

Report on Corporate Training on “Sustainable Materials” for ‘UltraTech Cement Pvt. Ltd. Employees’ Organized by the Department of Civil Engineering, Integral University on 17th January 2025

The Department of Civil Engineering, Integral University, organized a **Corporate Training on Sustainable Materials** for UltraTech Cement Personnel on January 17, 2025, at the UltraTech Centre of Excellence, Department of Civil Engineering, Block E, Integral University, Lucknow. The objective of the training was to equip professionals with the knowledge and skills to incorporate environmentally responsible materials into their products, projects and operations. The program focused on promoting the use of renewable, recyclable, and low-carbon alternatives to conventional construction materials, fostering innovation in manufacturing and services. It aimed to raise awareness of the environmental and economic benefits of sustainable materials, encourage resource efficiency, and ensure compliance with



Participants during the training session



Dr. Zishan Raza Khan during his address

global sustainability standards. By doing so, the training empowered participants to reduce the environmental footprint of their industries while driving long-term business growth and sustainability.

The resource persons for the event were **Dr. Zishan Raza Khan**, Associate Professor, and **Mr. Vikash Singh**, Assistant Professor, Department of Civil Engineering, Integral University.

Dr. Zishan Raza Khan provided an in-depth discussion on the fundamentals of sustainable concrete, highlighting its importance and environmental benefits, particularly in reducing carbon emissions and conserving resources. He elaborated on alternative materials such as fly ash, slag, recycled aggregates, and bio-based additives, along with innovative technologies like carbon capture, self-healing concrete, and energy-efficient production techniques. Strategies for optimizing mix design, enhancing durability, and conducting lifecycle assessments were also emphasized to ensure sustainability in concrete applications.

Mr. Vikash Singh focused on the advantages of using other sustainable materials, emphasizing their role in reducing environmental impact, promoting resource efficiency, and aligning with

sustainability goals. He discussed the applications and benefits of renewable materials like bamboo, timber, and bio-based composites; recycled materials such as steel, plastic, and rubber; and innovative solutions such as geopolymers, graphene, and natural fibers. Furthermore, he highlighted the use of industrial by-products like fly ash and slag for soil and slope stabilization, as well as other sustainable stabilization materials such as biochar, natural fibers, geopolymers, and enzyme-based stabilizers.

The session was attended by 40 Employees for UltraTech Cement Pvt. Ltd. The corporate training program was highly successful, meeting the expectations of the participants. The attendees posed numerous queries and doubts throughout the session, all of which were expertly addressed by the trainers. The event served as a valuable platform for enhancing knowledge and promoting sustainable practices in construction and related industries.