

**REQUEST FOR FINANCIAL GRANT FOR
HOLDING TECHNICAL ACTIVITIES**



For use by Headquarters (Programme code):

Divn. Board	Financial Year				Programme type	Programme No.			

Name of the Centre:	Durgapur Local Centre		
Proposed Programme: <i>(strike out which are not applicable)</i>	Seminar		
Title of the Programme:	Seminar on “Advancements in Machine Learning for Structural Engineering: From Identification to Design”		
Under the aegis of which Divisional Board:	CV Division		
Date:	21 August 2024	Venue:	Dr. B.C. Roy Engineering College, Durgapur
Associate organization (if any):			

Brief Write-up about the programme (About 300 words)

Objective:

The seminar titled “Advancements in Machine Learning for Structural Engineering: From Identification to Design” is designed to provide a comprehensive platform for students, researchers, and academicians to share insights and discuss the application of machine learning in the field of structural health monitoring. The seminar will cover some examples and review the existing challenges and open questions in this field.

Monitoring structural degradation is crucial for maintaining and prolonging the operational lifespan of civil constructions. Monitoring is essential for obtaining reliable information on structures' health, safety, and integrity, but ensuring continuous performance requires monitoring the formation, propagation, and occurrence of damage. Structures can sustain damage due to a variety of environmental and human factors. This seminar shall provide valuable insights and knowledge to attendees about numerous monitoring and detection approaches developed to provide practical means for early warning against structural damage or any anomaly.

The Indian government has launched the National Bridge Health Monitoring System (NBHMS) to keep track of the health of the bridges throughout the country. The main objective of this system is to gather data on different parameters including strain, deformation, and traffic loadings to evaluate the condition of bridges and prioritize maintenance and repair work. Various SHM techniques, including sensors to measure dam deformation, seepage, and internal stresses, detect early signs of deterioration and prevent potential failures. As part of the Smart Cities Mission, many cities in India have deployed Structural Health Monitoring (SHM) system to keep a check on the stability of public buildings, bridges, and other important infrastructures. This seminar will provide valuable knowledge to students about India's present status in Structural Health Monitoring (SHM), the challenges faced by engineers, and how they can address those challenges.

The Sub themes:

- **Importance of SHM**
- **Various SHM techniques**
- **Importance of Machine Learning Approach**
- **Open challenges and probable feasible solutions**

For Use by Chairman, Division Board, Chairman, CATE and Headquarters:

Put-up to Chairman, Division Board on:		Comments of Chairman, Division Board received on:	
Comments of Chairman Div. Board:	Approved / Not Approved / To be Revised		
Suggested Revision (if any):			
Put-up to Chairman, CATE on:		Comments of Chairman, CATE received on:	

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Comments of Chairman, CATE:	Approved / Not Approved / To be Revised
Suggested Revision (if any):	
Information to Centre about decision or to incorporate suggested revision (if any) on:	

NOTICE

Dr. B. C. ROY ENGINEERING COLLEGE DURGAPUR

DEPARTMENT OF CIVIL ENGINEERING

DATE- 21 AUG 2024

This is to notify all the students that the Department of Civil Engineering and IEI Students' Chapter, in Association with the Institution of Engineers (India) Durgapur Local Centre will organize a Seminar, titled "Advancements in Machine Learning for Structural Engineering: From Identification to Design" on 28 August 2024, 10:00 am onwards. Find the poster alongside this notice to register. Contact Dr. Sayantan Dutta and Mr. Soumyadip Das for more details.

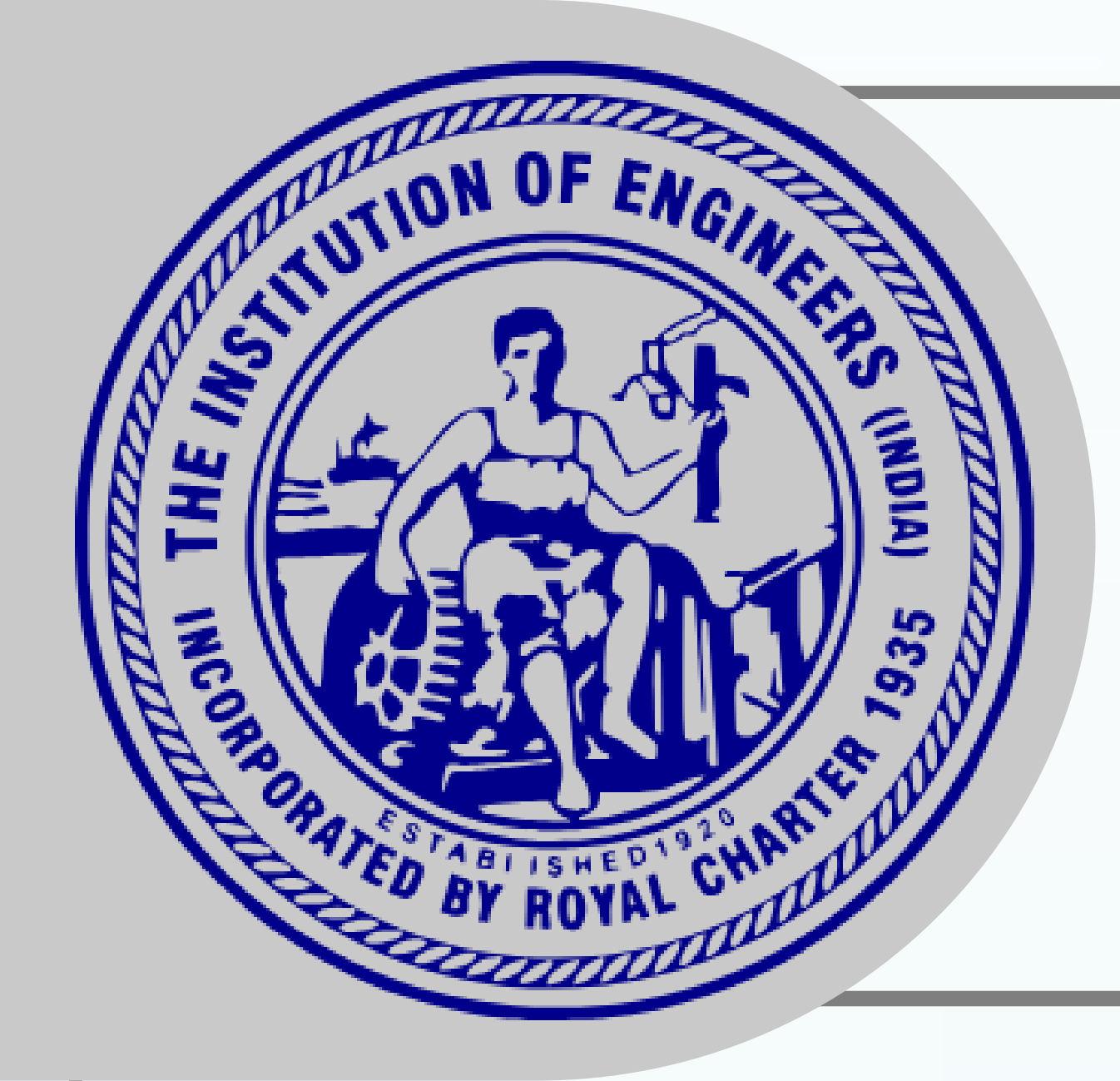
Sanjay Sengupta

Prof. (Dr.) Sanjay Sengupta,

Professor & Head,

Department of Civil Engineering, BCREC





DR. B. C. ROY ENGINEERING COLLEGE DURGAPUR

AN AUTONOMOUS INSTITUTE (APPROVED BY AICTE & AFFILIATED TO MAKAUT,WB)



ONE DAY SEMINAR

On

“Advancements in Machine Learning for Structural Engineering : From Identification to Design”

Organizers

IEI STUDENTS' CHAPTER CV DIVISION
DR. B.C. ROY ENGINEERING COLLEGE, DURGAPUR

THE INSTITUTION OF ENGINEERS (INDIA)
DURGAPUR LOCAL CENTRE

Resource Persons



Dr. Alope Kumar Datta
NIT Durgapur



Dr. Gour Sundar Mitra Thakur
Dr. B.C. Roy Engineering College, Durgapur



Dr. Dipankar Dutta
University Institute of Technology

Coordinators:

Prof.(Dr.) Sayantan Dutta (9474992729)

Prof. Soumyadip Das (7908017716)

Link For Registration: <https://forms.gle/5Eby3NJPzNvYdtku5>



28TH AUGUST 2024

(WEDNESDAY)

10 AM



Seminar Hall, APC Roy Bhawan
Dr. B.C. Roy Engineering College

Report on Seminar on Advancements in Machine Learning for Structural Engineering: From Identification to Design

Date of Visit: 28th August, 2024

Venue: Seminar Hall of APC Roy Bhawan, Dr. B.C. Roy Engineering College

Participants: 80 Students (Civil Engineering, Dr. B.C Roy Engineering College)

Faculty Co-ordinators:

- Dr. Sayantan Dutta
- Prof. Soumyadip Das

The Civil Engineering Division Board of the Institution of Engineers (India), Durgapur Local Centre, in association with the Department of Civil Engineering at Dr. B.C. Roy Engineering College, Durgapur, organized a one-day “**Advancements in Machine Learning for Structural Engineering: From Identification to Design**” seminar on **August 28, 2024**, at the Seminar Hall of APC Roy Bhawan, Dr. B.C. Roy Engineering College in front of students and other guests.

The seminar featured several dignitaries, including Prof. (Dr.) Sanjay S. Pawar, Principal of Dr. B.C. Roy Engineering College, who served as the Chief Guest. Prof. (Dr.) Sanjay Sengupta, Professor and Head, Department of Civil Engineering, Dr. B.C. Roy Engineering College, Durgapur, was the Guest of Honour. The Guest Speakers were Dr. Alope Kumar Datta, Associate Professor, Department of Civil Engineering, National Institute of Technology, Durgapur, West Bengal, Dr. Dipankar Dutta, Associate Professor, Department of Computer Science & Engineering, University Institute of Technology, Burdwan, and Dr. Gour Sundar Mitra Thakur, Associate Professor & Head, Department of CSE(AIML) Dr. B. C. Roy Engineering College, Durgapur. Dr. Bimal Das (Honorary Secretary, IEI DLC), Mr. Debi Prasad Das (Convener, IEI DLC, CV Division), Mr. Manik Banerjee, Mr. Sandip Das, and Mr. Raj Mukherjee were present, representing The Institution of Engineers India, Durgapur Local Centre. The seminar was attended by faculty, students, and members of the IEI Durgapur Local Centre. Around 80 students attended this seminar.

The program began with a warm welcome to the distinguished speakers by the host, Chaudhary Fahim Ahmed, a Student of Dr. B.C. Roy Engineering College, Durgapur. Dr. Sayantan Dutta, the event coordinator, opened the seminar with an introductory address, in which he greeted the audience and briefly outlined the seminar's aims and objectives.

Mr. Debi Prasad Das, Convener of the Civil Engineering Division Board (CVDB) at IEI, Durgapur Local Centre (DLC), then extended a warm welcome to the dignitaries, faculty members and students of Dr. B.C. Roy Engineering College, Durgapur. He emphasized the significance of the seminar, noting that Machine Learning has great importance nowadays as it deals with critical problems in very less time and its predictive nature can easily help us to get information related to the health monitoring of Civil Engineering structures.

The Chief Guest, Dr. Sanjay S. Pawar, emphasized the critical role of technology and talked about the importance of Artificial Intelligence in the field of interdisciplinary research work. He also highlighted the importance of inspiring future generations of engineers to focus on learning these technologies.

The Guest of Honour, Prof. (Dr.) Sanjay Sengupta, shed light on the Health Monitoring of Civil Engineering Structures, which has always been a matter of importance to modern civilization and how the Ai tools are helping civil engineers to gain insights into the structures.

Mr. Bappaditya Das, Institutional Coordinator of IEI Students Chapter from Dr. B.C. Roy Engineering College Felicitated the IEI DLC members with a token of appreciation. Dr. Bimal Das, Honorary Secretary, IEI DLC, delivered the vote of thanks of the inaugural session.

The Guest Speaker, Dr. Alope Kumar Datta, delivered an insightful talk, where he focussed on the recent works that has been conducted in the SHM Lab of NIT Durgapur. In his research works, he has applied various machine-learning techniques in several structures like rail sections, concrete slabs, frames, and truss structures. Moreover, he and his research scholars have developed a few AI models, which have been applied to the practical data, collected from the Durgapur railway station. These kinds of works have the potential to be included in the codes provided by Indian Standards.

Dr. Dipankar Dutta, the second guest speaker, introduced the concept of Machine Learning and its different types. With his experience in this field, he showed how much relevant AI tools are in the field of Engineering. He also showed that he along with his students have applied the practical data of a road section in an AI tool to provide solutions to the road users.

The third guest speaker, Dr. Gour Sundar Mitra Thakur, delivered a presentation on the challenges and opportunities of machine learning and its various types in civil engineering applications. He showed how to begin with the machine learning tools as a civil engineer, to solve the practical problems.

After an engaging presentation and interactive discussion with all attendees, Mr. Soumyadip Das, Assistant Professor, Department of Civil Engineering, Dr. B. C. Roy Engineering College, Durgapur expressed his gratitude with a vote of thanks.




 **GPS Map Camera**



Durgapur, West Bengal, India
First Year Academic Building, B C Roy Engineering College, Fuljhore Road, Kaliganj, Durgapur, West Bengal 713206, India
Lat 23.54355°
Long 87.3438°
28/08/24 10:30 AM GMT +05:30



 GPS Map Camera



Durgapur, West Bengal, India

First Year Academic Building, B C Roy Engineering College, Fuljhore Road,

Kaliganj, Durgapur, West Bengal 713206, India

Lat 23.54355°

Long 87.3438°

28/08/24 10:31 AM GMT +05:30



GPS Map Camera



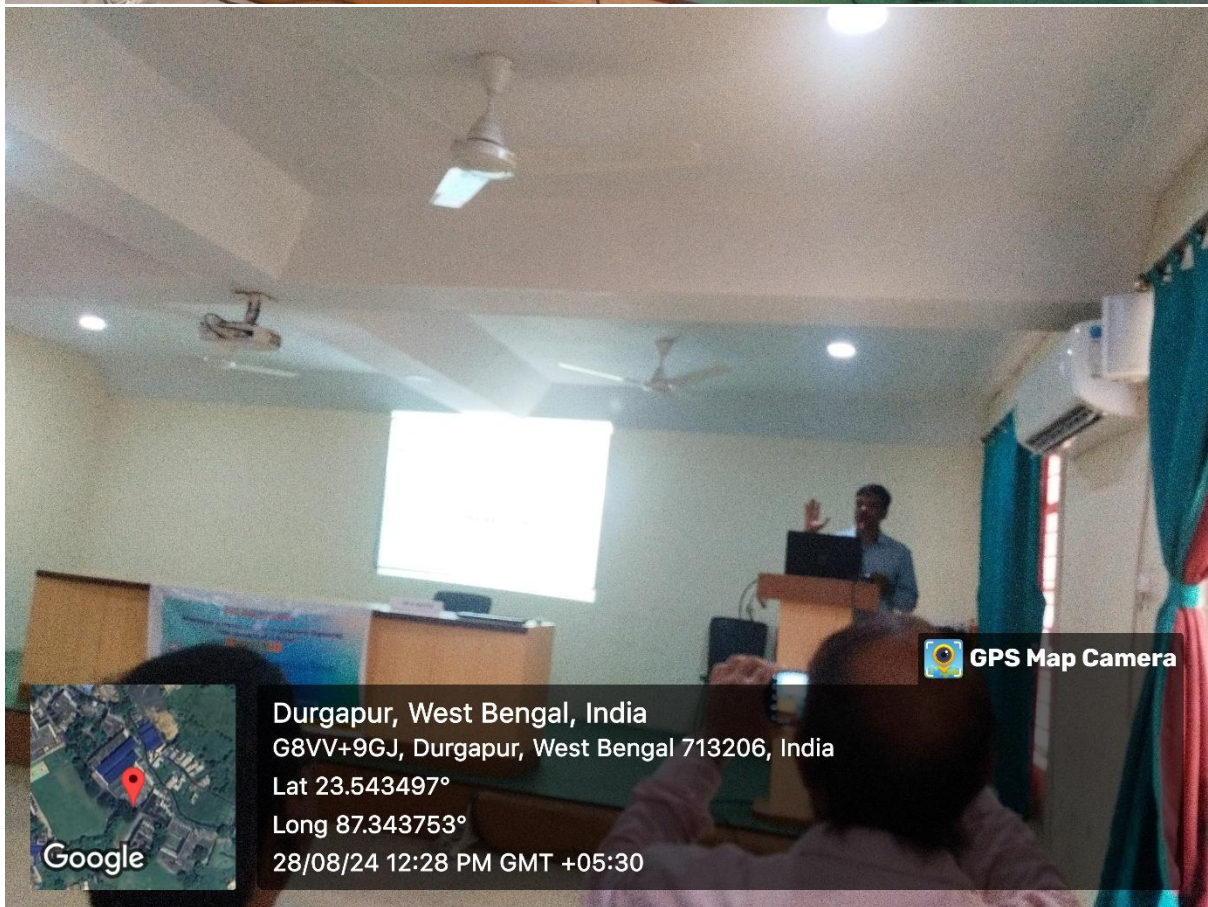
Durgapur, West Bengal, India
G8VV+9GJ, Durgapur, West Bengal 713206, India
Lat 23.543476°
Long 87.343736°
28/08/24 10:35 AM GMT +05:30



GPS Map Camera



Durgapur, West Bengal, India
G8VV+9GJ, Durgapur, West Bengal 713206, India
Lat 23.543476°
Long 87.343736°
28/08/24 10:35 AM GMT +05:30







Date: 23-Aug-2024

To: The Principal

From: Coordinator, IEI Students' Chapter, BCREC



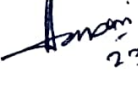
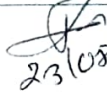
Sub: Request for Budget Approval for Seminar under the IEI Students' Chapter (CV Division)

Dear Sir,

This is to inform you that the IEI Students' Chapter of BCREC will organize a Seminar for the students on **28th August 2024** in the presence of external speakers on the topic "**Advancements in Machine Learning for Structural Engineering: From Identification to Design**". To conduct the program successfully, an amount of **Rs. 12000/- (Twelve Thousand Only)** in the following heads is required;

Sl No.	Budget Head	Tentative Amount (Rupees)
1	Banner and Bouquets	850
2	Refreshments and gifts	11000
6	Miscellaneous	150
Total – Rs. 12000 (Twelve Thousand Only)		

Therefore, it is requested to kindly sanction the amount of Rs. 12000/- (Twelve Thousand Only) from the institutional IEI students' chapter fund (available amount is around Rs. 40000/-). A registration fee of Rs. 50 for each will be collected from the participants for the program. On the completion of the program, IEI will also provide some token money. Dr. Sayantan Dutta and Soumyadip Das will be the coordinators.

Forwarding office	Remarks	Comments by other offices required for clarifications/comment	Signature with Date
Institutional coordinator of the IEI students' chapter			 23/08/2024
Registrar	The amount of Rs. 12000/- may be sanctioned from the available fund of Rs. 40000/-.		 23/8/2024
Vice Principal	Recommended for further approval		 23/8/2024
Principal	Recommended for the expenses		 23/08/2024

Dr. B. C. Roy Engineering College Durgapur
Department of Civil Engineering
Attendance Sheet for Departmental Activities

Seminar/ Workshop- "ADVANCEMENTS IN MACHINE LEARNING FOR STRUCTURAL ENGINEERING: FROM IDENTIFICATION TO DESIGN"

Date- 28-08-2024

SL NO.	Name	University Roll No.	Signature of Student
1	Saket Kumar	12001323014	Saket Kumar
2	Arghadip Dey	12001323034	Arghadip Dey
3	Kaif Ali Khan	12001323007	Kaif Ali Khan
4	Souvik Kar	12001322021	Souvik Kar.
5	Aihik Mahinder	12001321027	Aihik Mahinder
6	Hrishikesh Raj	12001323004	Hrishikesh Raj
7	Koushik Mahata	12001321023	Koushik Mahata
8	Suman Ghosh	12001322045	Suman Ghosh
9	Sandhaya Kumari	12001323015	Sandhaya Kumari
10	Muskan Nisha	12001321035	Muskan Nisha
11	Chaudhary Fahim Ahmad	12001323042	Chaudhary Fahim Ahmad
12	Pralay Kanti Dan	12001322004	Pralay Kanti Dan
13	Nabajyoti Haldar	12001322002	Nabajyoti Haldar
14	Ranajit Ruhidas	12001323050	Ranajit Ruhidas
15	UDIT SARKAR	12001323029	Udit Sarkar
16	PALASH MONDAL	12001323047	Palash Mondal
17	Tuhin Chatterjee	12001323061	Tuhin Chatterjee
18	Akash Ganguly	12001322001	Akash Ganguly
19	AYUSH KUMAR KESHRI	12001323039	Ayush Keshri
20	Somnath Sen	12001322015	Somnath Sen
21	Shruti Das	12001323027	Shruti Das
22	NAWED SHAKIL	12001322011	Nawed Shakil
23	Aditya madhukar	12001322012	Aditya Madhukar
24	Tridib Laha	12001323060	Tridib Laha
25	Arghya Mukherjee	12001323035	Arghya Mukherjee
26	PRITIKA BARMAN	12001323048	Pritika Barman
27	DEVSMRITI MAJEE	12001323043	Devsmriti Majee
28	Dhirendra Kumar	12001322009	Dhirendra Kumar
29	Shyam Sundar Roy	12001323028	Shyam Sundar Roy
30	AKASH RAJAK	12001322014	Akash Rajak
31	ATANU DE	12001323025	Atanu De
32	UTSAB MITRA	12001322010	Utsab Mitra

33	Ashutosh Badhuk	12001321004	Ashutosh Badhuk
34	Arghajit Gan	12001322025	Arghajit Gan.
35	SUKESH MAHATO	12001322007	Sukesh Mahato
36	Sneha Karmakata	12001322033	Sneha Karmakar
37	Rimpa Garai	12001323051	Rimpa Garai
38	MANAS SAHA	12001322018	Manas Saha.
39	Sudipta Ghosh	12001322017	Sudipta Ghosh.
40	ANINDYA CHATTERJEE	12001322032	Anindya Chatterjee
41	Abhijit Sar	12001322023	Abhijit Sar.
42	ANKITA KUNDU	12001322020	Ankita Kundu.
43	Mamun Rahaman	12001321006	Mamun Rahaman
44	Ayush Anand	12001321077	Ayush Anand
45	Shuvam Majee	12001322028	shuvam majee
46	Neha Bhattacharjee	12001322019	Neha Bhattacharjee
47	Riyan Sircar	12001321028	
48	ANIRBAN KAR	12001322022	Anirban Kar.
49	Joydeep Mondal	12001322016	Joydeep Mondal
50	SANDIP PAL	12001322035	Sandip Pal
51	SAYAN PATHAK	12001322036	Sayan Pathak
52	Bhairab Maji	12001322029	Bhairab Maji
53	Fotuir Rahaman	12001321001	Fotuir Rahaman
54	Md Ashif Ali	12001323046	Md Ashif Ali
55	Shekhar Mondal	12001323055	Shekhar Mondal
56	Sk Dishan	12001323056	Sk Dishan
57	Ayan Singha	12001323038	Ayan Singha
58	Chinmay Jethi	12001322013	Chinmay Jethi
59	Ashish Kumar	12001322006	Ashish Kumar
60	Ankan Kumar Majumder	12001323033	Ankan Kumar Majumder
61	Sahabuddin Sekh	12001323053	Sahabuddin Sekh
62	Sougata Maji	12001323058	Sougata Maji
63	Saikat Kar	12001323054	Saikat Kar.
64	Soumadeep Dey	12001323059	Soumadeep Dey.
65	Dip Mohanta	12001323044	Dip Mohanta
66	Abhishek Ghosh	12001322003	Abhishek Ghosh
67	Debdeep Basuri	12001322024	Debdeep Basuri
68	Nayna Das	12001322026	Nayna Das.
69	Devanshu Raj	12001322034	Devanshu Raj
70	Shouvik Mondal	12001621067	Shouvik Mondal
71	Shovan Ghosh	12001322005	Shovan Ghosh
72	Ananya Ghosh	12001323031	Ananya Ghosh
73	Arnab Mondal	12001321003	Arnab Mondal

47 Abhimanyu Kumar Ravi 12001322008 Abhimanyu Kumar Ravi

74	Shubham Sourav	12001321030	Shubham Sourav
75	Sujay Bit	12001322047	SuJoy Bit
76	Amardeep Anand	12001321036	Amardeep Anand.

Signature of the Faculty Members Conducting the Seminar/Workshop with Date

1. *Sanjay Sengupta*
2. *Soumyadip Das*
- 3.

4. *Sanjay Sengupta* 25/08/2024
Signature of Host Date & Seal

CIVIL ENGG. DEPT.
Dr. B. C. ROY ENGINEERING COLLEGE
BURGAPUR

