Rehabilitation
- IoT, Sensors, and Structural Health Monitoring
- Computer Vision and Drone-Based Inspection
- Digital Twins Technology Integration with BIM
- Smart Rehabilitation & AI-Driven Rehabilitation Strategies
- Group Discussion & Case study presentations by participants

BENEFITS TO THE PARTICIPANTS:

- Participants will gain knowledge & skills in understanding and Identify suitable AI applications for infrastructure assessment.
- Understand the importance and application of Digital Twin and BIM integration.
- Will Apply predictive maintenance concepts to infrastructure assets.
- Understand Structural Health Monitoring for safety of structures

TARGET PARTICPANTS:

This course is suitable to all engineers and officers working at junior level to senior level from Government departments like R&B, PWD, MES, Municipal Corporations, Panchayat Raj, Housing Boards, GHMC, RITES, and Border Roads Development & Defense. Engineers from all State and Central Government Departments, & construction Companies.

RESOURCE PERSONS:

Renowned personalities both from Industry / Educational Institutions like IIT's/ NIT's / Research Institutes, Reputed Universities, who are experts in this field, will be involved in providing the training.

PROGRAMME VENUE, DATES &TIMINGS:

VENUE : Mussoorie Uttarakhand / ESCI, Hyderabad

DATES : 17 - 19 November, 2026
Registration : 10:00hrs.
Session timings : 10:30hrs – 16:30hrs with lunch break.

COURSE DIRECTOR:

Dr. R Venkat Reddy, Ph.D (Osmania), FIE
Head

COURSE COORDINATOR:

Ch. Tilak – Faculty

COURSE FEES:

Mussoorie Uttarakhand : Rs.36,000/- (Rupees Thirty Six Thousand Only) + GST 18% per participant. Fee includes, Soft copy of course material, course kit and Twin Sharing AC accommodation at Hotel, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

(or)

ESCI, HYDERABAD: **Rs.18,000/- (Rupees Eighteen Thousand Only) + GST 18%** per participant. Fee includes, Soft copy of course material, course kit and Twin Sharing AC accommodation at ESCI Executive Hostel, breakfast, lunch, dinner, tea / coffee and snacks.

GST 18% is to be paid extra over and above the training fee, as training is also brought under the purview of **Service Tax. PAN Card No AAATT3439Q; Service Tax registration No AAATT3439QST008 (under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994). GSTN Number – 36AAATT3439Q1ZV (HSN Number – 999293)**

Programme fee is to be paid in favor of **"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.** While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.

REGISTRATION:

Please send your nominations

To
The Head
Civil & Transportation Engineering Division
Engineering Staff College of India
Old Bombay Road, Gachi Bowli, Hyderabad - 500 032
Mobile : **9490011311 / 9492011311**
Email : **cte@escihyd.org**

CERTIFICATE:

A certificate of participation will be awarded to each participant.

GENERAL INSTRUCTIONS

- The maximum number of participants is 15 from all over India to conduct training programme at **Mussoorie Uttarakhand.**
- Kindly communicate the list of nominated participants with their details like Name, Designation, mobile numbers & E-mail Ids, for making necessary arrangements by ESCI at **Mussoorie Uttarakhand.**
- Twin Sharing AC accommodation will be provided 17th , 18th , & 19th November 2026.
- **If we received less than 15 nominations of various departments from all over India programme will be conducted at ESCI, Hyderabad only.**