



**Outreach & Dissemination Services Office
CSIR – Central Building Research Institute**

Roorkee – 247667 (UK)

Training Program on

**‘Advances in Building Materials and
Construction Technologies’**

14th-16th January, 2026

Organized under the aegis of CSIR Integrated Skill Initiative

The CSIR–Central Building Research Institute (CSIR-CBRI), Roorkee, under the CSIR Integrated Skill Initiative, organized a three-day Skill Development Training Programme on “Advances in Building Materials and Construction Technologies” from 14–16 January 2026. The programme was coordinated by Dr. Tabish Alam, Principal Scientist, CSIR-CBRI, and focused on recent advancements in building materials and construction technologies, providing participants with exposure to cutting-edge research, laboratory facilities, and practical insights into modern construction practices.

A total of 30 students and 3 faculty members from Galgotias University, Noida participated in the programme. The inaugural session was addressed by Prof. R. Pradeep Kumar, Director, CSIR-CBRI, who encouraged the participants to actively engage in the training. He highlighted the growing demand for advanced construction technologies in the country and emphasized their rapid adoption across the building sector. He also underlined the importance of innovative, affordable, and sustainable building solutions to address present and future infrastructure challenges. The programme also marked the signing of a Memorandum of Understanding (MoU) between CSIR-CBRI and Galgotias University, Noida, aimed at strengthening future collaboration in research, student training, and skill development programmes. The three-day training programme served as an effective platform for knowledge sharing, skill enhancement, and fostering collaboration between academia and research organizations, thereby strengthening capabilities in sustainable and innovative construction practices.

कौशल विकास प्रशिक्षण कार्यक्रम
“भवन निर्माण सामग्री और निर्माण प्रौद्योगिकियों में प्रगति”

Skill Development Training Programme on
“Advances in Building Materials and Construction
Technologies”

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सीएसआईआर – केन्द्रीय भवन अनुसंधान संस्थान, रुड़की
CSIR – Central Building Research Institute, Roorkee





Dr. Neeraj Jain, Sr. Principal Scientist, Head ODS, CSIR-CBRI inaugurated the programme and emphasized the importance of skill-oriented training and knowledge integration. **Dr. Soju J. Alexander, Principal Scientist, CSIR-CBRI** shared valuable technical insights, enriching the session. The inaugural proceedings concluded with a **vote of thanks** by **Dr. Soumitra Maiti, Principal Scientist, CSIR-CBRI**.





Day 1:

The training programme commenced with the **first technical lecture on environmental aspects of green building materials** delivered by **Dr. Soumitra Maiti, Principal Scientist**. The lecture focused on the environmental impact of conventional construction materials, life-cycle assessment approaches, and strategies for reducing carbon footprint through the adoption of eco-friendly and sustainable building materials.



The **second lecture**, delivered by **Dr. Humaira, Scientist**, covered **Carbon Capture, Utilisation, and Storage (CCUS)** with special emphasis on **CO₂ utilisation in building construction**. The session highlighted innovative methods for incorporating captured carbon dioxide into construction materials, its potential to reduce greenhouse gas emissions, and its role in promoting low-carbon construction practices.



The **third lecture** was delivered by **Dr. Srinivasa Rao, Principal Scientist**, who discussed **advanced material activities for enhanced cementitious composites**. The lecture introduced high-performance and modified cementitious materials, focusing on material innovation, durability enhancement, and improved mechanical performance for advanced construction applications.



The **fourth lecture**, presented by **Dr. Neeraj Jain, Senior Principal Scientist**, addressed **sustainable building materials and construction technologies, along with associated issues and challenges**. The session emphasized current limitations in material adoption, implementation barriers, and the need for scalable, cost-effective, and sustainable solutions in the building sector.



Following the technical sessions, participants were taken on a **technical exposure visit** to the **Building Materials Museum Hall, NEETF Laboratory, Fire Safety Laboratory, and Rural Technology Park**. The visit provided practical insights into CSIR-CBRI's research facilities, testing capabilities, and demonstration projects, enabling participants to correlate theoretical knowledge with real-world applications.



Students visiting labs at CSIR-CBRI

DAY 2:

The second day commenced with a lecture on the **application of 3-D concrete printing in building construction** by **Er. Ashish Kapoor, Senior Scientist**, where participants were introduced to additive manufacturing concepts, material requirements, design flexibility, and the role of 3-D printing in fast and sustainable construction.



The **second lecture**, delivered by **Dr. Manojit Samanta, Senior Principal Scientist**, focused on **foundation geotechnical considerations under geo-hazard conditions**, covering soil–foundation interaction, site investigation, and foundation design strategies in earthquake- and landslide-prone areas.



The **third lecture** by **Dr. Suman Kumar, Scientist**, addressed the **modelling of structures under blast and impact loading**, explaining analytical and numerical approaches to evaluate structural response, damage mechanisms, and safety under extreme loading conditions.



The **fourth lecture**, delivered by **Dr. M. D. Muslim Ansari, Senior Scientist**, covered **pre-fabricated structural elements**, highlighting types of precast components, manufacturing processes, and their advantages in terms of speed, quality, and sustainability in construction.



This was followed by a lecture on **construction cost management and Detailed Project Report (DPR) preparation** by **Er. I. A. Siddiqui**, who discussed cost estimation, budgeting, and systematic DPR preparation for effective project planning and execution.



The day concluded with a **visit to the Construction Technology Demonstration Park**, where participants gained practical exposure to **3-D construction technologies and region-specific building techniques** through live demonstrations and model houses representing diverse construction practices across India.



Students visiting Demonstration Park at CSIR-CBRI

Day 3:

The third day commenced with a lecture by **Dr. Kishor Kulkarni, Principal Scientist**, on **transforming CO₂ into advanced construction materials through Carbon Capture, Utilisation, and Storage (CCUS)**. The lecture highlighted innovative pathways for CO₂ conversion into building materials and their potential role in reducing carbon emissions in the construction sector.



The **second lecture**, delivered by **Dr. Chanchal Sonkar, Principal Scientist**, focused on the **structural design of buildings**, covering fundamental design principles, load considerations, and code-based approaches to ensure structural safety and performance.



The **third lecture** was presented by **Ar. Naveen Nishant, Scientist**, on **architectural planning and building design**, emphasizing functional planning, spatial organization, climate-responsive design, and the integration of aesthetics with structural and service requirements.



The **final lecture**, delivered by **Dr. Shiva Chidambaram, Principal Scientist**, addressed **precast building construction for seismic and non-seismic regions**, highlighting design considerations, structural behavior, and best practices for enhancing safety, efficiency, and resilience.



The training programme concluded with a **valedictory ceremony**, during which **Dr. Neeraj Jain, Senior Principal Scientist**, and **Dr. S. K. Panigrahi, Chief Scientist**, distributed **certificates to the participants** in recognition of their successful completion of the training programme.



Participants List

S.No.	Name	Education
1	Mr. Suraj Kumar Saha	Civil engineering
2	Mr. Amar Raj	Civil engineering
3	Mr. Priyanshu Raj	Civil engineering
4	Mr. Faroug Salaheldin Musa Albashir	Civil engineering
5	Mr. Pravash Kumar Yadav	Civil engineering
6	Mr. Alyagot Khalid Eltayeb	Civil engineering
7	Mr. Mohd Farhad	Civil engineering
8	Mr. Musbah Eltigani Abd Elfadel	Civil engineering
9	Mr. Pranjul Mishra	Civil engineering
10	Mr. Joni Roy	Civil engineering
11	Mr. Rohit Rai	Civil engineering
12	Mr. Sudip Chandra Sah	Civil engineering
13	Mr. Ashish Jain	Civil engineering
14	Mr. Sachin Kumar	Civil engineering
15	Mr. Abhinav Kumar Verma	Civil engineering
16	Ms. Aseel El Hussein	Civil engineering
17	Ms. Omnia El Hussien	Civil engineering
18	Mr. Kishan Kumar	Civil engineering
19	Mr. Md. Hidaytulah	Civil engineering
20	Mr. Gaurav Michael	Civil engineering
21	Mr. Hassan Mohamed Adan	Civil engineering
22	Mr. Kaustubh Verma	Civil engineering
23	Mr. R.K. Sanamatum	Civil engineering
24	Mr. Joshi Thingujam	Civil engineering
25	Mr. Mathiukun Kamei	Civil engineering
26	Mr. Sunny	Civil engineering
27	Mr. Deepak Kumar	Civil engineering
28	Mr. Nipun Mohan	Civil engineering
29	Mr. Aman Kumar	Civil engineering
30	Mr. Mushongahande Kuzi Marvelous	Civil engineering
31	Dr. Deepak Kumar Soni	Civil engineering
32	Dr. Naveen kothapalli	Civil engineering
33	Dr. Gurmish Sihag	Civil engineering

