



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

Roorkee – 247667 (UK)

Training Program on

Disaster Management

8th-10th June, 2026

Organized under the aegis of CSIR Integrated Skill Initiative

The CSIR–Central Building Research Institute (CSIR-CBRI), Roorkee, conducted a three-day **Disaster Management Training Programme** for the students of **Methodist Girls’ College, Roorkee**, from **08–10 June 2026** under the **CSIR Skill Development Initiative**. The programme was aimed at enhancing awareness and preparedness among young students regarding disaster risk reduction, emergency response, and safety measures during natural and man-made disasters. A total of **39 participants** participated in the training programme. Through expert lectures, interactive sessions, and practical demonstrations, the participants gained knowledge on disaster preparedness, evacuation procedures, first response actions, and community resilience. The programme provided students with valuable insights into disaster management practices and encouraged them to contribute towards building safer and more resilient communities.



कौशल विकास कार्यक्रम

“आपदा प्रबंधन ”

Skill Development Programme on

“Disaster Management”

June 08-10, 2026

Organized under the aegis of CSIR Integrated Skill Initiative



सीएसआईआर – केन्द्रीय भवन अनुसंधान संस्थान, रुड़की
CSIR – Central Building Research Institute, Roorkee
Ministry of Science & Technology, Govt. of India





Group Photo at CSIR-CBRI

Inauguration:

The inaugural session was attended by distinguished scientists and experts including **Prof. R Pradeep Kumar**, Director, CSIR-CBRI; **Prof. D.C. Srivastava**, IIT Roorkee, Scientist; **Dr. Neeraj Jain**, Sr. Principal Scientist, head ODS; and **Dr. Anindya Pain**, Sr. Principal Scientist & Training Coordinator and other scientists. Welcoming the students, **Dr. Neeraj Jain** highlighted CSIR-CBRI's core mandate, state-of-the-art research facilities, and its significant contributions towards promoting disaster-resilient construction practices and management, **Dr. Anindya Pain** gave a brief overview of the programme. **Dr. Srivastava** delivered an engaging session on earthquake science, elaborating on seismic hazards, risk, precautions and effective mitigation strategies, while also emphasizing the importance of community awareness and preparedness from youth. **Prof. R. Pradeep Kumar, Director, CSIR-CBRI**, also conveyed his best wishes to the participants and students for the success of the programme and encouraged young minds to actively participate in learnings at the practical level, especially in such interesting topics. The session concluded with a formal vote of thanks delivered by **Dr. Anindya Pain**, who encouraged participants to actively engage in two-way interactions, make the programme more participatory and impactful through open discussions and knowledge exchange.



Day 1:

The first lecture was delivered by **Dr. Anindya Pain, Sr. Principal Scientist**, the session on **“Introduction to Natural Hazards”** provided an overview of various natural hazards such as earthquakes, floods, landslides, cyclones, and droughts, highlighting their causes and impacts on society and infrastructure. The speaker emphasized the importance of understanding hazard risks, vulnerability, and preparedness measures to minimize disaster losses. The session concluded that awareness, scientific planning, and community participation are essential for building disaster-resilient communities and reducing the impact of natural hazards.



The second Lecture was delivered by **Dr. Rajesh Dash, Project Scientist**, the session on **“Recent Natural Disasters”** highlighted major disaster events that have occurred in recent years, including earthquakes, floods, landslides, cyclones, and other extreme weather events. The speaker discussed the causes, impacts, and lessons learned from these disasters, emphasizing the growing need for preparedness and risk reduction strategies. The session concluded that strengthening disaster awareness, early warning systems, and community resilience is crucial for minimizing the loss of life and property during future disasters.



The third Lecture was delivered by **Prof. DC Srivastava, IIT Roorkee**, the session on **“Geological Control on Landslides”** explained how geological factors such as rock type, soil characteristics, slope structure, faults, joints, and weathering influence the occurrence of landslides. The speaker highlighted the importance of understanding local geological conditions for identifying landslide-prone areas and planning safe infrastructure development. The session

concluded that detailed geological investigations and proper land-use planning are essential for reducing landslide risks and enhancing slope.



The forth lecture was delivered by **Dr. S Ganesh Kumar, Pr. Scientist**, the session on “Earthquake Disaster: Causes and Warning Systems” discussed the scientific causes of earthquakes, including tectonic plate movements, fault activity, and the release of energy within the Earth's crust. The speaker explained the impacts of earthquakes on buildings, infrastructure, and communities, along with the role of earthquake monitoring and early warning systems in reducing risks. The session concluded that while earthquakes cannot be predicted accurately, preparedness, resilient construction practices, and timely warning systems can significantly reduce casualties and damage.



The fifth lecture was delivered by **Dr. Ajay Chourasia, Chief Scientist**, the session on “**Design of Earthquake-Resistant Buildings in Hilly Regions**” focused on the challenges of construction in mountainous terrain and the principles of earthquake-resistant design for ensuring structural safety. The speaker highlighted the importance of proper site selection, regular building configurations, strong foundations, and adherence to seismic design codes in hilly areas. The session concluded that incorporating earthquake-resistant design practices from the planning stage

is essential for minimizing structural damage and enhancing the resilience of buildings during seismic events.



Day 2:

The first lecture was delivered by **Dr. Tabish Alam, Pr. Scientist**, the session on **“UV-C Air Disinfection in Buildings and Post-Disaster Reconstruction and Rehabilitation after Earthquakes”** highlighted the role of UV-C technology in improving indoor air quality and reducing the spread of airborne pathogens in occupied buildings. The speaker also discussed key strategies for post-earthquake reconstruction and rehabilitation, emphasizing safe rebuilding practices, structural resilience, and sustainable recovery planning. The session concluded that integrating health-focused technologies with resilient reconstruction approaches can contribute significantly to safer, healthier, and disaster-resilient communities.



The second lecture was delivered by **Er. Chandrabhan Patel, Scientist**, the session on **“IoT-Enabled Snow Avalanche Monitoring and Detection: Lab-to-Field Implementation”** showcased the application of Internet of Things (IoT) technologies for real-time monitoring and early detection of snow avalanches in vulnerable mountainous regions. The speaker explained how

sensor networks, wireless communication systems, and data analytics can be integrated to monitor snowpack conditions and provide timely alerts. The session concluded that IoT-based avalanche monitoring systems offer a reliable and cost-effective approach for enhancing disaster preparedness, improving early warning capabilities, and protecting lives and infrastructure in snow-prone areas.



The third lecture was delivered by **Dr. MM Dalbehera, Pr. Scientist**, the session on “**Seismic Risk Assessment of Buildings and Post-Disaster Reconstruction & Rehabilitation after an Earthquake**” focused on methods for evaluating the structural vulnerability and damage potential of buildings in earthquake-prone regions. The speaker discussed the importance of rapid damage assessment, safety evaluation, and prioritization of repair and retrofitting measures following an earthquake. The session concluded that comprehensive seismic risk assessment and resilient reconstruction practices are essential for ensuring public safety, reducing future losses, and facilitating sustainable post-disaster recovery.



The forth lecture was delivered by **Dr, Nawal Kishor Banjara, Pr. Scientist & Associate Professor (AcSIR)**, the session on “**Fire Hazards and Mitigation in Buildings**” discussed the common causes of fire incidents in buildings, including electrical faults, combustible materials, and unsafe human practices. The speaker highlighted the importance of fire prevention measures,

safe building design, fire detection and suppression systems, and emergency evacuation planning. The session concluded that effective fire safety management, regular inspections, and awareness.



The fifth lecture was delivered by **Dr. Suman Kumar, Scientist**, the session on “**Modelling of Structures under Blast and Impact Loads**” introduced the principles and techniques used to analyze the response of structures subjected to blast waves and impact forces. The speaker explained the importance of numerical modelling and simulation tools in predicting structural behaviour, assessing damage, and improving design performance under extreme loading conditions. The session concluded that advanced modelling approaches play a vital role in developing safer, more resilient structures capable of withstanding blast and impact events.



The sixth lecture was delivered by **Dr. Siva Chidambaram, Pr. Scientist & Associate Head, ACSC/Associate Professor, (AcSIR)**, the session on “**Strengthening Measures for RC and Masonry Buildings in Disaster-Prone Regions**” focused on various techniques for enhancing the structural performance of reinforced concrete (RC) and masonry buildings against hazards such as earthquakes, floods, and high winds. The speaker discussed retrofitting methods, structural strengthening interventions, and the importance of compliance with relevant design codes and standards. The session concluded that timely assessment and strengthening of vulnerable buildings are essential for improving safety, reducing disaster risks, and increasing the resilience of the built environment.



Day 3:

The first lecture was delivered by **Dr. Debdatta Gosh, Pr. Scientist**, the session on **“Tsunami Effects on Structures”** discussed the impact of tsunami waves on buildings and infrastructure, including hydrodynamic forces, debris impact, scour, and foundation failures. The speaker highlighted the factors influencing structural damage, such as wave height, flow velocity, building configuration, and construction quality. The session concluded that resilient design, proper site planning, and adherence to coastal safety guidelines are crucial for reducing structural vulnerability and enhancing disaster preparedness in tsunami-prone regions.



As part of the Disaster Management Training Programme, CSIR–CBRI experts conducted a fire safety and firefighting demonstration for students. The session covered common causes of fire incidents, emergency response procedures, and fire prevention measures. Experts demonstrated the operation and safe use of fire extinguishers for different types of fires. Students also received hands-on training in basic firefighting techniques. The programme enhanced their practical understanding of fire safety and disaster preparedness.



The second lecture was delivered by **Mr. Sagar Tomar, PhD Scholar**, the session on **“Beyond Concrete Urbanization and the Future of Urban Heat Islands”** explored how rapid urbanization, extensive use of concrete, and reduction of green spaces contribute to the urban heat island effect. The speaker discussed sustainable urban planning strategies, including green infrastructure, cool materials, and nature-based solutions to mitigate rising urban temperatures. The session concluded that integrating climate-responsive design and sustainable development practices is essential for creating healthier, more resilient, and environmentally sustainable cities.



The third lecture was delivered by **Er. Koushik Pandit, Pr. Scientist**, the session on **“Earthquake Seismology and Seismic Hazards”** provided an overview of the science of earthquakes, including the generation and propagation of seismic waves, earthquake measurement, and seismic monitoring techniques. The speaker explained the factors influencing seismic hazards and their potential impacts on buildings, infrastructure, and communities. The session concluded that a thorough understanding of earthquake processes and seismic hazard assessment is essential for effective disaster risk reduction and the development of earthquake-resilient infrastructure.



The fifth lecture was delivered by **Er. Siddhartha Behera, Scientist**, the session on **“Safer Housing for Cyclones: Issues and Solutions in Rural and Urban Areas”** addressed the challenges faced by buildings and communities during cyclonic events, including high wind pressures, flooding, and damage to infrastructure. The speaker discussed resilient housing designs, improved construction practices, and disaster-resilient planning measures suitable for both rural and urban settings. The session concluded that adopting cyclone-resistant construction techniques, strengthening existing housing, and enhancing community preparedness are key to reducing losses and ensuring safer living environments in cyclone-prone regions.



During their visit to CSIR–CBRI, the students toured various research laboratories and experimental facilities of the institute. They were introduced to ongoing research activities in the fields of structural engineering, fire safety, disaster mitigation, geotechnical engineering, and sustainable building technologies. Students actively interacted with researchers and gained practical exposure to scientific advancements.

Labs Visit



An examination was conducted successfully after the training.



Valedictory:

The valedictory session of the Disaster Management Training Programme was attended by distinguished scientists and experts including **Prof. R. Pradeep Kumar**, Director, CSIR-CBRI; **Prof. D.C. Srivastava**, IIT Roorkee; **Dr. Neeraj Jain**, Sr. Principal Scientist & head ODS; and **Dr. Anindya Pain**, Sr. Principal Scientist & Training Coordinator, along with other scientists of the institute. Addressing the participants, **Prof. R. Pradeep Kumar** congratulated the students on successfully completing the programme and appreciated their enthusiastic participation throughout the training. He emphasized the importance of disaster awareness, preparedness, and scientific approaches to risk reduction in building a safer and more resilient society. **Dr. D.C. Srivastava** encouraged the students to continue developing scientific temper and disaster preparedness skills, highlighting the role of informed communities in reducing disaster risks. **Dr. Neeraj Jain** summarized the key learnings of the programme and motivated the participants to apply the knowledge gained in their academic and social spheres. The participants shared their experiences and expressed their appreciation for the practical exposure and valuable insights gained through expert lectures, laboratory visits, and hands-on demonstrations conducted during the programme. The programme concluded with the distribution of certificates to the participants. The session ended with a formal vote of thanks delivered by **Dr. Anindya Pain**, who acknowledged the contributions of all speakers, scientists, coordinators, and students in making the training programme successful and impactful.



Schedule:

  सीएसआईआर-केन्द्रीय भवन अनुसंधान संस्थान, रुड़की CSIR - Central Building Research Institute, Roorkee  			
Skill Development Program on "Disaster Management" June 08th -10th, 2026 Programme Schedule			
Hours	Monday 08.06.2026	Tuesday 09.06.2026	Wednesday 10.06.2026
9.00 - 10.30 AM	Registration & Inauguration Group Photograph	UV-C Air Disinfection Solutions for Covid-19 Pandemic: Design, Deployment, and Performance Dr. Tabish Alam	Tsunami Effects on Structures Dr. Debdata Ghosh
10.30-11.00 AM	High Tea		
11.00-11.45 AM	Introduction to Natural Hazards Dr. Anindya Pain	IoT-enabled snow avalanche Monitoring and detection: Lab to field implementation Er. Chandrabhan Patel	Beyond Concrete: Urbanization and the Future of Urban Heat Islands Sh. Sagar Tomar
11.45-12.30 PM	Recent Natural Disasters Dr. Rajesh Dash	Seismic Risk Assessment of Buildings - Post-Disaster Reconstruction and Rehabilitation after an EQ Er. M.M. Dalbehera	Earthquake Seismology and Seismic Hazard Er. Koushik Pandit
12.30-13.15 PM	Geological control on Landslides Dr. D.C. Srivastava	Fire Hazard and Mitigation in Buildings Dr. Nawal Kishor Banjara	Safer Housing for Cyclones: Issues and Solutions in Rural and Urban Areas Er. Siddharth Behera
13.15-2.15 PM	Lunch Break		
2.15-5.00 PM	Earthquake Disaster: Causes & Warning System Dr. S. Ganesh Kumar	Modelling of Structures under Blast & Impact Dr. Sunan Kumar	Lab Visit
5.00-5.30 PM	Tea Break		
5.30-16.30 PM	Design of Earthquake-Resistant Buildings for Hills Dr. Ajay Chourasia	Strengthening measures for RC & Masonry Buildings: Disaster-prone regions Dr. Siva Chidambaram	Examination
16.30-17.00 PM	Valedictory		

Attendance sheet:

  CSIR - Central Building Research Institute, Roorkee Training Course on "Disaster Management" June 08-10, 2026 Organized under the aegis of CSIR Integrated Skill Initiative Attendance Sheet						
S. No.	Name of Participants	Signature				
		08-June (AN)	08-June (FN)	09-June (AN)	09-June (FN)	10-June (AN)
1.	Ms. AFYA GAURI					
2.	Ms. DIVYA SHARMA					
3.	Ms. RIDHI GOEL					
4.	Ms. ANUSHKA CHAUDHARY					
5.	Ms. ARCHANA PAL					
6.	Ms. DIVYANSHI SHARMA					
7.	Ms. NAINIKA JASWAL					

S. No. Name of Participants Signature						
		08-June (AN)	08-June (FN)	09-June (AN)	09-June (FN)	10-June (AN)
8.	Ms. ASHA					
9.	Ms. VARSHA					
10.	Ms. RONIKA KARNIWAAL					
11.	Ms. SANIYA AKBAR					
12.	Ms. KHUSHI					
13.	Ms. ANISHA					
14.	Ms. RABIIYA					
15.	Ms. SABIHA					
16.	Ms. RIYA					
17.	Ms. DEVINA PANT					
18.	Ms. IRAM					
19.	Ms. IRAM JEHRRA					
20.	Ms. SRISHTI CHAUDHRY					

S. No. Name of Participants Signature						
		08-June (AN)	08-June (FN)	09-June (AN)	09-June (FN)	10-June (AN)
20.	Ms. SRISHTI CHAUDHRY					
21.	Ms. SHEEBA					
22.	Ms. AATIKA					
23.	Ms. JOYA					
24.	Ms. ANUSHKA TYAGI					
25.	Ms. KAJAL KHANKRITYAL					
26.	Ms. OSHI					
27.	Ms. BHUMIKA NEGI					
28.	Ms. ARCHANA PATHAK					
29.	Ms. ARFA ALI					
30.	Ms. SHRUTI PANDEY					
31.	Ms. FARHA KHAN					
32.	Ms. ALIBA					

S. No. Name of Participants Signature						
		08-June (AN)	08-June (FN)	09-June (AN)	09-June (FN)	10-June (AN)
33.	Ms. SHALINI					
34.	Ms. NAZIYA BANO					
35.	Ms. RIYA					
36.	Ms. JESSICA PETER					
37.	Ms. SHREYA THAKUR					
38.	Ms. KHUSHI GIRI					
39.	Ms. TASHU TYAGI					
40.	Ms. SALONI SRIVASTAVA					
41.	Mrs. ANKITA SETHI					
42.	Dr. PUSHPANJALI PRASAD					
43.	Dr. AYESHA FARHEEN					

Participants List

S.N.	Name	Class
1.	Ms. AFIYA GAURI	B.A. 2 ND SEM.
2.	Ms. DIVYA SHARMA	“
3.	Ms. RIDDHI GOEL	“
4.	Ms. ANUSHKA CHAUDHARY	“
5.	Ms. ARCHANA PAL	“
6.	Ms. DIVYANSHI SHARMA	“
7.	Ms. ASHA	“
8.	Ms. VARSHA	“
9.	Ms. RONIKA KARNWAL	“
10.	Ms. SANIYA AKBAR	“
11.	Ms. KHUSHI	“
12.	Ms. ANISHA	“
13.	Ms. RABIYA	M.A. 4 th SEM.
14.	Ms. SABIHA	BA 2 nd SEM.
15.	Ms. RIYA	BA 2 nd SEM.
16.	Ms. DEVINA PANT	BA 2 nd SEM.
17.	Ms. IRAM	BA 2 nd SEM.
18.	Ms. IRAM JEHRRA	BA 2 nd SEM.
19.	Ms. SRISHTI CHAUDHRY	BA 2 nd SEM.
20.	Ms. SHEEBA	B.A. 2 ND SEM.
21.	Ms. AATIKA	“
22.	Ms. JOYA	BA 2 nd SEM.
23.	Ms. ANUSHKA TYAGI	B.A. 6 TH SEM.
24.	Ms. KAJAL KHANKRIYAL	B.A. 2 ND SEM
25.	Ms. BHUMIKA NEGI	“
26.	Ms. ARCHANA PATHAK	“
27.	Ms. ARFA ALI	M.A. 2 ND SEM.
28.	Ms. FARHA KHAN	B.A. 4 TH SEM.

29.	Ms. ALIBA	“
30.	Ms. NAZIYA BANO	M.A. 4 TH SEM.
31.	Ms. RIYA	B.COM. 2 ND SEM.
32.	Ms. JESSICA PETER	“
33.	Ms. SHREYA THAKUR	“
34.	Ms. KHUSHI GIRI	B.C.A-2 ND SEM
35.	Ms. TASHU TYAGI	B.C.A-2 ND SEM
36.	Ms. SALONI SRIVASTAVA	B.A. 4 TH SEM
37.	Mrs. ANKITA SETHI	Faculty
38.	Dr. PUSHPANJALI PRASAD	Faculty
39.	Dr. AYESHA FARHEEN	Faculty