Activity Calendar of Department of Civil Engineering (Session:2025-26)

S.No.	Activity	Resources Person	Partcipants	Faculty members/Person Involved	Date/Duration	Status Completed/Proposed	(Activity Report) Link of Website
1.	Faculty Development Programm (FDP) titled "Innovative Approaches in Dynamics of Soils and Structures"	From Various National & International Level Institute	Faculty	Dr. Riya Catherine George, Mr. Manish Kumar & Dr.KavitaTandon	21st to 25th July 2025	Completed	
2.	One day Workshop on Geospatial Technology Products by APSL Solutions including Surveying Mapping Instruments.	Representative of M/S APSL Solutions	Faculty & Students	Mr.JP Nayak & Mrs. Kajol Priya	August 30, 2025	Completed	
3.	Industrial visit of final year students at Water Treatment Plan , Ganga Barrage, UP Jal Nigam (Urban), .	Executive Engineer UP Jal Nigam Ganga Barrage,	Students	Mr.JP Nayak & Mrs. Kajol Priya	September 12, 2025	Completed	
4.	Organized Engineer's Day program on 15th September 2025.	Deptt. of Civil Engg. HBTU Kanpur	Students	Ms. Shivani Koshtha	15 September 2025	Completed	
5.	Industrial Visit	Hamraj Complax Kanpur	Students	Mr. Manish Kumar	15th October 25	Completed	

6.	Industrial Visit	Chief Engineer, Irrigation Deptt.	Students	Ms. Shivani Koshtha	17-18 Nov.2025	Proposed	
7.	Invited Lecture	Prof. Sudhir Mishra , IIT Kanpur	Faculty	Dr. Riya Catherine George, Mr. Manish Kumar & Dr.KavitaTandon	17 Nov.2025	Proposed	
8.	Industrial Visit	-	Students	Mr. Manish Kumar	2nd Week of November	Proposed	
9.	One Day Training Program by MV DAD	B.P. Karamchandani VJTI,Mumbai	Students	Dr.KavitaTandon	1st week of December	Proposed	
10.	One Day Training Program on MATLAB	-	Students	Dr. Riya Catherine George	3rd/Last Week of December	Proposed	
11.	Invited Lecture	-	Students	Dr.KavitaTandon	3rd Week of December	Proposed	
12.	FDP/STC/ Workshop	-	Faculty & Students	Ms. Kajol Priya & Mr.Jaiprakash Nayak	3rd week- 4th Week of Jan 26	Proposed	
13.	Invited Lecture	-	Students	Dr. Rajiv Ganguly	2nd Week of January 26	Proposed	

14.	Industrial Visit	Ganga Barrage Kanpur	Students	Ms Shivani Koshtha	3rd Week of January 26	Proposed	
15.	Invited Lecture	-	Students	Mr. Jaiprakash Nayak	1st Week of Feb 26	Proposed	
16.	Invited Lecture and Sports Events	Prof. Sunil Kumar	Faculty & Students	Ms Shivani Koshtha	4th week of Feb 26	Proposed	
17.	Industrial Visit	MD, Kanpur Metro	Students	Mr. Jaiprakash Nayak	1st Week of March 26	Proposed	
18.	FDP/STC/Workshop	-	Faculty & Students	Dr. Rajiv Ganguly	March 26	Proposed	
19.	2 days training program for non- teaching staffs at university level.	HBTU Kanpur	Staff	Mr. Jaiprakash Nayak	2nd week of April 26	Proposed	
20.	Workshop and Cultural program	Nirmaan	Faculty & Students	Ms Shivani Koshtha	2nd week of April 26	Proposed	
21.	Seminar &Technical session	Ex. Engineer Lecture	Students	Ms Shivani Koshtha	2nd week of April 26	Proposed	

(Dr. Deepesh Singh)
Professor & Head Department
of Civil Engineering,

1. Faculty Development Programm (FDP) titled "Innovative Approaches in Dynamics of Soils and Structures": 21st to 25th July 2025

Summary Report

of

One Week Faculty Development Program

on

Innovative Approaches in Dynamics of Soils and Structures

21st July 2025 – 25th July 2025

Organized by

Department of Civil Engineering

Harcourt Butler Technical University, Kanpur

DAY 1 – INAUGURATION AND TECHNICAL SESSIONS

TECHNICAL SESSION SPEAKERS:

1. **Prof. Chinmoy Kolay, IIT Kanpur - Hybrid Simulation: An Advanced Experimental Technique for Assessing Multi-Natural Hazard Performance of Structural Systems**
2. **Dr. Rajib Saha, NIT Agartala- Earthquake Geotechnical Physical Experimental Studies**

The inaugural day of the One Week Online Faculty Development Program (FDP) on "Innovative Approaches in Dynamics of Soils and Structures," organized by the Department of Civil Engineering, Harcourt Butler Technical University (HBTU), Kanpur, commenced on July 21, 2025. This FDP serves as a collaborative platform to explore advanced interdisciplinary approaches and recent innovations in geotechnical and structural dynamics. The event began with a formal welcome address delivered by Dr. Kavita Tandon, Assistant Professor at HBTU Kanpur and Co-Convenor of the FDP, who introduced the program's objectives, themes, and its vital role in addressing contemporary challenges in infrastructure resilience, sustainability, and earthquake-resistant design.

The inaugural session was graced by Hon'ble Vice Chancellor Prof. Samsher, Pro Vice Chancellor Prof. Dipteek Parmar, and Guest of Honour Prof. Vinay Pratap Singh. Prof. Singh, in his address, emphasized the need for dynamic analysis in modern civil engineering and applauded the FDP for integrating research with advanced experimental and computational techniques. The program schedule was officially introduced, highlighting expert lectures and technical sessions planned throughout the week, covering domains such as nonlinear geomaterial behavior, hybrid structural systems, wind-soil-structure interaction, real-time hybrid simulations, and coupled thermo-hydro-mechanical modeling.

The first technical session of the day featured Prof. Chinmoy Kolay from the Department of Civil Engineering, IIT Kanpur, who delivered a highly engaging and insightful lecture on "Hybrid Simulation: An Advanced Experimental Technique for Assessing Multi-Natural Hazard Performance of Structural Systems." Prof. Kolay introduced the concept

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of hybrid simulation and its evolution as an experimental methodology that integrates physical substructures with numerical modeling in real-time. He presented various applications where hybrid simulation was applied for seismic, wind, and tsunami hazard scenarios. The lecture explored the strengths of this technique in evaluating structural performance under multi-hazard loading and discussed its critical role in addressing complex Soil–Structure Interaction (SSI) problems. Participants gained exposure to benchmark case studies, validation methods, and control algorithms that enable the accurate execution of hybrid simulation in laboratory environments. The lecture concluded with a discussion on future challenges and research prospects in this emerging field.

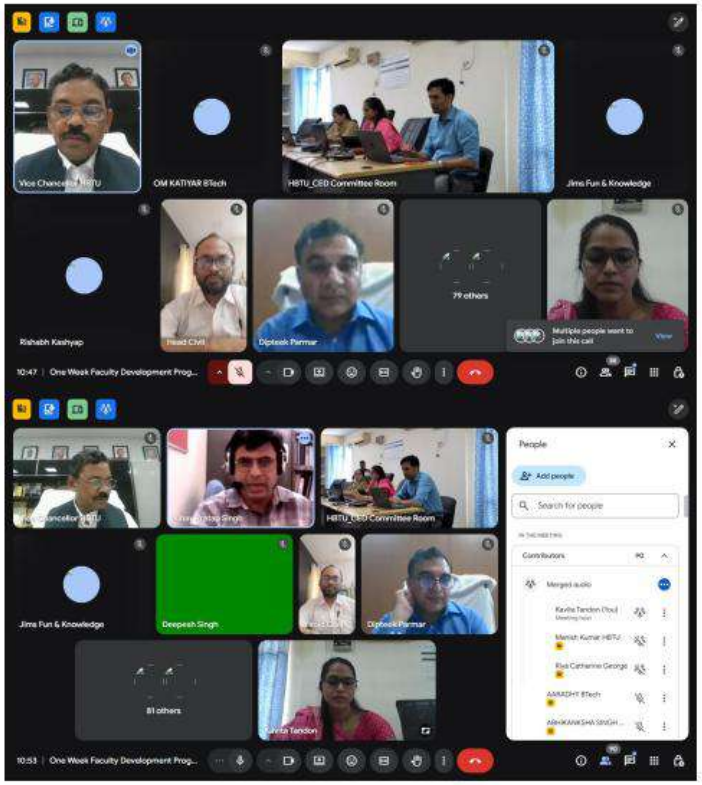
The second technical session was delivered by Prof. Dr. Rajib Saha, Professor and Dean of Academic Affairs at NIT Agartala, who presented his extensive research on the behavior and design of Combined Pile-Raft Foundation (CPRF) systems under combined and seismic loading. Prof. Saha began by contextualizing the growing need for robust foundation systems in response to urban vertical expansion and seismic vulnerability. He discussed CPRF as a hybrid foundation system offering significant resistance to differential settlement and dynamic loading. His presentation covered several decades of experimental and numerical research, including case studies from international projects such as the Messeturm building in Germany.

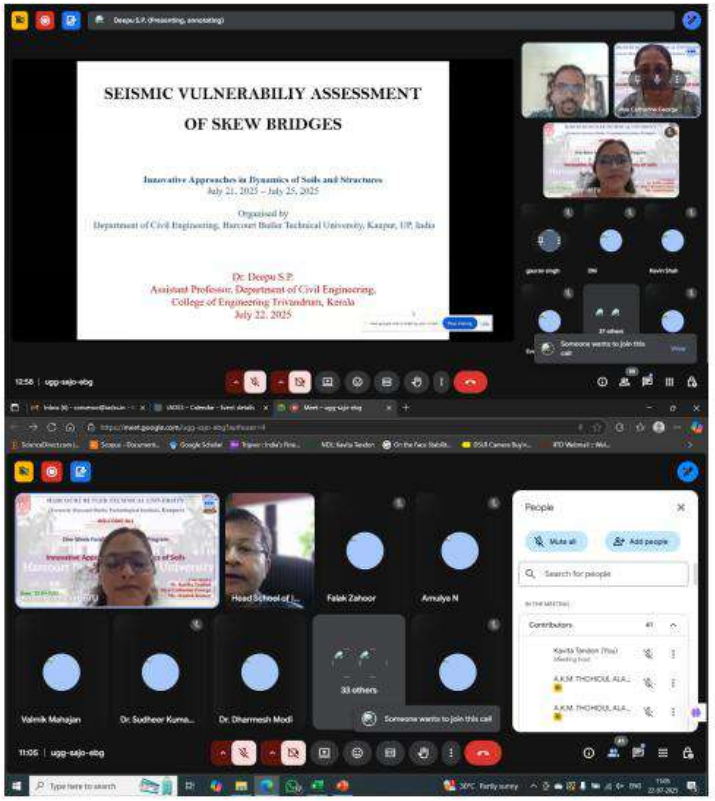
Prof. Saha elaborated on interaction phenomena such as raft-soil, pile-soil, and pile-raft interplay, and presented failure envelopes derived from physical modeling and shake table testing. He highlighted the importance of settlement control, creep piling, and capacity estimation techniques based on IS 19117:2025 code. His discussion on coupled VMH loading and pile-soil-structure interaction under seismic excitation provided valuable insights into the dynamic response of foundations. The session was well appreciated by the participants and moderators alike, and Prof. Saha assured that presentation materials would be shared along with recordings. The session concluded with engaging Q&A interactions and acknowledgment of the lecture's depth by fellow experts.

Overall, Day 1 of the FDP set a high academic standard and provided participants with a deep understanding of both experimental and practical challenges in dynamic geotechnical and structural systems. The sessions emphasized the interdisciplinary essence of the FDP and laid the groundwork for continued exploration in the upcoming days. The organizing team reiterated the importance of feedback submissions and announced the next session scheduled for July 22, 2025.

GLIMPSES OF THE FDP

INNOVATIVE APPROACHES IN DYNAMICS OF SOILS AND STRUCTURES





2. One day Workshop on Geospatial Technology Products by APSL Solutions including Surveying Mapping Instruments: August 30, 2025

Department of Civil Engineering

Harcourt Butler Technical University, Kanpur

REPORT ON PRODUCT DEMONSTRATION & WORKSHOP

Date: *Saturday, 30th August 2025.*

Venue: *Civil Engineering Department Lecture Hall, HBTU Kanpur.*

The Department of Civil Engineering, HBTU Kanpur, in collaboration with APSL Solutions LLP (Exclusive Distributor of Satlab, Sweden), successfully organized a Product Demonstration and Workshop on Advanced Geospatial Instruments on 30th August, 2025.

The event commenced with a warm welcome to all the dignitaries and participants. Esteemed guests in attendance included: Prof. D. Parmar, Professor, Civil Engineering Department, Jaiprakash Nayak, Coordinator, Civil Engineering Department, Kajol Priya, Co-coordinator, Civil Engineering Department. Mr. Tarun Raj Singh, Guest-faculty, Civil Engineering Department., Mr. Harshit Verma, Guest-faculty, Civil Engineering Department, Mr. Ashish Katiyar, Guest-faculty, Civil Engineering Department, Mr. Rajnish Singh, Guest-faculty, Civil Engineering Department, Faculty members and coordinators of the Civil Engineering Department, and Mr. Arvind Pandey, M/s American Technologies, Sultanpur (U.P.), Mr. Sandeep Kumar, Director Sales & Marketing, APSL Solutions LLP, Research scholars, PhD candidates, and undergraduate students

The workshop highlighted the latest advancements in geospatial surveying technologies, focusing on instruments such as: Total Station, RTK DGPS, Laser-Based RTK DGPS. Experts demonstrated the working principles, applications, and advantages of these instruments in modern civil engineering practices. Students and scholars were given hands-on exposure, enhancing their understanding of precision mapping, surveying, and real-world construction applications.

The session concluded with an interactive Q&A, where participants engaged with the experts to clarify technical aspects. Faculty members appreciated the industry-academia collaboration and emphasized the importance of such practical demonstrations in bridging the gap between classroom learning and field applications.

The event proved to be highly beneficial, equipping students with insights into advanced surveying instruments and their role in shaping the future of civil engineering.

PHOTOGRAPHS OF THE EVENT

From Left:
Mr. Shyam sundar, Mr. Amit Singh, Mr. Arvind Pandey, Mr. Sandeep kumar, Mr. Jaiprakash Nayak, Ms. Kajol priya, Mr. Rajneesh singh, Mr. Ashish Katiyar, Mr. Harshit Verma

3. Industrial visit of final year students at Water Treatment Plan, Ganga Barrage, UP Jal Nigam (Urban): September 12, 2025

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Report on Industrial Visit to Water Treatment Plant

Date of Visit: 12th September 2025

Venue: 200 MLD Water Treatment Plant, Ganga Barrage, U.P. Jal Nigam (Urban), Kanpur

Organized by: Department of Civil Engineering, HBTU Kanpur

Accompanied by: Ms. Kajol Priya and Mr. Jai Prakash Nayak, Assistant Professors

Students Attended: B.Tech Final Year (Civil Engineering), 35 students

1. Introduction

The Department of Civil Engineering, HBTU Kanpur, organized an industrial visit to the 200 MLD Water Treatment Plant located at Ganga Barrage, Kanpur, operated by U.P. Jal Nigam (Urban). The visit aimed to provide students with firsthand exposure to water purification systems and modern treatment techniques employed for large-scale urban water supply.

2. Objectives of the Visit

To observe and understand the various stages involved in the treatment of raw water from the Ganga River.

To study the design and operation of a 200 MLD capacity treatment facility.

To relate theoretical concepts of water treatment learned in the classroom with real-time practical processes.

To understand the principles of sustainable and safe water management adopted by U.P. Jal Nigam.

3. Overview of the Plant

The Ganga Barrage Water Treatment Plant plays a vital role in supplying potable water to the city of Kanpur. The plant treats raw water drawn from the Ganga River using conventional and advanced treatment methods. The facility operates under U.P. Jal Nigam (Urban) and has a designed capacity of 200 million liters per day (MLD).

4. Treatment Process Observed

During the visit, students observed the following major units of the treatment process:

1. Intake Structure: Collection of raw water from the Ganga River through coarse screening.

2. Coagulation and Flocculation: Addition of alum for particle aggregation under controlled mixing.

3. Sedimentation Tanks: Removal of suspended solids and flocs through gravity settling.

4. Filtration Units: Multi-layer sand filters for removal of fine impurities.

5. Disinfection: Chlorination to eliminate pathogens and ensure water safety.

6. Clear Water Reservoir and Pumping Station: Storage and distribution of treated water to the city supply network.

5. Key Learnings

Insight into large-scale operation and maintenance of water treatment systems.

Understanding the importance of process efficiency, chemical dosing, and monitoring parameters.

Awareness of environmental regulations and the role of Jal Nigam in public health protection.

Real-time exposure to automation and control systems used in modern treatment facilities.

6. Conclusion

The industrial visit to the 200 MLD Water Treatment Plant at Ganga Barrage, Kanpur was highly informative and beneficial for the students. It provided a comprehensive understanding of how theoretical knowledge is applied in actual water treatment operations. The visit enhanced students' technical skills and motivated them to pursue innovative approaches to sustainable water resource management.

7. Acknowledgment

The Department of Civil Engineering, HBTU Kanpur, sincerely thanks the Executive Engineer and staff of U.P. Jal Nigam (Urban), Ganga Barrage Kanpur, for their cooperation and detailed explanation during the visit. We also express our gratitude to Prof. Deepesh Singh, Head of Civil Engineering Department for his support and guidance provided for conducting this visit.

Ms. Kajol Priya, Assistant Professor

Mr. Jai Prakash Nayak, Assistant Professor

4. Organized Engineer's Day program on 15th September 2025: 15 September 2025

The Civil Engineering Department of HBTU Kanpur organized a grand celebration on the occasion of **Engineers' Day** on **15th September, 2025** to commemorate the birth anniversary of **Bharat Ratna Sir M. Visvesvaraya**, one of the greatest engineers of India.

The event was graced by the presence of **Chief Guest Prof. B. L. Singh Sir**, **Guest of Honour Prof. H. S. Niranjan Sir**, and **Head of Department Prof. Deepesh Sir**, along with the **esteemed faculty members** and **students of the Civil Engineering Department**.

The program commenced with a warm welcome address, followed by speeches highlighting the significance of Engineers' Day and the invaluable contributions of engineers to society. Students showcased their talents through a series of **cultural and literary performances**, which added vibrancy and enthusiasm to the celebration.

A **Poster Presentation Competition** was also organized as part of the event, where students displayed innovative ideas and creative designs reflecting engineering concepts and societal issues. The winners of the competition were **awarded prizes** by the dignitaries in recognition of their excellence and creativity.

Towards the conclusion of the event, the **faculty and staff members of the Civil Engineering Department were honoured** for their continued dedication, hard work, and valuable contributions to the department's academic and institutional growth.

The event concluded with a **vote of thanks**, expressing heartfelt gratitude to all the guests, faculty members, staff, and students for their active participation and collective efforts in making the celebration a memorable and successful one.

5. Industrial Visit: 15th October 25

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Report on Site Visit to Fire-Damaged Humraz Complex

Department of Civil Engineering
Date of Visit: 15 October 2025
Location: *Humraz Complex, Basmandi, Kanpur*
Guided by: *Mr. Manish Kumar,*
Accompanied by: *Dr. Kavita Tandon, Dr Riya Catherine George and Dr. Rajiv Ganguly*
Participants: Final Year and Third Year B.Tech. (Structural Fire Engineering) Students

1. Purpose of Visit

The visit was organized under the guidance of our respected Head of Department, **Prof. Deepesh Singh**, to provide students with hands-on experience in post-fire structural evaluation and non-destructive testing (NDT) techniques. The **Humraz Complex**, located at Basmandi, was selected as the site for inspection since it had been damaged by fire three years ago.

The objectives of the visit were:

- To conduct a visual inspection of the fire-damaged structure.
- To perform Rebound Hammer and Ultrasonic Pulse Velocity (UPV) tests.
- To understand the nature of fire-induced damages and assess the current structural condition.

2. Activities Conducted

Students performed hands-on training on the following instruments:

- Rebound Hammer Test – for surface hardness and estimation of in-situ compressive strength of concrete.
- Ultrasonic Pulse Velocity (UPV) Test – for evaluating the quality and homogeneity of concrete.
  Additionally, a comprehensive visual inspection of the entire building was carried out under faculty supervision.

4. Visual Inspection Summary

a. Type of Structure and Materials

- The building is an RCC framed structure with panelled brick masonry walls.
- The structure comprises one basement, a ground floor, and five upper floors used for commercial purposes.

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100 YEARS 1921 - 2021

- No records of concrete or steel grades are available; however, based on exposure and construction era, Fe-415 grade steel was identified.
- Many partition walls (75 mm brick on edge) have suffered partial or complete damage.

b. Quality of Construction

- Construction quality is average, with visible lack of cover to reinforcement in several areas.
- Materials used are of good quality, and no major material deterioration has been noted beyond fire-affected regions.

c. Finishing and Coatings

- Poor maintenance is evident; rust-based spalling is observed near rainwater pipes.
- Plaster thickness on columns and beams exceeds standard practice.
- Overall finishing is average, except in fire-damaged zones.

d. Spalling

- Spalling is widespread in RCC members due to thermal expansion of reinforcement.
- Some areas also show spalling caused by corrosion near rainwater pipes.

e. Settlement of Foundations

- No signs of foundation settlement were detected during basement inspection.

f. Sagging of Beams and Slabs

- Multiple instances of sagging observed, caused by thermal effects and loss of bond between concrete and reinforcement.

g. Leaning of Columns

- No columns were found to be leaning; apparent lean in some was due to spalling.

h. Dampness

- Minor dampness noted near vertical rainwater downpipes; otherwise, no major dampness observed.

i. Efflorescence

- One instance of efflorescence was noticed at the basement level only.

j. Peeling of Plaster

- Peeling is confined to fire-affected zones, mainly due to heat-induced expansion or beam sagging.

k. Termite and Ant Colonies

- Effects observed in basement and ground floor areas in contact with soil.

l. Rodent Holes

- No rodent holes were found during inspection.

5. Learning Outcomes

- Students gained practical exposure to fire damage assessment techniques.
- They learned how to interpret visual and NDT findings to evaluate structural integrity.
- The visit strengthened their understanding of post-fire rehabilitation and repair methods.

6. Conclusion

The site visit to Humraz Complex provided valuable insights into real-life structural assessment of fire-damaged buildings. The students actively participated in the NDT tests and inspection activities, enhancing their practical understanding of structural evaluation, safety considerations, and remedial engineering measures.

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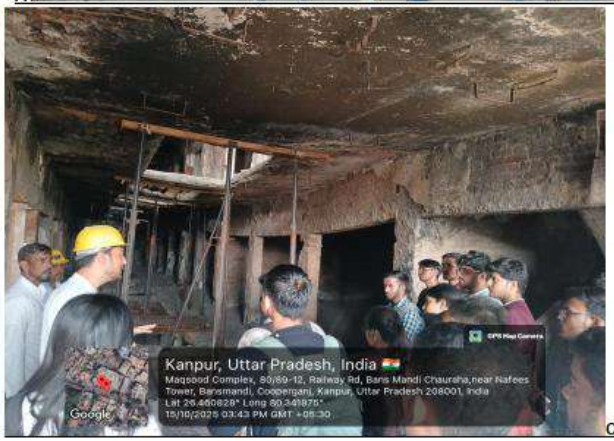

OTOGRAPHS


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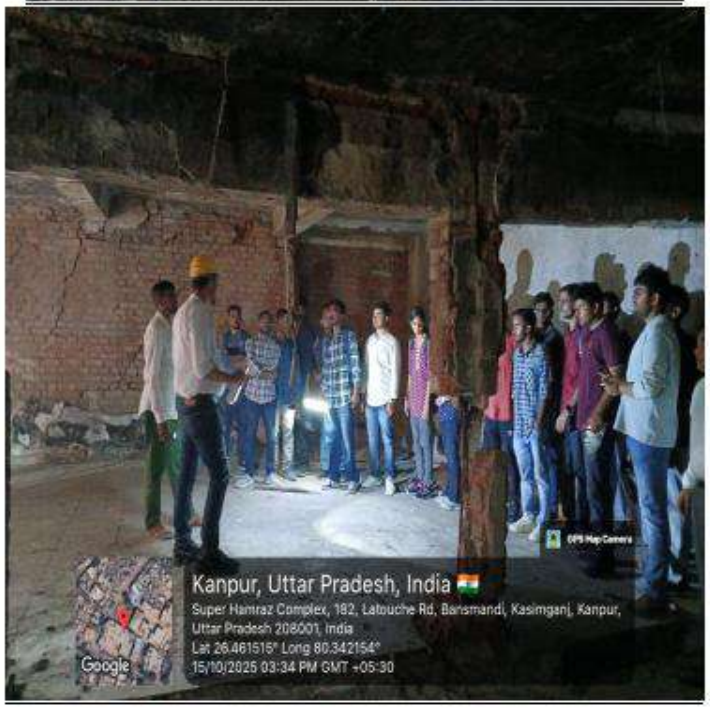
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