

REPORT OF PROFESSIONAL DEVELOPMENT PROGRAMME

on

Recent Advances in Civil Engineering (RACE-2025)

The Department of Civil Engineering organized a Professional Development Programme (PDP) titled “*Recent Advances in Civil Engineering (RACE-2025)*” from February 03 to February 10, 2025. The programme aimed to provide faculty members, research scholars, and staff members with valuable insights into the latest innovations, research trends, and technological advancements in Civil Engineering. It was designed to bridge the gap between academic knowledge and industry practices while equipping participants with the expertise required to address current infrastructural challenges and contribute effectively to the development of society. The PDP was orchestrated under the leadership of the Prof. Syed Aqeel Ahmad, Head of the Civil Engineering Department with on-site presence of Mr. Mohd Asim, Assistant Professor, Civil Engineering Department, effectively coordinated the sessions and addressed all audience.

The primary objectives of the eight days PDP were to acquaint participants with cutting-edge technologies and sustainable practices in civil engineering, to highlight research developments in structural, geotechnical, transportation, water resources, and environmental engineering, and to expose them to modern construction methodologies and smart materials. Furthermore, the programme introduced digital technologies such as Building Information Modelling (BIM), Artificial Intelligence (AI), and the Internet of Things (IoT) in construction. It also aimed to provide a platform for interaction among academicians, industry experts, and researchers, thereby fostering future collaborations and enhancing the professional competence of participants through innovative problem-solving approaches.

The programme commenced with an inaugural session led by D.K Gupta, Engineer in Chief (Retd.), U.P Irrigation Department who emphasized the importance of adapting to technological transformations in the construction sector. Eminent academicians and industry practitioners delivered thought-provoking sessions. Mr. Neeti Singh (Day-2 & 3), Regional Head, Technical, Ultratech Cement Pvt. Ltd. highlighted high-performance concrete, and prefabricated structures; smart materials such as self-healing concrete. Dr. Zishan Raza Khan (Day-4), Associate Professor, Civil Engineering Department at Integral University discussed advances in structural engineering with a focus on seismic-resistant design, high-performance concrete. Sessions on geotechnical innovations led by Mr. Ashraf Hussain (Day-5), Consultant at Lucknow Metro Rail Cooperation focused on ground improvement techniques, geosynthetics, and foundation engineering for high-rise and offshore structures. Additionally, digital transformation in civil engineering was explored with practical applications of BIM, GIS, IoT, and remote sensing for design, monitoring, and project management led by Dr. Tabish Izhar (Day-6), Assistant Professor, Civil Engineering Department at Integral University. To complement the lectures, hands-on workshops and interactive sessions (Day-7 & 8) were also conducted offering participants practical exposure.

The programme witnessed enthusiastic participation from faculty members and total 20 participants including faculty and staff members from the Department of Civil Engineering attended the FDP and got benefited.

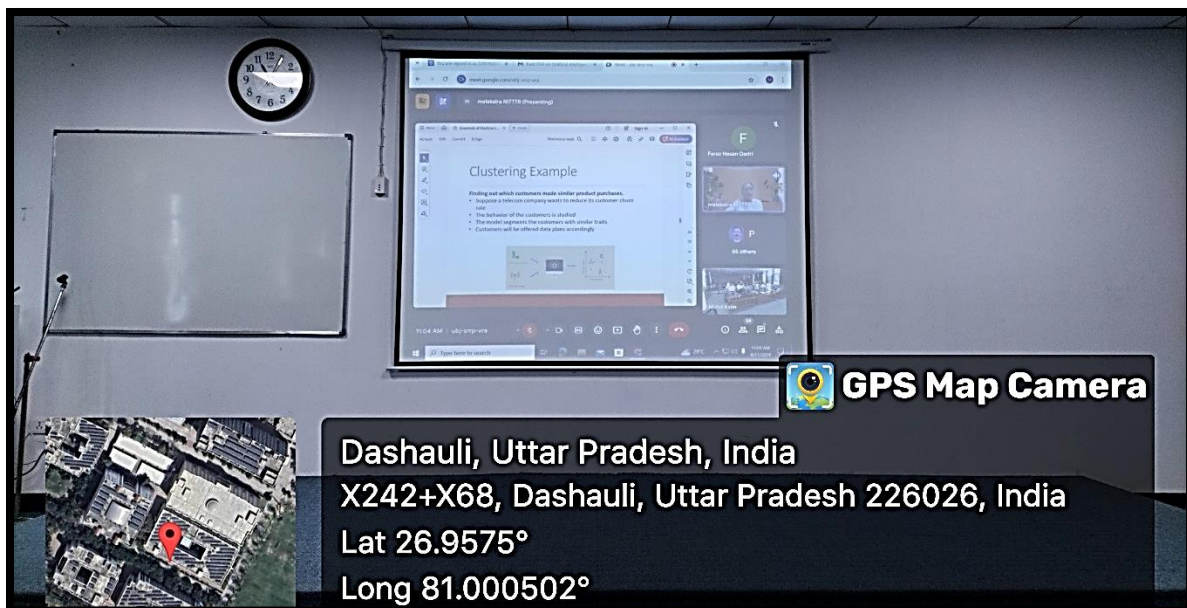
The outcomes of the programme were highly impactful. Participants gained an enhanced understanding of recent technological and research advancements, strengthened their linkages with industry for collaborative projects, and developed increased awareness of sustainable and eco-friendly construction practices. Many also honed their skills in digital tools such as BIM and

GIS, while being inspired to adopt innovative approaches in teaching, research, and professional practice.

In conclusion, the Professional Development Programme on *Recent Advances in Civil Engineering (RACE-2025)* successfully met its objectives by exposing participants to emerging trends, innovative technologies, and sustainable practices. It provided an effective platform for knowledge sharing and networking, ultimately contributing to the professional growth of the civil engineering community. The Department of Civil Engineering looks forward to hosting more such programmes in the future to further encourage innovation, collaboration, and excellence in the field.

Annexure-I: Course Contents of FDP

Here is the glimpse of the PDP!



Course Contents of PDP

The Professional Development Programme (PDP) upgraded the knowledge and provided a better understanding of the design and construction process as well as knowledge of modern construction techniques through following eight-day sessions:

Day-1:

- Inauguration
- Modular construction: A revolution in construction industry

Day-2:

- High Performance Concrete and Self-Healing Concrete
- Interactive session.

Day-3:

- Sustainable construction practices for residential construction.
- Interactive session

Day-4:

- BIM and IOT in Civil Engineering
- Remote sensing and GIS in construction

Day-5:

- Design and construction of pile foundation in river crossing locations.
- Ground Improvement Techniques

Day-6:

- GRIHA & RERA guidelines for green construction
- Interactive session

Day-7:

- Smart construction materials
- Interactive session

Day-8:

- Hands on practice for Civil Engineers
- Interactive session