

# 63<sup>RD</sup> | ANNUAL 2022-23 | REPORT

राष्ट्रीय प्रौद्योगिकी संस्थान दुर्गापुर  
NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

An Institute of National Importance under Ministry of Education, Government of India  
Mahatma Gandhi Avenue, Durgapur- 713209, West Bengal, India





**63<sup>rd</sup>**

ANNUAL REPORT  
2022-2023

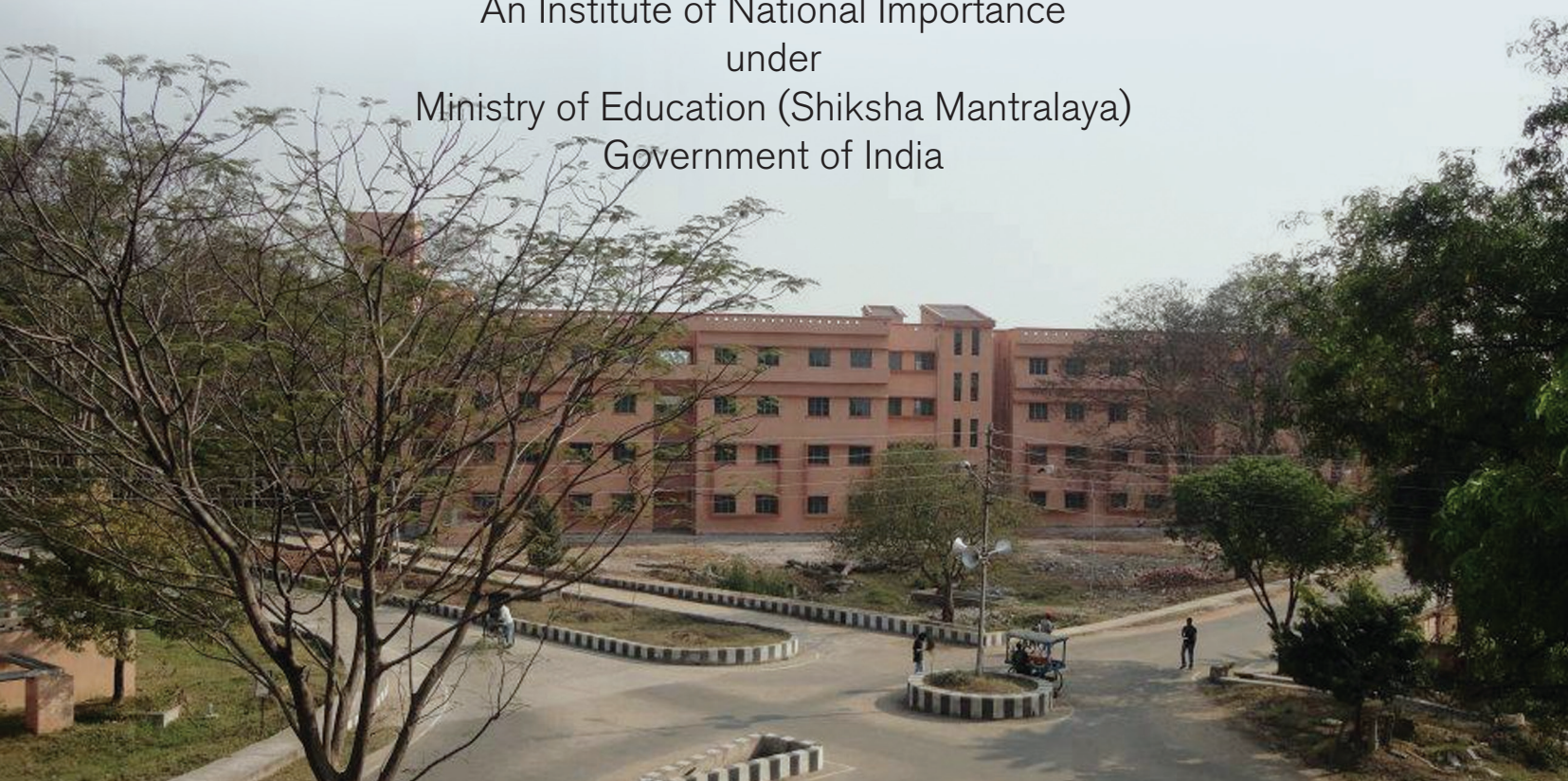
**(April 01, 2022 – March 31, 2023)**



**राष्ट्रीय प्रौद्योगिकी संस्थान दुर्गापुर**  
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Ministry of Education (Shiksha Mantralaya)  
Government of India







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## From Director's Desk



*It is my pleasure to publish the 63rd Annual Report 2022-23 of the Institute highlighting the progress made during the last financial year*



National Institute of Technology Durgapur, an Institute of National Importance fully funded by the Ministry of Education, Government of India, has traditionally been engaged in imparting quality technical education and pursuing active research in cutting edge areas. The students are also encouraged and supported to get initiated to research and innovation early. Curriculum is revised continually to facilitate flexible, multi-disciplinary learning and stimulate pursuance of their passion.

Fourteen Minor programs and eighth semester internship in the industries have been implemented in the B. Tech. program. The revised curriculum and syllabus of all M. Tech. and MBA programs have also been implemented.

The faculty and the students have 637 research articles published/accepted in top peer-reviewed journals in the last year. 66 PhD degrees were awarded. 151 sponsored projects are being executed by the faculty members with sponsored projects from DST, DBT, MEITY, DRDO, MoES, DAE, ICMR, UGC-UKIERI, MNRE, CSIR, ICSSR, etc. It is also a member institute of BRICS Network University Programme under the thematic area "Water Resources and Pollution Treatment". In its pursuit towards strengthening its common research and academic infrastructure and encourage multi-disciplinary research, it is setting up Utkarsha Bhavan through HEFA loan and established four new advanced centres of research.

The efforts by the Institute attaining excellence in academics, research and outreach has been recognised by the NIRF-2023, where it was ranked 43rd in Engineering and 9th among all NITs.

The Institute has also made its mark in its outreach activity through participation in Unnat Bharat Abhiyan (UBA) and Rashtiya Avishkar Abhiyan (RAA) programs. 63 workshops/seminars were organized by various departments of the Institute.

I look forward to further strides of the institute to newer heights.

**Prof. Arvind Choubey**

Director

National Institute of Technology Durgapur





## Progress at a Glance (2022-2023)

- ✦ The faculty members of the Institute have publication 637 research articles/reviews in peer-reviewed journals, and also published 264 papers in proceedings of national and international conferences.
- ✦ 66 PhD degrees were awarded by the Institute.
- ✦ Fourteen Minor programs and eighth semester internship in the industries have been implemented in the B. Tech. program.
- ✦ The revised curriculum and syllabus of all M. Tech. and MBA programs have been implemented.
- ✦ 151 sponsored projects are being executed by the faculty members during the financial year.
- ✦ Faculty members acted as reviewers for 424 peer-reviewed journals.
- ✦ 813 UG & PG students were placed through in-campus interviews in the session 2022-23. In addition to that 93 UG & PG students secured more than one job. 187 companies, including most of the global players, visited the campus to recruit UG students while 106 and 10 companies recruited the M Tech & MSW and MBA students respectively.
- ✦ 63 online/off-line workshops/seminars were organized by various departments of the Institute.
- ✦ 38 new faculty members have been recruited across various disciplines to fill up the vacancies.
- ✦ The 18th Convocation of the Institute was held on October 22, 2022. Padma Shri Prof. Sanghamitra Bandyopadhyaya, Director, ISI Kolkata graced the occasion as the Chief Guest, while Dr. Sibaji Raha, Former Director, Bose Institute was the Guest of Honour. In the 18th Convocation, 726 B. Tech., 281 M. Tech., 29 MBA, 88 MSc, 02 MSW and 71 PhD degrees were awarded.
- ✦ Utkarsha Bhavan, a 10-storied research-academic building, is being constructed with the HEFA loan. It will house four centres of advanced research and central research and common laboratory facilities.
- ✦ Under Unnat Bharat Aviyan, NIT Durgapur acts as the Regional Coordinating Institute for West Bengal and Sikkim with the Perennial Fund Award.
- ✦ Construction of two floors of Sarojini Naidu Hall of Residence for girls have been completed resulting an increase in intake from 510 to 750.



## 1. Introduction

### 1.1 Vision

To impart quality technical education and focus on research and innovation to cater to the need of the country.

### 1.2 Mission

1. To impart quality technical and scientific education and produce engineers, technologists, scientists and citizens who will contribute meaningfully to the growth and development of the country and excel in various disciplines of knowledge.
2. To create a research-oriented teaching-learning environment in the Institute with a focus on excellence and innovation.
3. To embark upon an inclusive growth path committed to the uplift of the community.
4. To have an increased global presence.

### 1.3 Historical Background

National Institute of Technology Durgapur was established as one of the 17 Regional Engineering Colleges in 1960 as a joint venture of the Government of India and the Government of West Bengal and was registered under the Register of Societies Act. With introduction of cutting-edge technology in the emerging areas, the Institute maintained its momentum with definite mission and vision, which enabled it to get the prestigious status of National Institute of Technology under full administrative and financial control of the Government of India with a “Deemed to be University” status with effect from July 03, 2003. The Institute has now been declared as an “Institute of National Importance” by the Govt. of India, vide NIT Act 2007 (29 of 2007) implemented on August 15, 2007.

It started with only four branches of engineering: Civil, Mechanical, Metallurgical and Electrical Engineering for undergraduate studies in 1960. Chemical Engineering was started in 1964. At present, the Institute offers eight B. Tech. programmes and eighteen M. Tech. programmes. Apart from this, two-year MBA programme is also offered. The Institute also runs M. Sc. programmes in Applied Geology and Geo-Informatics, Physics, Chemistry, Life Sciences and Mathematics.

### 1.4 Location

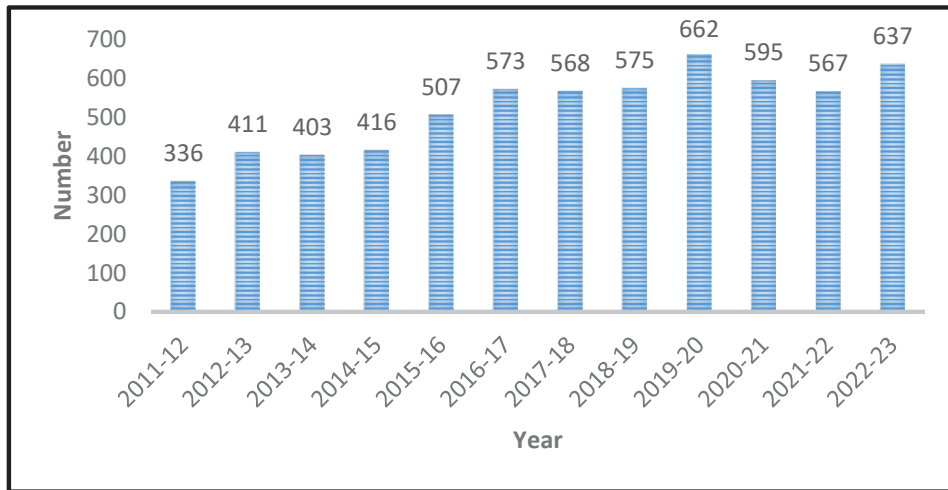
NIT Durgapur is located in the heartland of industrial activities and the mineral-rich region of West Bengal, also known as ‘The Ruhr of India’. The city of Durgapur is well connected by rail with Kolkata, 158 km away, and is an important railway station on the main New Delhi-Kolkata route. It is a two and a half hours’ drive from Kolkata airport along Durgapur Expressway and NH2, and there is a military airport at Panagarh, only 20 km from Durgapur, in addition there is a Civil Airport, Kazi Nazrul Islam Airport Durgapur, only 15 km from the Institute. The place is only an hour’s drive from Tagore’s Santiniketan and has quite a few tourist spots nearby. The climate is moderate.

### 1.5 Campus

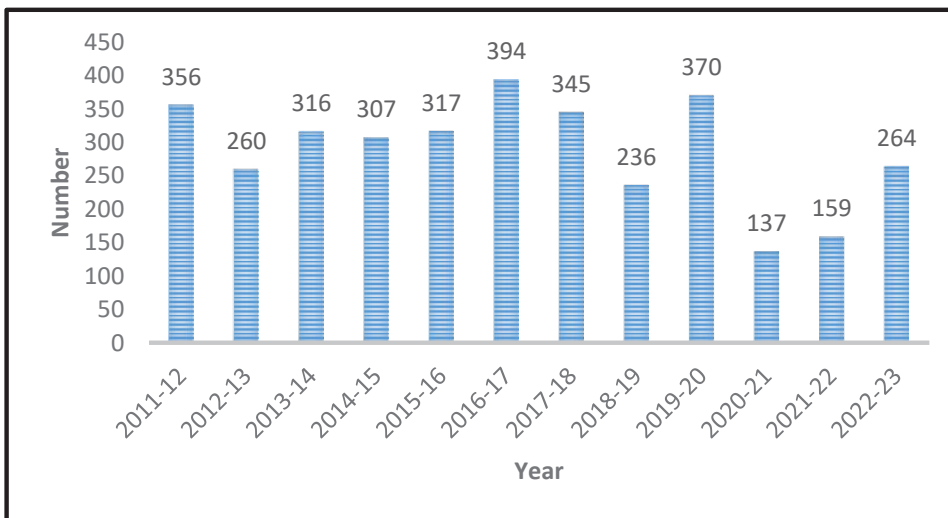
The Institute campus, spreading over 187 acres, is known for its serene environment. Buildings housing the departments and laboratories, residential blocks for faculty and staff, students’ hostels are far outnumbered by the trees in the campus which is self-reliant with facilities like roads, water supply, power distribution network, a market complex, banks and post office.



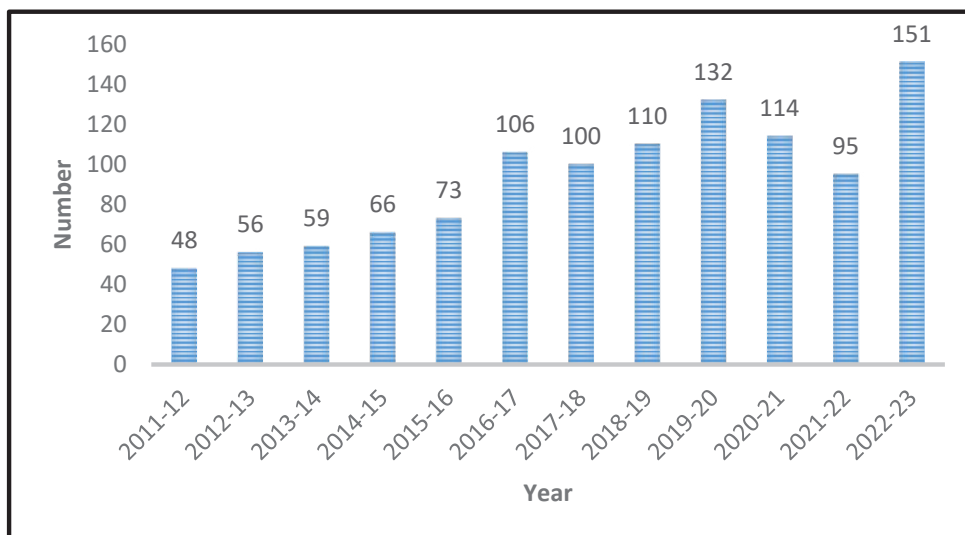
## 1.6 Notable Achievements



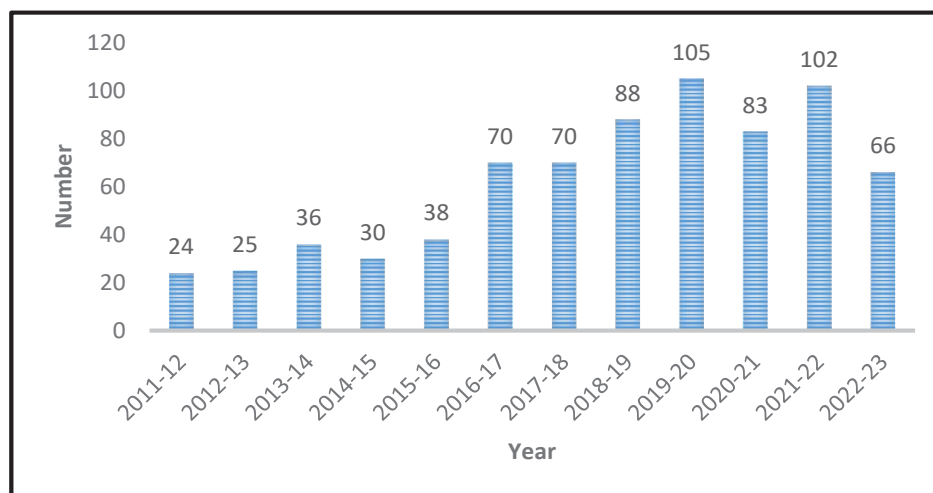
**Fig. 1. Publication in journals in the last few years**



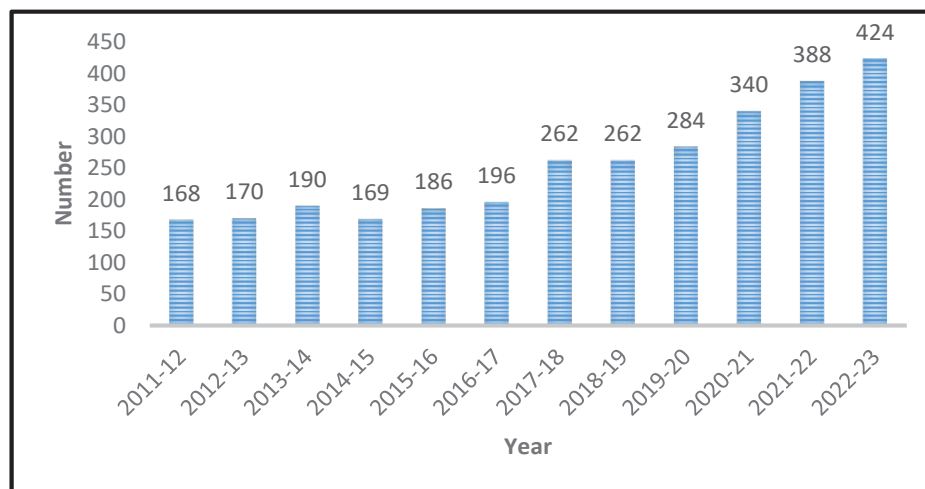
**Fig. 2. Presentation in conferences/symposiums in the last few years**







**Fig. 4. Number of PhD degrees awarded during the last few**



**Fig. 5. Reviewers of journals/books during the last few years**

## 1.7 International Activities

### 1.7.1 Alumni (Nodal Centre)

**Centre for Alumni Affairs & International Relations (CAAIR)** is the nodal centre in the National Institute of Technology Durgapur for liaison with REC/NIT Durgapur alumni all across the globe, initiating research/academic collaboration with universities and organizations in India and abroad and other outreach activities.

### 1.7.2 Eminent Alumni Lecture Series

Date	Alumni Talks (online)
02.04.2022	Sumit Aggarwal (1998, ECE), Sr. Scrum Master, National student clearinghouse Virginia, United States
21.05.2022	Rudra Palash Mukherjee (2011, ChE), Principal Scientist, Pfizer
18.06.2022	Swayamdipta Bhaduri (2010, ME), Instructor at University of Texas, Austin
06.08.2022	Pravesh Tamang (2015, BT), Scientific Assistant, Embassy of India (Berlin, Germany)
13.08.2022	Yogesh Todi (2019, ME), Assistant Consultant, Oracle
10.08.2022	Sanhita Pal (2020, MME), Materials Engineer, Stream-Flo Industries
22.01.2023	Dayeeta Pal (2021, MME), Pursuing Ph.D. at Stanford University





Date	Alumni Talks (online)
22.01.2023	Sankalp Jain (1999, ME), Vice president at Jefferies, Australia
15.02.2023	Sanjucta Roy (2019, ECE), Pursuing MSc in Communication Engineering Nanyang Technological University, Singapore. Ex-Software Test Engineer at Qualcomm

### 1.7.3 List of International MoUs

Name of the Institute	Year	MoU signed with Foreign Governments/Foreign Institutions and date of signing	Subject	Action Taken
National Institute of Technology Durgapur, West Bengal, India, PIN-713209	2022-2023	National University of Science and Technology, Oman 02.10.2022	Co-operate training, short courses, consultancy services, seminars, workshops, staff and student exchange program etc.	MoU signed

### 1.7.4 Distinguished Alumnus Award

- Prof. Tarasankar Debroy (1969, BE, Met. & Mat. Engineering), Professor, PennState, USA (Excellence in Academic & Research)
- Mr. Subash Menon (1986, BE, Elec. Engineering), Founder, Bannix Co-Founder, CEO and MD, Pelatro Plc, UK., Founder, CEO and Chairman, Bannix Acquisition Corp., USA (Excellence in Entrepreneurial venture)

## 1.8 List of National MoUs

Name of the Institute	Year	MoU signed with National Institutions/Organizations/Industries and date of signing	Subject	Action Taken
National Institute of Technology Durgapur, West Bengal, India, PIN-713209	2022-2023	Sister Nivedita University, Kolkata 16.11.2022	Collaboration in research activities, exchange of visits of faculties, joint organization of events etc.	MoU signed
		Haldia Petrochemicals Ltd., Kolkata 30.11.2022	Internship of NIT students and industrial visits, faculty support from NITD, support from technical experts etc	MoU signed
		Indian Oil Corporation Limited, Haldia Refiner 18.11.2022	Utilization each other's facilities as per requirements, joint research, professional consultancy by NITD to solve industry related problems etc.	MoU signed

## 1.9 Alumni

**Centre for Alumni Affairs & International Relations (CAAIR)** is the nodal centre in the National Institute of Technology Durgapur for liaison with REC/NIT Durgapur alumni all across the globe, initiating research/academic collaboration with universities and organizations in India and abroad and other outreach activities. NIT Durgapur is proud to have more than 31000 engineers, technocrats, scientists, managers and entrepreneurs as its global brand ambassadors. CAAIR makes all-out efforts to get them involved in the all-round development and growth of the Institute. It supports the Institute's mission by way of continually opening up opportunities that strengthens the mutually beneficial bond between the institute and its alumni. This promotes and encourage the alumni to disseminate professional knowledge through seminars and interaction with the students and faculty. NIT Durgapur is also striving to break the barriers and reach out to the national and international universities and organizations by way of collaborative activities like joint research supervision, publications, projects and student exchange. The Centre initiates all such activities. The Centre also coordinates various outreach activities with the community.

### 1.9.1 Distinguished Alumnus Award

- Mr. Abhay Kumar Singh (1983, BE, Civil Engineering), Former MD, NHPC Ltd ((Excellence in Entrepreneurial venture)



- Mr. Gopal Chandra Sikder, (1986, BE, Mech. Engineering), Sr. Executive Vice President, Project Director- Large Complex, Reliance Industries Ltd ((Excellence in Entrepreneurial venture)

### 1.9.2 Eminent Alumni Lecture Series

Date	Alumni Talks (online)
09.04.2022	Sourav Sen (1991, ME), MD & CEO, Eirich India
30.04.2022	Sandipan Das (2015, MME), Scientist SD, ISRO
04.06.2022	Sanu Kumar Gupta (2016, IT), Founder and CEO, OyeLazy
25.06.2022	Sarbojit Mallick (2009, EE), Co-founder, Instahyre
16.07.2022	Rudra Banerjee (2020, ECE), Ex-PwC India, Studying MBA IIM Indore
10.12.2022	Rupkatha Ghosh (2019, CE), Ex Sr. Civil Engineer at L&T ECC and PMSS Fellow
15.02.2023	Souvik Sonar (2010, CSE), Scientist 'E' DRDO

### 1.9.3 Donation Received from Alumni during 2022-2023

- Professor Dilip Kumar Pal (1965, BE, Mechanical Engineering), Ex-professor of Mechanical Engineering Department of this institute donated INR 11,80,000 on 22.07.2022 for infrastructural development of Production Engineering Laboratory of Mechanical Engineering Department. One Submerged Arc Welding Machine and one Vertical Ram Turret Milling Machine are purchased from the donation.
- Professor Tarasankar DebRoy (1969, BE, Metallurgical Engineering), Professor of Materials Science and Engineering, The Pennsylvania State University donated INR 17,50,000 on 16.09.2022 for enhancement of the computational facilities of the Materials and Metallurgical Engineering Department. One GPU Server with steel Rack for mounting, one Workstation with Graphics Card and one Vacuum Oven with Pump are purchased from the donation.

## 1.10 New Initiatives

### 1.10.1 SMILE ERP

"National Institute of Technology Durgapur adopted the SMILE ERP system in the year 2019. The acronym SMILE stands for Software for Managing Institutes of Learning and Education that was developed by IIT Kharagpur and NIT Durgapur procured it through TEQIP-III under the direct funding of MoE. The available modules need customization to adopt it for various verticals like Academics, Finance, HR and Administration. At first in priority basis Faculty Annual Report data module has been launched by the Honorable Director on 16th August 2022. Other modules would be customized, contingent to availability of suitable manpower for the ERP Cell."

## 2. Administration

### 2.1 NIT Council (As per Statutes)

- The Minister in charge of the Ministry or Department of the Central Government having administrative control of the technical education, ex officio-Chairman
- The Secretary to the Government of India in charge of the Ministry or Department of the Central Government having administrative control of the technical education, ex officio- Vice-Chairman
- The Chairperson of every Board, ex officio
- The Director of every Institute, ex officio
- The Chairman, University Grants Commission, ex officio
- The Director General, Council of Scientific and Industrial Research, ex officio
- four Secretaries to the Government of India, to represent the Ministries or Departments of the Central Government dealing with biotechnology, atomic energy, information technology and space, ex officio
- The Chairman, All India Council for Technical Education, ex officio



- Not less than three, but not more than five persons to be nominated by the Visitor, at least one of whom shall be a woman, having special knowledge or practical experience in respect of education, industry, science or technology
- Three members of Parliament, of whom two shall be chosen by the House of the People and one by the Council of States (Provided that the office of member of the Council shall not disqualify its holder for being chosen as or for being, a member of either House of Parliament)
- Two Secretaries to the State Government, from amongst the Ministries or Departments of that Government dealing with technical education where the Institutes are located, ex officio
- Financial Advisor, dealing with the Human Resource Development Ministry or Department of the Central Government, ex officio
- One officer not below the rank of Joint Secretary to the Government of India in the Ministry or Department of Central Government having administrative control of the Technical Education, ex officio - Member-Secretary

## 2.2 BOG

Sl. No.	Nomination Under	Name and Designation of nominated Member	Serve as
01.	Section 11 Clause (a)	<b>Prof. (Retd.) Sadanand Sadashiv Gokhale</b> Chairperson, Board of Governors, National Institute of Technology Durgapur Durgapur-713209	Chairperson
02.	(b)	<b>Prof. Anupam Basu</b> Director, National Institute of Technology Durgapur Durgapur-713209	Member
03.	(c)	<b>Shri Anil Kumar</b> Director (Finance) Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	Member
04.	(c)	<b>Ms. Saumya Gupta</b> Joint Secretary, Department of Higher Education, Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	Member
05.	(d)	<b>Mr. Sanjay Jhunjunwala</b> Chief Executive Officer, Mani Group, Kolkata	Member
06	(d)	<b>Dr. D.K. Majumdar</b> Former Professor (DIPSAR) University of Delhi, C-8, IDPL Apartments Plot No.-GH10 Sector 10A Gurgaon-122001	Member
07.	(e)	<b>Dr. Mitali Mukerji</b> Professor and Head, Department of Bioscience & Bioengineering, Faculty, School of Artificial Intelligence and Data Science (AIDE), Indian Institute of Technology Jodhpur, NH – 62, Karwar, Rajasthan – 342037	Member
08.	(e)	<b>Dr. Jyotsna Dhawan,</b> Chief Scientist, CCMB, Hyderabad	Member
09.	(f)	<b>Prof. Apurba Kumar Patra</b> Professor, Department of Chemistry, National Institute of Technology Durgapur Durgapur-713209	Member



Sl. No.	Nomination Under	Name and Designation of nominated Member	Serve as
10.	(f)	<b>Dr. Jayati Dey</b> Associate Professor, Department of Electrical Engineering National Institute of Technology Durgapur Durgapur-713209	Member
11.	(g)	<b>Prof. V.K. Tewari</b> Director Indian Institute of Technology, Kharagpur Pin-721302, India	Member
12	Section 18 Clause (2)	<b>Shri Soumya Sen Sharma</b> Registrar, NIT Durgapur Durgapur-713209	Secretary

### 2.3 Finance Committee

Sl. No.	Name and Designation	Chairperson/Convenor/Secretary/Member
1.	<b>Prof. (Retd.) Sadanand Sadashiv Gokhale</b> Chairperson, Board of Governors, National Institute of Technology Durgapur Durgapur-713209	<b>Chairperson</b>
2.	<b>Prof. Anupam Basu</b> Director, National Institute of Technology Durgapur Durgapur-713209	<b>Member</b>
3.	<b>Shri Anil Kumar</b> Director (Finance) Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	<b>Member</b>
4.	<b>Ms. Saumya Gupta</b> Joint Secretary, Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	<b>Member</b>
5.	<b>Prof. Apurba Kumar Patra</b> Professor, Department of Chemistry, National Institute of Technology Durgapur Durgapur-713209	<b>Member</b>
6.	<b>Shri Soumya Sen Sharma</b> Registrar, National Institute of Technology Durgapur Durgapur-713209	<b>Member Secretary</b>

### 2.4 Building and Works Committee

Sl. No.	Name of the Member	Served as
1	<b>Prof. Anupam Basu,</b> Director, National Institute of Technology Durgapur Durgapur – 713 209	Chairman





Sl. No.	Name of the Member	Served as
2.	<b>Shri M.L.Soni</b> Directors (NITs) Department of Higher Education Ministry of Education, (Shiksha Mantralaya) Shastri Bhawan New Delhi-110001.	Member
3.	<b>Shri Anil Kumar</b> Director (Finance) Department of Higher Education Ministry of Education, (Shiksha Mantralaya) Shastri Bhawan New Delhi-110001.	Member
4	<b>Shri Satyaki Sen</b> Ex-Director, M.N. Dastur Nominee of Board of Governors NIT Durgapur CJ 84, Sector – 2, Salt Lake City, Kolkata – 700 091	Member
5	<b>Prof. Kamal Bhattacharya</b> Department of Civil Engineering Chairperson (Maintenance & Campus Facility and Planning) National Institute Technology Durgapur – 713209	Member
6	<b>Prof. Soumya Bhattacharyya</b> Department of Civil Engineering Chairman (Construction) National Institute Technology Durgapur – 713209	Member
7	<b>Prof. Atul Krishna Banik</b> Department of Civil Engineering Chairman (PMQCC) National Institute Technology Durgapur – 713209	Member
8	<b>Shri Durga Prasad</b> (Nominee of CPWD, Electrical Wing) Superintending Engineer (Electrical), Kolkata Central Electrical Circle – 1, Central Public Works Department (CPWD), 234/4, Acharya J. C. Bose Road, Kolkata – 700 020.	Member
9	<b>Shri Ishrar Ahmad</b> Executive Engineer CPWD, NIT Durgapur Camp Office	Member
10	<b>Shri C. P. Sharma,</b> (Nominee of CPWD, Civil Wing) Superintendent Engineer (Civil), NIT Durgapur	Member
11	<b>Shri Soumya Sen Sharma</b> Registrar, National Institute of Technology Durgapur, Durgapur – 713209.	Member Secretary



## 2.5 List of Senate Members

Sl. No.	Name	Chairman / External Member / Member / Invited Member
1.	Prof. Anupam Basu Director	Chairman
2.	Prof. Siddhartha Sen, Professor, Electrical Engg. Dept., IIT Kharagpur	<u>External Member</u>
3.	Prof. Swagata Dasgupta, Professor, Dept. of Chemistry, IIT Kharagpur	<u>External Member</u>
4.	Prof. Ajitava Raychaudhuri, Professor, Dept. of Economics, Jadavpur University Kolkata	<u>External Member</u>
5.	Prof. S. Chattopadhyay	<u>Member</u>
6.	Prof. A. Dey	Member
7.	Prof. Dalia Dasgupta Mandal	Member
8.	Prof. Kaustav Aikat	Member
9.	Prof. Surabhi Chaudhuri	Member
10.	Prof. Sudit Sekhar Mukhopadhyay	Member
11.	Prof. Dipankar Sukul	Member
12.	Prof. Apurba Kr. Patra	Member
13.	Prof. Milan Maji	Member
14.	Prof. Rajnarayan Saha	Member
15.	Prof. Sankar Ch. Moi	Member
16.	Prof. P. Pal	Member
17.	Prof. K.C. Ghanta	Member
18.	Prof. Tamal Mandal	Member
19.	Prof. P. Gupta	Member
20.	Prof. A.K. Sadhukhan	Member
21.	Prof. Susmita Dutta	Member
22.	Prof. Gopinath Halder	Member
23.	Prof. D.K. Singha Roy	Member
24.		Member



Sl. No.	Name	Chairman / External Member / Member / Invited Member
	Prof. P. Ray	
25.		Member
	Prof. K. Bhattacharya	
26.		Member
	Prof. A. Das	
27.		Member
	Prof. S. Saha	
28.		Member
	Prof. Soumya Bhattacharya	
29.		Member
	Prof. Atul Krishna Banik	
30.		Member
	Prof. Amiya Kr Samanta	
31.		Member
	Prof. Tandra Pal	
32.		Member
	Prof. Suchismita Roy	
33.		Member
	Prof. Subrata Nandi	
34.		Member
	Prof. Debashis Nandi	
35.		Member
	Prof. Subhrabrata Choudhury	
36.		Member
	Prof. Tanmay De	
37.		Member
	Prof. Mousumi Roy	
38	Prof. Gautam Bandyopadhyay	Member
		Member
39	Prof. Avijan Dutta	Member
		Member
40	Prof. A.K. Bhattacharjee	Member
		Member
41	Prof. B. Maji	Member
		Member
42	Prof. G.K. Mahanti	Member
		Member
43	Prof. Sumit Kundu	Member
		Member
44	Prof. Rowdra Ghatak	Member
		Member
45	Prof. Ashis Kr. Mal,	Member
		Member
46	Prof. Rajat Mahapatra	Member
		Member
47	Prof. N. K. Roy	Member
		Member
48	Prof. S.S.Thakur	Member
		Member
49	Prof. Subrata Banerjee	Member
		Member



Sl. No.	Name	Chairman / External Member / Member / Invited Member
50	Prof. Parimal Acharjee	Member
51	Prof. Tapas Kr. Saha	Member
52	Prof. Sankar Narayan Mahato	Member
53	Prof. Chiranjib Koley	Member
54	Prof K. Adhikari	Member
55	Prof. Samarjit Kar	Member
56	Prof Kajla Basu	Member
57	Prof. Seema Sarkar (Mondal)	Member
58	Prof. Indrajit Basak	Member
59	Prof. Amar Nath Mullick	Member
60	Prof. B. Halder	Member
61	Prof. Nilotpal Banerjee	Member
62	Prof. Nirmal Baran Hui	Member
63	Prof. Shibendu Shekhar Roy	Member
64	Prof. Asit Baran Puri	Member
65	Prof. Apurba Layek	Member
66	Prof. K.S. Ghosh	Member
67	Prof. Joydeep Maity	Member
68	Prof. A. K. Meikap	Member
69	Prof. Pathik Kumbhakar	Member
70	Prof. Amit Kr. Chakraborty	Member
71	Sri S. Chatterjee Managing Director Innovative Heat Handling Pvt. Ltd. Kolkata 700 091	<u>Invited Member</u>
72	Mr. B. Bhattacharya (Alumni)	<u>Invited Member</u>
73	Dr. Debjani Dutta HOD, Dept. of Biotechnology	<u>Invited Member</u>



Sl. No.	Name	Chairman / External Member / Member / Invited Member
74	Dr. Jaya Sikder HOD, Dept. of Chemical Engg.	<u>Invited Member</u>
75	Dr. Diptesh Das HOD, Dept. of Civil Engg.	<u>Invited Member</u>
76	Dr. Kaushik Mandal HOD, Dept. Management Studies	<u>Invited Member</u>
77	Dr. Durbadal Mandal HOD, Dept. of Electronics and Communication Engg.	<u>Invited Member</u>
78	Dr. Arindam Modak HOD, Dept. Humanities and Social Sciences	<u>Invited Member</u>
79	Dr. Lakshmi Kanta Dey HOD, Dept. of Mathematics	<u>Invited Member</u>
80	Dr. Sumit Mukhopadhyay HOD, Dept. of Mechanical Engg.	<u>Invited Member</u>
81	Dr. Supriya Bera HOD, Dept. of Metallurgical and Materials Engg.	<u>Invited Member</u>
82	Dr. Sukadev Sahoo HOD, Dept. of Physics	<u>Invited Member</u>
83	Dr. Bibhash Sen HOC, Computer Centre	<u>Invited Member</u>
84	Shri Soumya Sen Sharma Registrar	Member Secretary

## 2.6 Staff Details

### 2.6.1 List of Officers

Designation		Name
Registrar		Sri Soumya Sen Sharma
Joint Registrar		Shri Asit Kumar Dr. Uday Chandra Mukherjee Sri Dhruvajyati Ray
Deputy Registrar Assistant Registrar		Sri Ashutosh Das Sri Debasish Mondal Sri Amiya Kumar Sardar Sri Sayon Bhattacharjee Sri Ajit Kumar Bhagat Shri Arun Charles Minz
Executive Engineer		Sri Tanmay Halder
Library	Librarian	Vacant
	Deputy Librarian	Vacant





Designation		Name
	Assistant Librarian	Vacant
Workshop Superintendent		Vacant
Registrar's Secretariat (Technical Officer)		Shri Santosh Kumar Saha Shri Hirendra Nath Samanta
Medical Unit-cum-Hospital	Senior Medical Officer	Dr. Banhi Kumar Sarkar
	Medical Officers	Dr. Sucharita Patra                      Dr. G. Prabhavabathi
Estate Section (Security Officer )		No sanctioned post in RR-2019, however this post got restructure as Assistant Registrar through DPC.

### 2.6.2 Sanctioned posts of officers and number in position

	Sanctioned	In position	Vacant	Remarks
Registrar	01	01	00	
Joint Registrar	Nil	03	00	Filled through DP
Dy. Registrar	04	01	00	
Asstt. Registrar	07	05	02	
Dy. Librarian	01	Nil	01	
Assistant Librarian	01	Nil	00	
Principal SAS Officer	00	Nil	00	
Sr. SAS Officer	01	Nil	01	
SAS Officer	01	Nil	01	
Principal Scientific/Technical Officer	02	Nil	02	
Sr. Scientific/Technical Officer	01	Nil	01	
Scientific/Technical Officer	03	02	01	
Superintendent Engineer	01	Nil	01	
Executive Engineer (Elect/Civil)	02	01	01	
Senior Medical Officer	01	01	00	
Medical Officer	02	02	00	
Security Officer	01	Nil	01	(Restructured as Assistant Registrar)
*Physical Training Inst.	Nil	00	00	

### 2.6.3 Number of Technical and Administrative staff members

Sl. No.	Name	No.
1.	Sr. Tech. Asstt.	10
2.	Tech. Asstt. (SG-II)	16
3.	Tech. Asstt. (SG-I)	07
4.	Sr. Library Infor. Asstt (SG-II)	01
5.	Sr. Technician	01
6.	Technician (SG-II)	02
7.	Tech. Asstt.	03
8.	Superintendent	02
9.	Sr. Superintendent	03
10.	Superintendent (SG-II)	04
11.	Superintendent (SG-I)	01
12.	Staff Nurse (SG-II)	01
13.	Junior Assistant	01
14.	Sr. Assistant	05
15.	Assistant (SG-II)	10
16.	Assistant (SG-I)	05
17.	Attendant	01
18.	Sr. Attendant	08
19.	Attendant (SG-II)	09



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Sl. No.	Name	No.
20.	Attendant (SG-I)	04
21.	Physical Training Instructor	01 (PTI post is not a sanctioned post)
22.	Asstt. Engg. (SG-I)	01
23.	Pharmacist	01

#### 2.6.4 New appointment of staff during the year 2022-23

Sl.No	Name	Department	Designation	Date of Joining
1.	Shri Arun Charles Minz	Director's Secretariat	Asst. Registrar	30-09-2022
2.	Sri Jeet Mazumder	Medical Unit	Pharmacist	11-11-2022

#### 2.6.5 Retirement, Resignation, Death and Voluntary Retirement of Staff during the year

Sl. No	Name	Department/Section	Designation	Date of Retirement
1	Sri Brijesh Mahato	Estate	Sr. Attendant	29-04-2022 (Expired)
2	Tusher Kanti Chakraborti	WS(Blacksmith)	Sr. Tech. Asstt.	31-05-2022
3	Dr. Narayan Murmu	CSE	Tech. Asstt.(SG-I)	27-06-2022 (Join as a Assistant Professor)
4	Sri Jiban Krishna Ray	Personnel Sec.	Superintendent(SG-I)	31-07-2022

#### 2.6.6 Number of Faculty in position

Name of Department	Professor	Associate Prof	Asstt. Prof. Grade-I	Asstt. Prof. Grade-II	Trainee Teacher
	In position	In-position	In position	In position	In position
Biotechnology	06	05	06	00	-
Chemical Engg	07	04	02	05	-
Chemistry	05	05	01	03	-
Civil Engineering	09	05	02	06	-
Computer Science & Engineering	06	14	13	05	-
Electrical Engg	07	02	08	08	-
Electronics & Communication Engineering	07	05	03	05	-
Earth & Environmental Science	01	00	01	02	-
Humanities & Social Science	00	03	02	02	-
Management Studies	03	05	00	03	-
Mathematics	02	05	03	00	-
Mechanical Engineering	07	05	09	11	-
Metallurgical & Materials Engg.	02	07	03	02	-
Physics	03	05	02	04	-
Total	65	70	55	56	-

**2.6.7 New Appointment of Faculty During The Year 2022-23**

Sl. No	Name	Department	Designation	Date of Joining
1.	Dr. Paresh Nath Chatterjee	Chemistry	Associate Professor	03-08-2022
2.	Dr. Sujan Kumar Saha	Comp.Sc. & Engg.	Associate Professor	19-09-2022
3.	Dr. Subhas Chandra Sahana	Comp.Sc. & Engg.	Assistant Professor Gr-I	20-07-2022
4.	Dr. Suvadip Batabyal	Comp.Sc. & Engg.	Assistant Professor Gr-I	04-08-2022
5.	Dr. Debayan Das	Chemical	Assistant Professor Gr-II	05-09-2022
6.	Dr.(Ms.) Manisha Bal	Chemical	Assistant Professor Gr-II	11-07-2022
7.	Dr. Sankha Karmakar	Chemical	Assistant Professor Gr-II	26-07-2022
8.	Dr. Sourav Laha	Chemistry	Assistant Professor Gr-II	27-06-2022
9.	Dr. Krishnendu Pal	Chemistry	Assistant Professor Gr-II	27-06-2022
10.	Dr. Bandhan Bandhu Majumdar	Civil Engg.	Assistant Professor Gr-II	03-08-2022
11.	Dr. Sabyasachi Biswas	Civil Engg.	Assistant Professor Gr-II	11-08-2022
12.	Dr.Sushovan Dutta	Civil Engg.	Assistant Professor Gr-II	13-07-2022
13.	Dr.Suman Saha	Civil Engg.	Assistant Professor Gr-II	21-07-2022
14.	Dr. Gilbert Hinge	Civil Engg.	Assistant Professor Gr-II	28-07-2022
15.	Dr. Sanku Konai	Civil Engg.	Assistant Professor Gr-II	05-08-2022
16.	Dr. Ankush Acharyya	Comp.Sc. & Engg.	Assistant Professor Gr-II	20-12-2022
17.	Dr. (Ms.) Shyantani Maiti	Comp.Sc. & Engg.	Assistant Professor Gr-II	01-07-2022
18.	Dr. Narayan Murmu	Comp.Sc. & Engg.	Assistant Professor Gr-II	27-06-2022
19.	Dr.(Ms.) Monalisa Mandal	Comp.Sc. & Engg.	Assistant Professor Gr-II	13-07-2022
20.	Dr. Suman Samui	E.C.E	Assistant Professor Gr-II	07-07-2022
21.	Dr. Nilanjan Biswas	E.C.E	Assistant Professor Gr-II	27-07-2022
22.	Dr.(Ms.) Rajashree Das	E.C.E	Assistant Professor Gr-II	01-08-2022
23.	Dr.(Ms.) Shreya Karmakar	Earth & Env. Std.	Assistant Professor Gr-II	11-07-2022
24.	Dr. (Ms.) Manika Saha	Elect. Engg.	Assistant Professor Gr-II	25-07-2022
25.	Dr. Soumya Chatterjee	Elect. Engg.	Assistant Professor Gr-II	01-08-2022
26.	Dr. Santanu Paul	Elect. Engg.	Assistant Professor Gr-II	31-08-2022
27.	Dr. Omkar Yadav	Elect. Engg.	Assistant Professor Gr-II	07-09-2022
28.	Dr. Angshu Jajodia	Hum. & So.Sc	Assistant Professor Gr-II	27-06-2022
29.	Dr.(Ms.) Rinki Chokhani	Hum. & So.Sc	Assistant Professor Gr-II	04-07-2022
30.	Dr. Umamaheswararao Jada	Management Std	Assistant Professor Gr-II	08-08-2022
31.	Dr. Jayabrata Dhar	Mech. Engg.	Assistant Professor Gr-II	20-09-2022
32.	Dr. Ratnesh Kumar	Mech. Engg.	Assistant Professor Gr-II	18-08-2022
33.	Dr. Saif Akram	Mech. Engg.	Assistant Professor Gr-II	29-08-2022
34.	Dr. Debabrata Gayen	Mech. Engg.	Assistant Professor Gr-II	05-09-2022
35.	Dr. Shashi Kant Verma	Mech. Engg.	Assistant Professor Gr-II	12-09-2022
36.	Dr. Barna Roy	Met.& Mat Eng	Assistant Professor Gr-II	01-08-2022
37.	Dr. Arghya Chatterjee	Physics	Assistant Professor Gr-II	21-07-2022
38.	Dr. Karthikeyan. J	Physics	Assistant Professor Gr-II	29-07-2022

**2.6.8 Retirement, Resignation, Death and Voluntary Retirement of Faculty 2022-23.**

Sl. No	Name	Department/Section	Designation	Date of Retirement/Resignation
1.	Prof. P.P. Sengupta	Hum. & So.Sc	Professor(HAG)	31-08-2022
2.	Prof.(Ms) Kajla Basu	Mathematics	Professor	14-01-2023 (Expired)



Sl. No	Name	Department/Section	Designation	Date of Retirement/Resignation
3.	Prof. Amar Nath Mullick	Mech. Engg.	Professor	31-01-2023

### 3. Academics

#### 3.1 Education System:

The National Institute of Technology Durgapur runs four-year Bachelor of Technology programmes in Bio-Technology, Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, Mechanical Engineering and Metallurgical & Materials Engineering.

The Institute runs five year B.Tech and M.Tech Dual Degree programme in Biotechnology and Chemical Engineering and also runs five year Integrated M.Sc programme in Chemistry.

The Institute offers two year M. Tech. programme in eighteen specializations and also two-year MBA programme, two-year M. Sc programme in five Departments and two-year MSW programme.

All the Programme offered in the academic year spreading normally over the period from 1st July of the year to 30th June of the next year and is divided into two semesters, which are regular and fulltime in nature.

The Institute also offers PhD programme in fourteen Departments and four Centres.

#### 3.2 Programs Offered:

##### 3.2.1 B.Tech / Dual Degree / Integrated M.Sc Programme: Sanctioned intake

Discipline	O P	OP-PWD	EW S	EWS-PWD	S C	SC-PWD	S T	ST-PWD	OB N	0BN-PWD	TOTAL	TOTAL
BT	28	02	07	01	13	0	05	0	18	01	75	909
CH	28	02	08	0	11	0	06	0	18	02	75	
CE	32	0	08	0	11	02	06	0	19	02	80	
CS	73	03	18	01	25	02	13	01	49	02	187	
EE	38	02	10	0	14	02	06	01	26	01	100	
EC	36	02	10	0	14	01	06	01	26	01	97	
ME	72	04	17	01	27	02	13	01	48	02	187	
MM	28	02	07	01	11	0	05	01	19	01	75	
CH-DD	02	0	01	0	01	0	01	0	02	0	07	
BT-DD	02	0	01	0	01	0	01	0	02	0	07	
CY-INT	08	0	02	0	03	0	01	0	05	0	19	

##### 3.2.2 Post-Graduate Programmes - Sanctioned intake



**M.Tech**

Specialization / Program Name	OC	OC - PwD	EW S	EW S- PwD	SC	SC - PwD	ST	ST- PwD	OB N	OB N- PwD	SP O N	Sancti oned Intak e
Advanced Material Science & Technology	8	0	2	0	3	0	1	1	5	0	2	22
Biotechnology	7	1	2	0	3	0	2	0	5	0	2	22
Chemical Engineering	7	0	1	0	2	0	1	0	4	0	2	17
Energy Resources and Sustainable Environmental Engineering	8	0	1	1	2	1	1	0	6	0	2	22
Computer Science & Engineering	19	1	5	0	7	0	4	0	13	1	5	55
Environmental Science & Technology	8	0	2	0	3	0	1	0	5	1	2	22
Fluid Mechanics and Heat Transfer	8	0	2	0	3	0	2	0	5	0	2	22
Geotechnical Engineering	7	1	2	0	3	0	2	0	5	0	2	22
Machine Design	8	0	2	0	3	0	2	0	5	0	2	22
Metallurgy and Materials Technology	8	0	2	0	3	0	1	0	5	1	2	22
Next Generation Communication and Networks	7	1	2	0	3	0	1	0	6	0	2	22
Operations Research	7	1	2	0	2	1	2	0	5	0	2	22
Power Electronics & Machine Drives	8	0	2	0	3	0	2	0	4	1	2	22
Power Systems	7	1	2	0	3	0	2	0	5	0	2	22
Instrumentation and Control	6	0	2	0	2	0	1	0	4	0	1	16
Structural Engineering	7	1	2	0	3	0	1	0	6	0	2	22
Microelectronics and VLSI	8	0	1	1	3	0	2	0	5	0	2	22
Thermal Engineering	8	0	2	0	3	0	1	0	5	1	2	22
<b>Total</b>	<b>146</b>	<b>7</b>	<b>36</b>	<b>2</b>	<b>54</b>	<b>2</b>	<b>29</b>	<b>1</b>	<b>98</b>	<b>5</b>	<b>38</b>	<b>418</b>

**MBA**

DEPTT	OP	OP-PwD	EWS	EWS- PwD	SC	SC-PwD	ST	ST- PwD	OBN	OBN- PwD	Total
MS	20	1	5	0	6	1	4	0	12	1	<b>50</b>

**MSW**

DEPARTMENT	OP	OP-PwD	EWS	EWS- PwD	SC	SC-PwD	ST	ST- PwD	OBN	OBN- PwD	Total
HSS (MSW)	6	0	1	1	2	0	1	0	4	0	<b>15</b>

**M.Sc**

DEPARTMENT	OP	OP-PwD	EWS	EWS- PwD	SC	SC-PwD	ST	ST- PwD	OBN	OBN- PwD	Total
CY	9	1	2	0	4	0	1	0	7	1	<b>25</b>
MA	10	0	3	0	3	1	2	0	6	0	<b>25</b>
PH	10	0	2	1	4	0	2	0	6	0	<b>25</b>





DEPARTMENT	OP	OP-PwD	EWS	EWS-PwD	SC	SC-PwD	ST	ST-PwD	OBN	OBN-PwD	Total
BT (LIFE SCIENCES)	7	0	1	0	2	0	1	0	4	0	15
EES (APPL GEO & GEOINFO)	7	1	2	0	3	0	2	0	5	0	20
<b>Total</b>	<b>43</b>	<b>2</b>	<b>10</b>	<b>1</b>	<b>16</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>28</b>	<b>1</b>	<b>110</b>

### 3.2.3 Eligibility

#### MTECH

In qualifying degree the candidates should have passed and secured at least 6.5 CGPA (on a 10-point scale) or 60% for OC/OB, whereas 6.0 CGPA (on a 10-point scale) or 55% in case of SC/ST/PwD candidates. The above mentioned CGPA/Percentage should be awarded by a recognized University/Institute.

#### MSc

Three-year regular B. Sc. (Hons./ Pass) with minimum 55% marks / 6 CGPA in the relevant discipline. A relaxation of 5% marks or 0.5 CGPA is applicable for SC/ST candidates.

#### MBA

Graduates (minimum 10+2+3 format) in any discipline with minimum 55% marks in graduation are eligible with a relaxation of 5 % marks for SC/ST.

#### MSW

Graduates (minimum 10+2+3 format) in any discipline with minimum 55% marks in graduation are eligible with a relaxation of 5 % marks for SC/ST.

### 3.3 Admission Procedure

- UG Programme:
  - The students from Andaman & Nicobar Islands were admitted in Supernumerary Quota as was decided by CSAB 2022.
  - In addition, some seats were filled up by foreign students as nominated by the Government of India under various schemes.
  - 50% of the seats are reserved for candidates from West Bengal and remaining 50% seats are allotted to the candidates from other States based on the JEE Main results in B.Tech / Dual Degree / Integrated M.Sc Programme where 15%, 7.5%, 27% and 10 % of the total seats are reserved for SC candidates, ST candidates, OBC candidates and EWS candidates respectively with 5% of the seats are reserved for PwD candidates.
- PG Programme:

Sl No	Types of Student	Mode of Admission
1	Full Time GATE (M. Tech.)	CCMT / Institute level test and viva-voce for vacant seats.
2	Full Time Sponsored (M. Tech.)	B. Tech./eqv results, Institute level test and viva-voce
3	M. Sc.	CCMN
4	MBA	CAT score and Institute Level GD/PI
5	MSW	Institute level entrance examination



### 3.4 Programme-wise enrolment with gender and caste break-up.

#### 3.4.1 Enrolment in B.Tech programmes during 2022-2023 (Gender wise).

##### A. Enrolment of Indian students in odd semesters of B. Tech. courses during 2022-2023 Genderwise:

Semester	BT		ChE		CE		CSE		ECE		EE		IT		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	B.Tech I	52	15	58	14	61	19	151	37	75	22	78	20	0	0	149	37	57	16	681
B.Tech III	46	15	54	15	58	19	140	39	72	21	79	17	0	0	142	39	54	13	645	178
B.Tech V	43	15	54	15	54	18	145	35	76	21	77	22	0	0	137	38	47	11	633	175
B.Tech VII	41	18	54	12	53	11	140	31	67	19	70	18	0	0	133	28	50	12	608	149
<b>Total</b>	<b>182</b>	<b>63</b>	<b>220</b>	<b>56</b>	<b>226</b>	<b>67</b>	<b>576</b>	<b>142</b>	<b>290</b>	<b>83</b>	<b>304</b>	<b>77</b>	<b>0</b>	<b>0</b>	<b>561</b>	<b>142</b>	<b>208</b>	<b>52</b>	<b>2567</b>	<b>682</b>

Semester	BT		ChE		CE		CSE		ECE		EE		IT		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	B.Tech II	51	15	57	14	61	21	158	41	75	23	76	22	0	0	145	39	59	16	682
B.Tech IV	46	14	54	15	58	19	140	39	72	21	77	18	0	0	142	39	54	13	643	178
B.Tech VI	43	15	54	15	54	18	145	35	76	21	77	22	0	0	137	38	47	11	633	175
B.Tech VIII	41	18	54	12	53	11	140	31	67	19	70	18	0	0	133	28	50	12	608	149
<b>Total</b>	<b>181</b>	<b>62</b>	<b>219</b>	<b>56</b>	<b>226</b>	<b>69</b>	<b>583</b>	<b>146</b>	<b>290</b>	<b>84</b>	<b>300</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>557</b>	<b>144</b>	<b>210</b>	<b>52</b>	<b>2566</b>	<b>693</b>

#### 3.4.2 Enrolment in B. Tech & M. Tech Dual Degree programmes during 2022-2023 (Genderwise)

Semester	BT		ChE		Total	
	M	F	M	F	M	F
Dual Degree I	2	4	4	3	6	7
Dual Degree III	2	1	4	3	6	4
Dual Degree V	3	0	4	1	7	1
Dual Degree VII	4	0	4	1	8	1
Dual Degree IX	4	1	2	1	6	2
<b>Total</b>	<b>15</b>	<b>6</b>	<b>18</b>	<b>9</b>	<b>33</b>	<b>15</b>



Semester	BT		ChE		Total	
	M	F	M	F	M	F
Dual Degree II	2	4	4	2	6	6
Dual Degree IV	2	1	4	3	6	4
Dual Degree VI	3	0	4	1	7	1
Dual Degree VIII	4	0	4	1	8	1
Dual Degree X	4	1	2	1	6	2
<b>Total</b>	<b>15</b>	<b>6</b>	<b>18</b>	<b>8</b>	<b>33</b>	<b>14</b>

### 3.4.3 Enrolment in Integrated M.Sc. programmes during 2022-2023 (Genderwise)

Semester	Chemistry		Total	
	M	F	M	F
INT M.Sc. I	13	5	13	5
INT M.Sc. III	10	4	10	4
INT M.Sc. V	7	4	7	4
INT M.Sc. VII	3	3	3	3
INT M.Sc. IX	7	6	7	6
<b>Total</b>	<b>40</b>	<b>22</b>	<b>40</b>	<b>22</b>

Semester	Chemistry		Total	
	M	F	M	F
INT M.Sc. II	13	5	13	5
INT M.Sc. IV	10	4	10	4
INT M.Sc. VI	7	4	7	4
INT M.Sc. VIII	3	3	3	3
INT M.Sc. X	6	6	6	6
<b>Total</b>	<b>39</b>	<b>22</b>	<b>39</b>	<b>22</b>

### 3.4.4 Enrolment of Foreign Students in B. Tech programme during 2022-2023 (Genderwise):

Semester	BT		ChE		CE		CSE		ECE		EE		IT		ME		MME		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech I	1	1	0	1	2	2	10	4	2	0	1	2	0	0	3	3	1	0	20	13
B.Tech III	1	2	0	1	1	0	7	2	1	0	2	0	0	0	2	0	0	0	14	5
B.Tech V	0	0	0	0	0	0	6	4	0	0	0	0	0	0	0	0	0	0	6	4
B.Tech VII	0	0	0	0	0	0	12	1	1	0	1	0	0	0	3	1	0	0	17	2
<b>Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>35</b>	<b>11</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>57</b>	<b>24</b>

Semester	BT		ChE		CE		CSE		ECE		EE		IT		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech II	1	0	0	1	2	2	10	4	2	1	1	2	0	0	3	3	1	0	20	13
B.Tech IV	1	2	0	1	1	0	7	2	1	0	2	0	0	0	2	0	0	0	14	5
B.Tech VI	0	0	0	0	0	0	6	4	0	0	0	0	0	0	0	0	0	0	6	4
B.Tech VIII	0	0	0	0	0	0	12	1	1	0	1	0	0	0	3	1	0	0	17	2
<b>Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>35</b>	<b>11</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>57</b>	<b>24</b>

### 3.4.5 Enrolment in B. Tech. Programme during 2022-2023 (Castewise)

Dept.	B.Tech		B.TECH		B.TECH		B.TECH	
	I Semester		III Semester		V Semester		VII Semester	



	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT
BT	17	10	12	5	23	67	19	10	10	5	17	61	15	10	10	2	21	58	21	3	9	5	21
ChE	19	10	10	6	27	72	18	10	11	5	25	69	22	11	10	6	20	69	27	5	9	5	20
CE	25	10	13	6	26	80	22	11	13	6	25	77	16	12	13	6	25	72	21	5	11	5	22
CSE	53	37	27	14	57	188	55	34	23	14	53	179	56	31	24	13	56	180	57	22	27	14	51
ECE	28	15	15	7	32	97	34	12	13	6	28	93	32	16	15	7	27	97	32	10	14	7	23
EE	32	13	16	7	30	98	29	17	17	4	29	96	33	14	16	6	30	99	33	10	15	6	24
IT	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00	00	00	00	00	00	00	00	00
ME	58	24	29	14	61	186	57	27	28	13	56	181	50	28	26	14	57	175	55	20	27	15	44
MME	25	9	11	6	22	73	23	10	9	6	19	67	17	10	9	5	17	58	18	7	9	5	23
<b>Total</b>	<b>257</b>	<b>128</b>	<b>133</b>	<b>65</b>	<b>278</b>	<b>861</b>	<b>257</b>	<b>131</b>	<b>124</b>	<b>59</b>	<b>252</b>	<b>823</b>	<b>241</b>	<b>132</b>	<b>123</b>	<b>59</b>	<b>253</b>	<b>808</b>	<b>264</b>	<b>82</b>	<b>121</b>	<b>62</b>	<b>228</b>

### 3.4.6 Enrolment in B.Tech & M. Tech Dual Degree Programmes during 2022-2023 (Castewise):

D e p t .	Dual Degree I Semester						Dual Degree III Semester						Dual Degree V Semester						Dual Degree VII Semester						Dual Degree IX Semester					
	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T						
B T	2	1	1	1	1	6	0	1	1	1	0	3	0	1	1	0	1	3	2	0	1	1	0	2	1	1	1	5		
C h E	1	1	1	1	3	7	1	1	1	1	3	7	0	2	1	0	2	5	2	0	1	0	2	1	0	0	2	3		
T o t a l	3	2	2	2	4	13	1	2	2	2	3	10	0	3	2	0	3	8	4	0	2	1	2	3	1	1	3	8		

### 3.4.7 Enrolment in 5 year Integrated M.Sc Programmes during 2022-2023 (Castewise):

D e p t .	INT M.Sc. I Semester						INT M.Sc. III Semester						INT M.Sc. V Semester						INT M.Sc. VII Semester						INT M.Sc. IX Semester					
	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T	O P S	E W S	S C	S T	O B C	T O T						
C h e m	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	5	11	2	1	1	0	2	6	0	2	5	13		
T o t a l	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	5	11	2	1	1	0	2	6	0	2	5	13		



3.4.8 Enrolment in B. Tech. Programme during 2022-2023 (Castewise)

Dept.	B.Tech						B.TECH						B.TECH						B.TECH			
	II Semester						IV Semester						VI Semester						VIII Semester			
	OP	EWS	SC	ST	OB C	TO T	OP	EWS	SC	ST	OB C	TO T	OP	EWS	SC	ST	OB C	TO T	OP	SC	ST	O B C
B T	16	10	10	5	24	65	18	10	10	5	17	60	15	10	10	2	21	58	21	3	9	5
C h E	18	10	10	6	26	70	18	10	11	5	25	69	22	11	10	6	20	69	27	5	9	5
C E	24	10	13	6	26	79	22	11	13	6	25	77	16	12	13	6	25	72	21	5	11	5
C S E	51	37	28	14	56	186	55	34	23	14	53	179	56	31	24	13	56	180	57	22	27	14
E C E	27	15	14	7	32	95	35	11	13	6	28	93	32	16	15	7	27	97	32	10	14	7
E E	30	13	15	7	30	95	27	17	17	5	29	95	33	14	16	6	30	99	33	10	15	6
I T	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00	00	00	00	00	00	00	00
M E	53	24	27	14	60	178	57	26	28	13	57	181	50	28	26	14	57	175	55	20	27	15
M M E	24	10	11	6	22	73	23	10	9	6	19	67	17	10	9	5	17	58	18	7	9	5
T o t a l	243	129	128	65	276	841	255	129	124	60	253	821	241	132	123	59	253	808	264	82	121	62

3.4.9 Enrolment in B.Tech & M. Tech Dual Degree Programmes during 2022-2023 (Castewise):

Dept.	Dual Degree						Dual Degree						Dual Degree						Dual Degree						Dual Degree					
	II Semester						IV Semester						VI Semester						VIII Semester						X Semester					
	O P S	E W C	S T B	S T B	O T P	T O P	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C				
B T	2	1	1	2	0	6	0	1	1	1	0	3	0	1	1	0	1	3	2	0	1	1	0	2	1	1	1	5		
C h E	1	1	1	1	3	7	1	1	1	1	3	7	0	2	1	0	2	5	2	0	1	0	2	1	0	0	2	3		
T o t a l	3	2	2	3	3	13	1	2	2	2	3	10	0	3	2	0	3	8	4	0	2	1	2	3	1	1	3	8		

3.4.10 Enrolment in 5 year Integrated M.Sc Programmes during 2022-2023 (Castewise):

Dept.	INT M.Sc.						INT M.Sc.						INT M.Sc.						INT M.Sc.						INT M.Sc.					
	II Semester						IV Semester						VI Semester						VIII Semester						X Semester					
	O P S	E W C	S T B	S T B	O T P	T O P	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C	O E S	S S O	S S O	T B C	T B C				
B T	2	1	1	2	0	6	0	1	1	1	0	3	0	1	1	0	1	3	2	0	1	1	0	2	1	1	1	5		
C h E	1	1	1	1	3	7	1	1	1	1	3	7	0	2	1	0	2	5	2	0	1	0	2	1	0	0	2	3		
T o t a l	3	2	2	3	3	13	1	2	2	2	3	10	0	3	2	0	3	8	4	0	2	1	2	3	1	1	3	8		





C	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	5	11	2	1	1	0	2	6	0	1	5	12	
h																													
e																													
m																													
T	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	5	11	2	1	1	0	2	6	0	1	5	12	
o																													
t																													
a																													
l																													

### 3.4.11 Enrolment in M.Tech. Programmes during 2022-2023 (Genderwise)

Semester	BT	CH	CH (ERS)	CE (SE)	CE (GE)	CS	EE (PS)	EE (PMD)	EE (INST)	EC (NG)	EC (VL)	ES (ET)	OR (MA)	ME (MD)	ME (FMTHT)	ME (TE)	EC (TELE)	M	A MS (PHY)	TOTAL
M.Tech I & II	10 (6)	2 (1)	3 (1)	18 (2)	13 (6)	44 (15)	9 (2)	10 (3)	8 (2)	16 (3)	19 (3)	6 (1)	14 (5)	12 (1)	6 (1)	11 (0)	---	2 (0)	2 (0)	205 (52)
M.Tech III & IV	16 (9)	7 (6)	5 (2)	16 (3)	19 (7)	43 (13)	18 (4)	16 (4)	8 (1)	---	20 (3)	14 (5)	9 (3)	12 (0)	11 (2)	13 (2)	8 (3)	5 (2)	4 (0)	244 (69)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.12 Enrolment in M.Sc. Programmes during 2022-2023 (Genderwise)

Semester	M. Sc (CY)	M. Sc (MA)	M. Sc (PH)	M. Sc (Life Science)	M. Sc (Appl Geo & Geoinfo)	TOTAL
M.Sc I & II	23 (13)	24 (4)	23 (5)	13 (6)	20 (6)	103 (34)
M.Sc III & IV	22 (9)	22 (6)	17 (5)	10 (4)	16 (9)	87 (33)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.13 Enrolment in M.Tech Programmes during 2022-2023(Castewise):

Dept. / Year	I & II							III & IV						
	OP	GEN (EWS)	SC	ST	OBC	FS	TOTAL	OP	GEN (EWS)	SC	ST	OBC	TOTAL	
BT	7 (5)	1 (0)	1 (0)	0 (0)	1 (1)	0 (0)	10 (6)	9 (6)	1 (1)	2 (0)	0 (0)	4 (2)	16 (9)	
CH	1 (1)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	6 (5)	0 (0)	0 (0)	0 (0)	1 (1)	7 (6)	
CH (ERS)	1 (0)	0 (0)	1 (0)	0 (0)	1 (1)	0 (0)	3 (1)	4 (2)	0 (0)	0 (0)	0 (0)	1 (0)	5 (2)	
CE (SE)	6 (2)	2 (0)	3 (0)	0 (0)	6 (0)	1 (0)	18 (2)	5 (2)	2 (0)	2 (0)	1 (1)	6 (0)	16 (3)	



Dept. / Year	I & II							III & IV					
	OP	GEN (EWS)	SC	ST	OBC	FS	TOTAL	OP	GEN (EWS)	SC	ST	OBC	TOTAL
CE (GT)	3 (1)	0 (0)	2 (1)	0 (0)	8 (4)	0 (0)	13 (6)	8 (3)	3 (0)	3 (3)	0 (0)	5 (1)	19 (7)
CS	10 (2)	2 (1)	7 (4)	1 (0)	23 (8)	1 (0)	44 (15)	17 (8)	5 (1)	7 (1)	1 (0)	13 (3)	43 (13)
EE (PS)	3 (1)	1 (0)	1 (0)	0 (0)	4 (1)	0 (0)	9 (2)	11 (2)	0 (0)	3 (0)	0 (0)	4 (2)	18 (4)
EE(PMD)	4 (0)	1 (1)	1 (1)	0 (0)	4 (1)	0 (0)	10 (3)	8 (1)	1 (0)	3 (2)	0 (0)	4 (1)	16 (4)
EE (INST)	4 (1)	1 (1)	0 (0)	0 (0)	3 (0)	0 (0)	8 (2)	5 (1)	1 (0)	1 (0)	0 (0)	1 (0)	8 (1)
EC (TE)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	6 (2)	0 (0)	0 (0)	0 (0)	2 (1)	8 (3)
EC (VL)	6 (2)	3 (0)	3 (1)	0 (0)	6 (0)	1 (0)	19 (3)	5 (1)	2 (1)	3 (0)	1 (1)	9 (0)	20 (3)
EC (NG)	7 (1)	0 (0)	3 (0)	0 (0)	5 (2)	1 (0)	16 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
ES	2 (0)	0 (0)	1 (1)	0 (0)	3 (0)	0 (0)	6 (1)	6 (2)	0 (0)	3 (2)	2 (1)	3 (0)	14 (5)
MA (OR)	5 (3)	3 (0)	2 (1)	1 (0)	3 (1)	0 (0)	14 (5)	6 (3)	1 (0)	0 (0)	0 (0)	2 (0)	9 (3)
ME (MD)	4 (0)	0 (0)	0 (0)	1 (0)	7 (1)	0 (0)	12 (1)	7 (0)	1 (0)	0 (0)	0 (0)	4 (0)	12 (0)
ME (FMHT)	2 (1)	1 (0)	0 (0)	0 (0)	3 (0)	0 (0)	6 (1)	3 (0)	2 (1)	2 (1)	0 (0)	4 (0)	11 (2)
ME (TE)	8 (0)	0 (0)	2 (0)	0 (0)	1 (0)	0 (0)	11 (0)	11 (2)	1 (0)	0 (0)	0 (0)	1 (0)	13 (2)
MM (MT)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	4 (2)	0 (0)	1 (0)	0 (0)	0 (0)	5 (2)
PH (AMS)	1 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	2 (0)	0 (0)	2 (0)	0 (0)	0 (0)	4 (0)
<b>Total</b>	<b>76 (20)</b>	<b>16 (3)</b>	<b>27 (9)</b>	<b>3 (0)</b>	<b>79 (20)</b>	<b>4 (0)</b>	<b>205 (52)</b>	<b>123 (42)</b>	<b>20 (4)</b>	<b>32 (9)</b>	<b>5 (3)</b>	<b>64 (11)</b>	<b>244 (69)</b>

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.14 Enrolment in M.Sc Programmes during 2022-2023 (Castewise)

Dept. / Year	I & II					III & IV				
	OP	SC	ST	OBC	TOTAL	OP	SC	ST	OBC	TOTAL
M.Sc (CY)	11 (5)	4 (2)	0 (0)	7 (2)	22 (9)	11 (6)	4 (3)	0 (0)	8 (4)	23 (13)
M.Sc MA)	12 (3)	4 (2)	0 (0)	7 (1)	23 (6)	5 (1)	4 (0)	0 (0)	12 (4)	21 (5)
M.Sc (PH)	9 (3)	4 (1)	0 (0)	5 (1)	18 (5)	9 (1)	4 (1)	0 (0)	3 (2)	16 (4)
M.Sc (BT)	5 (2)	1 (0)	1 (0)	4 (2)	11 (4)	5 (3)	2 (1)	0 (0)	4 (2)	11 (6)
M. Sc (EES)	10 (7)	3 (1)	2 (0)	3 (1)	18 (9)	8 (3)	2 (0)	2 (0)	5 (2)	17 (5)
<b>Total</b>	<b>47 (20)</b>	<b>16 (6)</b>	<b>3 (0)</b>	<b>26 (7)</b>	<b>92 (33)</b>	<b>38 (14)</b>	<b>16 (5)</b>	<b>2 (0)</b>	<b>32 (14)</b>	<b>88 (33)</b>

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.15 Enrolment in MBA programmes during 2022-2023 (Gender wise)

Master of Business Administration (MBA)	I & II Semester	III & IV Semester
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	31 (12)	17 (10)
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(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.16 Enrolment in MBA Programme during 2022-2023(Castewise):

	MBA I & II						MBA III & IV					
	OP	GEN (EWS)	SC	ST	OBC	TOTAL	OP	GEN (EWS)	SC	ST	OBC	TOTAL
<b>MBA</b>	20 (10)	2 (0)	3 (1)	1 (0)	5 (1)	31 (12)	13 (7)	1(0)	2 (2)	0 (0)	1 (1)	17 (10)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.17 Enrolment in MSW Programme during 2022-2023 (Genderwise)

Master of Social Work (MSW)	I & II Semester	III & IV Semester
	9 (4)	6 (5)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

### 3.4.18 Enrolment in MSW Programme during 2022-2023 (Castewise)

MSW	MSW I & II					MSW III & IV				
	OP	SC	ST	OBC	TOTAL	OP	SC	ST	OBC	TOTAL
	5 (2)	2 (1)	0 (0)	2 (1)	9 (4)	5 (4)	0 (0)	0 (0)	1 (1)	6 (5)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

## 3.5 Exam and Evaluation:

Performance of a student is assessed throughout the semester and assessment in a course is made based on his/her performance. For each theory paper of any academic semester there is a mid-term and an end-term examination following the regulations.

## 3.6 Admission Statistics

### 3.6.1 Admission of Research Scholars for Regular PhD programme during 2022-2023

SL. NO.	Branch of Research Study	Gender		Caste				Total
		Male	Female	OP	SC	ST	OBC	
1	Biotechnology	4	8	10	1	0	1	12
2	Chemical Engineering	2	5	4	1	0	2	7
3	Chemistry	3	4	4	1	1	1	7
4	Civil Engineering	4	2	4	1	0	1	6
5	Computer Science & Engineering	6	7	10	2	0	1	13
6	Earth & Environmental Studies	0	1	1	0	0	0	1
7	Electrical Engineering	6	3	6	1	0	2	9
8	Electronics & Communications Engineering	2	5	6	0	0	1	7
9	Humanities & Social Sciences	0	3	3	0	0	0	3



SL. NO.	Branch of Research Study	Gender		Caste				Total
		Male	Female	OP	SC	ST	OBC	
10	Management Studies	0	2	2	0	0	0	2
11	Mathematics	11	3	8	1	0	5	14
12	Mechanical Engineering	11	0	6	2	0	3	11
13	Metallurgical & Materials Engineering	5	0	3	1	0	1	5
14	Physics	7	2	7	0	0	2	9
15	Centre for Research on Environment and Water (CREW)	0	1	1	0	0	0	1
16	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0	0	0	0	0
17	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0
18	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
		61	46	75	11	1	20	107

### 3.6.2 Admission of Research Scholars for Professional PhD programme

SL. NO.	Branch of Research Study	Gender		OP	Caste			Total
		Male	Female		SC	ST	OBC	
1	Biotechnology	1	0	1	0	0	0	1
2	Chemical Engineering	0	0	0	0	0	0	0
3	Chemistry	0	0	0	0	0	0	0
4	Civil Engineering	1	0	1	0	0	0	1
5	Computer Science & Engineering	1	2	3	0	0	0	3
6	Earth & Environmental Studies	0	0	0	0	0	0	0
7	Electrical Engineering	2	0	2	0	0	0	2
8	Electronics & Communications Engineering	2	0	2	0	0	0	2
9	Humanities & Social Sciences	1	0	1	0	0	0	1
10	Management Studies	1	1	1	0	1	0	2
11	Mathematics	0	2	2	0	0	0	2
12	Mechanical Engineering	0	0	0	0	0	0	0
13	Metallurgical & Materials Engineering	1	0	1	0	0	0	1
14	Physics	1	0	1	0	0	0	1
15	Centre for Research on Environment and Water (CREW)	0	0	0	0	0	0	0



SL.		Gender			Caste			
16	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0	0	0	0	0
17	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0
18	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
		11	5	15	0	1	0	16

### 3.6.3 Total strength of Research Scholars for Regular PhD programme in 2022-2023

SL. NO	Branch of Research Study	Gender			Caste			Total
		Male	Female	OP	S C	S T	OB C	
1	Biotechnology	22	30	35	8	1	8	52
2	Chemical Engineering	18	15	22	4	1	6	33
3	Chemistry	12	10	14	4	1	3	22
4	Civil Engineering	20	6	14	4	1	7	26
5	Computer Science & Engineering	39	23	40	5	2	15	62
6	Earth & Environmental Studies	1	3	3	0	0	1	4
7	Electrical Engineering	35	8	24	7	1	11	43
8	Electronics & Communications Engineering	16	11	15	5	1	6	27
9	Humanities & Social Sciences	4	10	10	1	0	3	14
10	Management Studies	4	5	6	1	0	2	9
11	Mathematics	32	15	25	6	1	15	47
12	Mechanical Engineering	35	1	20	6	0	10	36
13	Metallurgical & Materials Engineering	25	1	14	2	0	10	26
14	Physics	23	6	17	4	0	8	29
15	Centre for Research on Environment and Water (CREW)	0	1	1	0	0	0	1



SL. NO	Branch of Research Study	Gender			Caste			Total
		Male	Female	OP	SC	ST	OB	
16	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0	0	0	0	0
17	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0
18	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
<b>Total</b>		<b>286</b>	<b>145</b>	<b>260</b>	<b>57</b>	<b>9</b>	<b>105</b>	<b>431</b>

### 3.6.4 Total strength of Research Scholars for Professional PhD programme (2022-23)

SL. NO	Branch of Research Study	Gender			Caste			Total
		Male	Female	OP	SC	ST	OB	
1	Biotechnology	3	2	4	0	0	1	5
2	Chemical Engineering	11	10	16	2	0	3	21
3	Chemistry	3	3	5	1	0	0	6
4	Civil Engineering	16	2	15	2	0	1	18
5	Computer Science & Engineering	26	14	35	2	1	2	40
6	Earth & Environmental Studies	3	1	4	0	0	0	4
7	Electrical Engineering	17	5	21	0	0	1	22
8	Electronics & Communications Engineering	28	8	33	2	0	1	36
9	Humanities & Social Sciences	8	3	10	0	0	1	11
10	Management Studies	12	5	15	0	1	1	17
11	Mathematics	5	4	7	0	0	2	9
12	Mechanical Engineering	19	1	16	3	0	1	20
13	Metallurgical & Materials Engineering	6	0	5	1	0	0	6
14	Physics	10	5	9	4	0	2	15
15	Centre for Research on Environment and Water (CREW)	0	0	0	0	0	0	0
16	Centre for Biomedical Engineering & Assistive Technology (BEAT)	1	0	1	0	0	0	1
17	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0
18	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
<b>Total</b>		<b>168</b>	<b>63</b>	<b>196</b>	<b>17</b>	<b>2</b>	<b>16</b>	<b>231</b>

### 3.6.5 Students admitted to B.Tech programmes from various annual income groups during 2022-2023- 1st Year

SL NO.	STATE	Below Rupees 1 lakh	Between Rupees 1 lakh To Rupees 5 lakhs	Above Rupees 5 lakhs	TOTAL
1	Andhra Pradesh	48	6	34	88
2	Assam	0	2	0	2
3	Bihar	47	24	32	103
4	Chattishgarh	0	0	1	1
5	Delhi	1	0	2	3
6	Goa	0	0	1	1
7	Gujarat	0	0	2	2
8	Haryana	0	0	3	3
9	Jammu & Kashmir	0	0	0	0
10	Jharkhand	6	8	8	22





SL NO.	STATE	Below Rupees 1lakh	Between Rupees 1lakh To Rupees 5lakhs	Above Rupees 5lakhs	TOTAL
11	Karnataka	2	0	2	4
12	Madhya Pradesh	0	1	5	6
13	Maharashtra	1	2	4	7
14	Meghalaya	0	0	0	0
15	Mizoram	0	0	0	0
16	Odisha	2	1	5	8
17	Sikkim	1	0	0	1
18	Rajasthan	3	7	2	12
19	Tamil Nadu	1	1	1	3
20	Telangana	4	2	9	15
21	Tripura	1	0	0	1
22	Uttar Pradesh	20	12	19	51
23	Uttaranchal	0	1	2	3
24	West Bengal	72	75	163	310
25	Andaman & Nicobar	0	3	8	11
<b>TOTAL</b>		209	145	303	658

**3.6.6 The Number Of Candidates Admitted To B.Tech & M.Tech Dual Degree Programme From Various Annual Income Groups During 2022-2023- 1st Year**

SLNO.	STATE	Below Rupees 1lakh	Between Rupees 1lakh to Rupees 5lakhs	Above Rupees 5lakhs	TOTAL
1	Andhra Pradesh	1	0	0	1
2	Bihar	1	0	0	1
3	Telangana	0	0	0	0
4	Uttar Pradesh	2	0	0	2
5	West Bengal	2	0	2	4
<b>TOTAL</b>		6	0	2	8

**3.6.7 The Number Of Candidates Admitted To Integrated M. Sc. Programme From Various Annual Income Groups During 2022-2023- 1st Year**

SLNO.	STATE	Below Rupees 1lakh	Between Rupees 1lakh to Rupees 5lakhs	Above Rupees 5lakhs	TOTAL
1	Andhra Pradesh	0	0	1	1
2	Bihar	0	0	2	2
3	Jharkhand	0	0	1	1
4	Maharashtra	0	0	0	0
5	Orissa	0	0	1	1
6	Telangana	0	0	0	0
7	Uttar Pradesh	0	0	1	1
<b>TOTAL</b>		0	0	6	6

**3.6.8 The Details Of Admission To The PG Programmes During 2022-2023 -1st Year**

Department	PG Program	OPE	EW	OB				TOTA
		N	S	C	F	S	L	
Physics	Advanced Material Science & Technology	1	0	1	0	0	0	2
Biotechnology	Biotechnology	7	1	1	1	0	0	10
Chemical Engineering	Chemical Engineering	1	1	0	0	0	0	2
Chemical Engineering	Energy Resources and Sustainable Environmental Engineering	1	0	1	1	0	0	3



Department	PG Program	OPE N	EW S	OB C		F S	TOTA L
Computer Science & Engineering	Computer Science & Engineering	10	2	23	7	1	44
Earth and Environmental Studies (Coordinating)	Environmental Science & Technology	2	0	3	1	0	6
Mechanical Engineering	Fluid Mechanics and Heat Transfer	2	1	3	0	0	6
Civil Engineering	Geotechnical Engineering	3	0	8	2	0	13
Mechanical Engineering	Machine Design	4	0	7	0	1	12
Metallurgical and Materials Engineering	Metallurgy and Materials Technology	2	0	0	0	0	2
Electronics and Communication Engineering	Microelectronics & VLSI	6	3	6	3	0	19
Mathematics	Operations Research	5	3	3	2	1	14
Electrical Engineering	Power Electronics & Machine Drives	4	1	4	1	0	10
Electrical Engineering	Power Systems	3	1	4	1	0	9
Electrical Engineering	Instrumentation and Control	4	1	3	0	0	8
Civil Engineering	Structural Engineering	6	2	6	3	0	18
Electronics and Communication Engineering	Next Generation Communication And Networks	7	0	5	3	0	16
Mechanical Engineering	Thermal Engineering	8	0	1	2	0	11
Total M. Tech.		<b>76</b>	<b>16</b>	<b>79</b>	<b>27</b>	<b>3</b>	<b>205</b>
Chemistry	MSc in Chemistry	10	2	8	3	0	23
Physics	MSc in Physics	10	3	6	4	0	23
Mathematics	MSc in Mathematics	9	3	6	4	2	24
EES	MSc in Applied Geology & Geoinformatics	8	2	5	3	2	20
Biotechnology	MSc in Life Sciences	6	1	3	2	1	13
Management Studies	MBA	20	2	5	3	1	31
HSS	MSW	5	0	2	2	0	9
<b>Total Admission</b>		<b>144</b>	<b>29</b>	<b>114</b>	<b>48</b>	<b>9</b>	<b>348</b>

### 3.6.9 The Details Of Admission Of Students Under EWS To The Different Programmes During 2022-2023 -1st Year

Department	PG Program / Specialization	EWS		TOTAL
		Male	Female	
Physics	Advanced Material Science & Technology	0	0	0



Biotechnology	Biotechnology	1	0	1
Chemical Engineering	Chemical Engineering	1	0	1
Chemical Engineering	Energy Resources and Sustainable Environmental Engineering	0	0	0
Computer Science & Engineering	Computer Science & Engineering	1	1	2
Earth and Environmental Studies (Coordinating)	Environmental Science & Technology	0	0	0
Mechanical Engineering	Fluid Mechanics and Heat Transfer	1	0	1
Civil Engineering	Geotechnical Engineering	0	0	0
Mechanical Engineering	Machine Design	0	0	0
Metallurgical and Materials Engineering	Metallurgy and Materials Technology	0	0	0
Electronics and Communication Engineering	Microelectronics & VLSI	3	0	3
Mathematics	Operations Research	3	0	3
Electrical Engineering	Power Electronics & Machine Drives	0	1	1
Electrical Engineering	Power Systems	1	0	1
Electrical Engineering	Instrumentation and Control	0	1	1
Civil Engineering	Structural Engineering	2	0	2
Electronics and Communication Engineering	Telecommunication Engineering	0	0	0
Mechanical Engineering	Thermal Engineering	0	0	0
	<b>Total M. Tech.</b>	<b>13</b>	<b>3</b>	<b>16</b>
Chemistry	MSc in Chemistry	1	1	2
Physics	MSc in Physics	3	0	3
Mathematics	MSc in Mathematics	3	0	3
EES	MSc in Applied Geology & Geoinformatics	2	0	2
Biotechnology	MSc in Life Science	1	0	1
Management Studies	MBA	2	0	2
HSS	MSW	0	0	0
	<b>Total Admission</b>	<b>25</b>	<b>4</b>	<b>29</b>

SL. NO.	Branch of Research Study	EWS		Total
		Male	Female	
1	Biotechnology	2	1	3
2	Chemical Engineering	0	0	0
3	Chemistry	1	1	2
4	Civil Engineering	1	1	2
5	Computer Science & Engineering	1	0	1
6	Earth & Environmental Studies	0	0	0
7	Electrical Engineering	1	0	1
8	Electronics & Communications Engineering	0	1	1
9	Humanities & Social Sciences	1	0	1
10	Management Studies	0	0	0
11	Mathematics	1	2	3
12	Mechanical Engineering	1	0	1
13	Metallurgical & Materials Engineering	1	0	1



SL. NO.	Branch of Research Study	EWS		Total
		Male	Female	
14	Physics	0	0	0
15	Centre for Research on Environment and Water (CREW)	0	0	0
16	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0
17	Centre for Advanced Research on Energy (CARE)	0	0	0
18	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0
<b>Total</b>		10	6	16

Name of the programme	EWS		Total
	Male	Female	
Bachelor of Technology in Biotechnology	8	2	10
Bachelor of Technology in Chemical Engineering	8	2	10
Bachelor of Technology in Computer Science & Engineering	29	8	37
Bachelor of Technology in Civil Engineering	8	2	10
Bachelor of Technology in Electronics & Communication Engineering	11	4	15
Bachelor of Technology in Electrical Engineering	11	2	13
Bachelor of Technology in Metallurgical & Materials Engineering	7	2	9
Bachelor of Technology in Mechanical Engineering	17	7	24
B.Tech & M.Tech Dual Degree in Biotechnology	1	0	1
B.Tech & M.Tech Dual Degree in Chemical Engineering	0	1	1
5 year integrated M.Sc in Chemistry	2	1	3
<b>Total</b>	102	31	133

## 4. Departments

### 4.1 Department of Biotechnology

#### 4.1.1 Department at a Glance:

The Department of Biotechnology, NIT Durgapur was established in 2005 with the B. Tech Biotechnology Program. The M.Tech program was subsequently introduced in 2009. In the year 2020, the department introduced a MSc in Life Sciences program. The department consists of 17 faculties with diverse research backgrounds, engaged in teaching and research in applied biological sciences and biomedical engineering. Faculty members are actively involved in projects, publishing high quality research articles, patents and have established collaborations with various national and international laboratories. The department frequently receives grants from various central funding agencies such as DST, DBT, CSIR to support research activities. It is equipped with extensive research facilities and infrastructure to develop cutting-edge technology through interdisciplinary research, training, and technical innovation. From past few years, the department has steadily emerged as a leader in providing excellent education at both the undergraduate and postgraduate levels with strong emphasis on modern biotechnology skills and on extensive laboratory training. The department also hosts international students. The curriculum and syllabi have been framed to meet the challenges of the growing demand of the Biotechnology sector in India. The department aims to provide a holistic education by means of innovative teaching, extracurricular activities and frequently organised seminars and workshops.

#### 4.1.2 Mission & Vision

##### Mission

- To produce highly qualified, well-rounded and motivated graduates and postgraduates possessing adequate basic and technical knowledge and understanding in Biotechnology, who can provide service and eventually leadership to the nation and to the world.
- To pursue creative research and develop new technologies in the field of Biotechnology, which can contribute to the industry and to academia.

##### Vision



- To focus on quality teaching and research and foster innovation in the field of Biotechnology to cater to the needs of society and of the country.

#### 4.1.3 Faculty

Name	Designation	Email-id
Apurba Dey	HAG Professor	apurba.dey@bt.nitdgp.ac.in
Sudip Chattopadhyay	HAG Professor	sudip.chattopadhyay@bt.nitdgp.ac.in
Sudit Sekhar Mukhopadhyay	Professor	sudit.mukhopadhyay@bt.nitdgp.ac.in
Surabhi Chaudhuri	Professor	surabhi.chaudhuri@bt.nitdgp.ac.in
Kaustav Aikat	Professor	kaustav.aikat@bt.nitdgp.ac.in
Dalia Dasgupta Mandal	Professor	dalia.dasgupta@bt.nitdgp.ac.in
Debjani Dutta	Associate Professor	debjani.dutta@bt.nitdgp.ac.in
Kazy Sufia Khannam	Associate Professor	sufia.kazy@bt.nitdgp.ac.in
Monidipa Ghosh	Associate Professor	monidipa.ghosh@bt.nitdgp.ac.in
Subhankar Roy Barman	Associate Professor	subhankar.roybarman@bt.nitdgp.ac.in
Ashish Bhattacharjee	Associate Professor	ashish.bhattacharjee@bt.nitdgp.ac.in
Nibedita Mahata	Assistant Professor	nibedita.mahata@bt.nitdgp.ac.in
Oindrilla Mukherjee	Assistant Professor	oindrilla.mukherjee@bt.nitdgp.ac.in
Sougata Saha	Assistant Professor	sougata.saha@bt.nitdgp.ac.in
Debojyoti De	Assistant Professor	debojyoti.de@bt.nitdgp.ac.in
Sudipta Mondal	Assistant Professor	sudipta.mondal@bt.nitdgp.ac.in
Amita Barik	Assistant Professor	amita.barik@bt.nitdgp.ac.in

#### 4.1.4 Equipments (Newly Added)

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Water Purifier	08.07.2022	52300
2	Projector	27.05.2022	142860
3	Desktop Computer	25.08.2022	211604
4	CO2 Cylinder	10.02.2023	15222
5	UPS	11.10.2022	18000
6	UPS	10.10.2022	7785
7	Freezer	03.11.2022	104000
8	Ultralow Deep Freezer	01.03.2023	741880
9	Cooling Centrifuge	06.03.2023	299720
10	Motor for Centrifuge	02.02.2023	53373
11	Microwave Oven	16.11.2022	6586
12	Weighing Balance	07.12.2022	95000
13	PH Meter	22.12.2022	59750
14	Stabilizer	28.01.2023	10030
15	Magnetic Stirrer	18.01.2023	11800
16	Bacteriological Incubator	18.01.2023	108500
17	Refrigerator	21.01.2023	24998
18	Pipette	03.02.2023	5500
19	PH Meter	14.02.2023	55000
20	Magnetic Stirrer	11.02.2023	8333
21	Probe Sonicator	16.02.2023	123000
22	Non Refrigerated Centrifuge	13.02.2023	39847.61
23	Industrial Oven	13.02.2023	21059.22
24	UV-Transilluminator	21.02.2023	59000
25	Bacteriological Incubator	22.02.2023	108300
26	Biosafety Cabinet	14.02.2023	284500
27	Microscope	13.03.2023	223610
28	Double Door Refrigerator	03.03.2023	30887
29	Stabilizer	23.02.2023	18830





#### 4.1.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	UG Lab 1	NA
2	UG Lab 2	NA
3	PG Lab	Spectrophotometer
4	CIF I	Spectrophotometer, Gel documentation system
5	CIF II	Flow cytometer; Flurimeter, Sonicator, -80 freezer
6	Bioinformatics	Computational facility
7	Microscopy Room	Fluorescet Microscopes
8	Cell culture facility	Cell culture facility
9	Molecular Plant Pathogen Interactions (SRB)/Microbial products ,Drug delivery systems and Ecotoxicology(DDG)	Spectrophotometer, Refrigerated centrifuge, PCR machine. Incubator shaker, UV-Vis Spectrophotometer, Microscope
10	Microbial Biotechnology (SC/KA)	GC, UV Vis Spectrophotometer
11	Inflammation Biology and Cancer cell Signaling (AB)/Genomic instability and Protein Engineering (SSM)	Real time PCR, Cold centrifuge, Semi confocal microscope etc.
12	Immunobiology Lab (MG)	Biosafety cabinet Level 3, Sonicator, Centrifuge, Free Radical Analyser, Ph meter, Vortex, Gel rocker.
13	Plant Developmental Biology (SCH)	Incubator shaker, PCR machine, Centrifuge machine, gel electrophoresis apparatus
14	Bioprocess Engineering (AD/SM)	UV Vis Spectrophotometer
15	Food and Environmental Biotechnology (SK/DD)	Incubator shaker, UV-Vis Spectrophotometer, PCR machine, GC, -20 freezer, gel electrophoresis
16	Cellular and molecular Immunology (NM)	CO <sub>2</sub> -Incubator, Biosafety Cabinet-II, ELISA reader
17	Infection Biology laboratory (OM)	Dual gas incubator; Nanopore sequencer system
18	Laboratory of Cellular Differentiation (SS/DDE)	2D gel electrophoresis, Real Time PCR Machine with HRM, -80 Freezer
19	Chemical Biology Laboratory (SM)	Chemical fume hood; Rotary evaporator, Solid Phase Peptide Synthesizer

#### 4.1.6 PhD Degree awarded till 2022-23

Fifty.

#### 4.1.7 Specialization

- Environmental Toxicology, and Microbial bioprocess, Drug delivery system
- Infection Biology
- Immunology
- Cell signaling
- Biochemistry
- Environmental Biotechnology
- Food Biotechnology
- Plant Biology
- Bioinformatics, Computational Biology
- Molecular Biology of Cancer and Protein engineering
- Bioprocess Engineering and Environmental Biotechnology
- Immunology, Infection Biology
- Cellular and molecular biology, Cancer cell signaling



- Stem Cell and Chemical Biology
- Data Science
- Computational Genomics
- Cell and Molecular Biology
- Biochemical Engineering, Microbial Fermentation
- Environmental Microbiology and Biotechnology, Microbial Genomics and Metagenomics
- Host-pathogen interaction and biosensor development
- Bionanotechnology, Chemical Biology
- Plant Biotechnology and Molecular Plant Pathogen Interactions
- Biochemistry, Food Biotechnology

#### 4.1.8 Proposed Plan for Research

- Bionanotechnology
- Encapsulation of bioactive compounds
- Immunoinformatics
- Immunology and cell signalling
- Antimicrobial food packaging
- Nanoremediation of pollutants
- Signal transduction
- Bio-delignification and LCB Valorization
- Computational study on intrinsic disordered proteins
- 1. DNA damage repair and cancer 2. Engineering of Cellulase enzymes
- Nitrogenous waste material degradation by Annamox bacteria
- Microbiome; Host pathogen interaction; Antimicrobials
- Monocyte/macrophage activation, Cancer progression
- Biopolymer for Designing Drug delivery system
- Use of Systems Biology approach to understand Metabolic disorder
- Study of regulation of physiological processes at the cellular, tissue and organism level by post-translational protein arginylation • Research on Human Microbiome
- 1. "Identification of anti-leishmanial molecules, acting as novel inhibitors against intracellular lipid signalling machinery in Leishmania donovani" 2. Devising strategies to overcome Multi Drug resistance in Staphylococcus aureus.
- Production of biofuel and other value-added products from microorganisms; Microbial production of lactic acid; Microbial Production of Polyhydroxyalkanoates (PHA) and its application as bioplastic
- Development of peptide based self-assembly modules for diverse application
- Understanding amyloid aggregation from structural perspective
- Plant defense response and mechanisms of pathogenesis in rice-blast pathosystem
- Metabolomics

#### 4.1.9 Area of Research Interest

- LCB Valorization
- Drug delivery system design
- Immunotherapy
- Bionanotechnology
- Immunoinformatics
- Immunology and cell signalling
- Microbial Biotechnology
- signal transduction
- Macromolecular interactions, RNA biology
- Understanding the mechanism of Fanconi anemia, a cancer susceptible disorder. Development of engineered Cellulase for the Industrial work • Bioprocess engineering and Environmental Engineering
- Infection Biology, Microbiome
- Inflammatory diseases, Biomarker identification for targeted therapy
- Metabolic Disorder
- Inflammation, stress response.
- Petroleum Microbiology, Groundwater Microbiology, Microbiology of deep biosphere, Microbial carbon dioxide capture and conversion to value added products



- Immunologybiology, Biosensor, Nanomedicine
- Biofuels, Bioplastics
- Peptide self-assembly, Bionanotechnology, Protein folding
- Plant defense response and mechanisms of pathogenesis in rice-blast pathosystem
- Functional Food, Nanobiotechnology, Food Biochemistry

#### 4.1.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Fortis India Pvt. Ltd.	Development of recombinant human proteins	Consultancy and research

#### 4.1.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Central Mechanical Engineering Research Institute, Durgapur	Research projects on Biopolymer Development and its Applications	Dr. Nripen Chanda	Research
National Institute of Cholera and Enteric Diseases, Kolkata	Research on stability and functional characterization of IpaD	Dr. Hemanta Koley	Research
Central Institute of Technology Kokrajhar	Food Biotechnology	Surabhi Chaudhuri	Research
NIPGR, New Delhi	Research Grant	Dr. Alok K. Sinha	Research
IIT GUWAHATI	Research	Prof. Tapas Mandal	Publication in Journal of Environmental Chemical Engineering
SRM Institute of Science and Technology	antimicrobials	Dr. Priyadip Das	Joint Research
IIT Patna	antimicrobial polymers	Dr. Subrata Chattopadhyay	Joint Research
Bose Institute, Kolkata	Research	Prof. Kaushik Biswas	In vivo experiments in the field of Cancer Biology
Sungkyunkwan University School of Medicine, South Korea	Animal Experiments	Prof. Kyeong Kyu Kim	Use of their experimental facilities, jointly working on research problems and coauthoring papers and patents
Indian Institute of Science Bangalore	Systems Biology	Dr. Mohit Kumar Jolly	Student exchange
IIT Indore	Computational Biology	Parimal Kar	Research
Tezpur University	Computational Biology	Venkata Satish Kumar Mattaparthi	Research
Indian Institute of Technology Kharagpur	Microbiology of Deep Biosphere	Prof P Sar, Biotechnology Department, IIT KGP	Joint Sponsored Research Project
Borehole Geophysics Research Laboratory, MoES-GOI, Karad, MH	Deep Biosphere Microbiology	Dr. S Roy	Sample Collection for research project
Central Manufacturing Technology Institute, The Ministry of Heavy Industries & Public Enterprises, Gov. of India	Sensor reseach	Dr. Monidipa Ghosh, Prof. Chiranjib Koley, Mrs. Megha Agrawal	Development of point of care device for cancer detection.



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Illinois at Chicago	Joint Reserach	Petr Kral	Joint Publication
IIT Bombay	Rice blast fungus	Dr. Rajesh Patkar	Research
Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram	Functional Food	Dr. Debjani Dutta	Research

#### 4.1.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
NIL	NIL	NIL	2023-08-07
Piezoelectric peptide-based materials and piezoelectric devices containing same	Ehud Gazit, BERA Santu, Yu Chen, Sharon Gilead, Kai Tao, Sigal Lazar, Rusen Yang, Sudipta Mondal, Vasantha Basavalingappa	17 /442,765	2022-06-06

#### 4.1.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. Partha P. Majumder	Karyashala Program funded by SERB, Govt. of India	2022-12-12
Prof. Partha P Majimder	Karyashala, SERB	2022-12-12
Prof. Partha Chakraborty	Karyashala, SERB	2022-12-13
Dr Kolli Sarath, CEO, Boltzmann	Karyashala, SERB	2022-12-14
Prof. Kaushik Biswas, Bose institute Kolkata	Karyashala, SERB	2022-12-15
Prof. Zhumur Ghosh, Bose institute Kolkata	Karyashala, SERB	2022-12-15
Prof. Mrinal Kanti Ghosh, IICB kolkata	Karyashala, SERB	2022-12-13
Dr. Paritosh Parashar, Director, Sarsuag Discovery	Karyashala, SERB	2022-12-14
Dr. Biswapriya B. Misra, Director, Nveda Biosciences	Karyashala, SERB	2022-12-16
Prof. Saikat Chakrabarti, IICB Kolkata	Karyashala, SERB	2022-12-17
Prof. Dr. Oishee Chakrabarti, SINP Kolkata	Karyashala, SERB	2022-12-17
Prof. Dr. Shilpak Chatterjee, Senior Scientist, IICB Kolkata	Karyashala, SERB	2022-12-18
Dr. Sudipto Saha, Bose institute Kolkata	Karyashala, SERB	2022-12-18
Dr. Swapan K Jana, Director -R&D and Manufacturing at Serum Institute of India Limited, Prof. Uday Bandyopadhyay, Director, Bose Institute, Prof. Anupam Basu, Director, NIT Durgapur.	Industry Academia Research Interaction BIOTECHNOLOGY 2022: A Confluence of Science and Technology	2022-09-21

#### 4.1.14 Journal: Published in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
P. Sarkar, M. Maji, M. Ghosh, A. Dey.	2. Kinetic modelling of high concentration 4-Nitrophenol	Biocatalysis and	Volume:41 Issue No: Page No:102316. Year:2022 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
	biodegradation by an isolated bacterial consortium and posttreatment ecotoxicity analysis.	Agricultural Biotechnology.	
SR Dodda, M Hossain, P Jain, K Aikat, SS Mukhopadhyay	Comparative Biochemical and Structural Properties of an Industrially Important Biocatalyst Cellobiohydrolase Cel7A from Thermophilic <i>Aspergillus fumigatus</i>	Applied Biochemistry and Microbiology	Volume:58 Issue No:5 Page No:564–574 Year:2022 Month:Sep
Sudipta Mondal,	Linear One-Dimensional	Acs Nano	Volume:16 Issue No: Page No:18307
Pavel Rehak, Nandita Ghosh, Petr Král, and Ehud Gazit	Assembly of Metal Nanostructures onto an Asymmetric Peptide Nanofiber with High Persistence Length		–18314 Year:2022 Month:Nov
Samadarsi, Rohini & Augustin, Linus & Kumar, Chandan & Dutta, Debjani	1. In-silico and in-vitro studies on the efficacy of mangiferin against colorectal cancer	BMC Chemistry	Volume:16 Issue No:42 Page No: Year:2022 Month:Aug
Subhasish Majee, Kalyan Kumar Sarkar, Rwidhi Sarkhel, Gopinath Halder, Dalia Dasgupta Mandal, Navanietha Krishnaraj Rathinam, Tamal Mandal	Bio-organic fertilizer production from industrial waste and insightful analysis on release kinetics	Journal of Environmental Management	Volume:325 Issue No:116378 Page No:12 Year:2023 Month:Jan
Dalia Dasgupta Mandal, Gaurav Singh, Subhasree Mazumdar, Protik Chanda	Challenges in developing strategies for valorization of lignin- A major pollutant of paper mill industry	Environmental Science and Pollution Research	Volume:30 Issue No:11119–11140 Page No:22 Year:2022 Month:Dec
Subhasree Mazumdar, Tamal Mandal, Dalia Dasgupta Mandal	Chitosan based micro and nanoparticulate delivery systems for bacterial prodigiosin: Optimization and toxicity in animal model system	International Journal of Biological Macromolecules	Volume:222 Issue No: Page No:10 Year:2022 Month:Dec
Indrani Paul, Tamal Mandal, Dalia Dasgupta Mandal	Assessment of bacterial biosurfactant production and application in Enhanced Oil Recovery (EOR)—A green approach	Environmental Technology and Innovation	Volume:28 Issue No: Page No:16 Year:2022 Month:Jun
Tania Paul, Abhijit Mondal, Tarun Kanti Bandyopadhyay, Nibedita Mahata, Biswanath Bhunia	Downstream Process Development for Extraction of Prodigiosin: Statistical Optimization, Kinetics, and Biochemical Characterization	Applied Biochemistry and Biotechnology	Volume:194 Issue No: Page No:5403–5418 Year:2022 Month:Jul
Pinku Chandra Nath, Tarun Kanti Bandyopadhyay, Nibedita Mahata, Sunil Pabbi, Onkar Nath Tiwari, Mikkili Indira, Biswanath Bhunia	Optimization and kinetic study of ultrasonic-mediated phycoerythrin extraction from <i>Anabaena</i> sp.	Biomass Conversion and Biorefinery	Volume: <a href="https://doi.org/10.1007/s13399-022-03329-9">https://doi.org/10.1007/s13399-022-03329-9</a> Issue No: Page No: Year:2022 Month:Oct
Ria Majumdar, Umesh Mishra, Nibedita Mahata*, Abhijit Mondal, Biswanath Bhunia	Delignification kinetics, colloidal behaviour, and cost–benefit analysis of cellulose nanofiber from <i>Imperata cylindrica</i> .	Biomass Conversion and Biorefinery	Volume: <a href="https://doi.org/10.1007/s13399-022-03450-9">https://doi.org/10.1007/s13399-022-03450-9</a> Issue No: Page No: Year:2022 Month:Oct
Sudeshna Halder, Namita Jaiswal, Hemanta Koley, Nibedita Mahata*	Cloning, improved expression and purification of invasion plasmid antigen D (IpaD): an effector protein of enteroinvasive	Biotechnology and Genetic engineering reviews	Volume: <a href="https://doi.org/10.1080/02648725.2023.2184027">https://doi.org/10.1080/02648725.2023.2184027</a>





Author(s) Name	Paper Name	Journal Name	Others Info
	Escherichia coli (EIEC)		Issue No: Page No: Year:2023 Month:Mar
Ojha, M., Verma, D., Chakraborty, N., Pal, A., Bhagat, P.K., Singh, A., Verma, N., Sinha, A.K. and Chattopadhyay, S.	MKKK20 works as an upstream triple-kinase of MKK3-MPK6- MYC2 module in Arabidopsis seedling development.	iScience	Volume:26 Issue No: <a href="https://doi.org/10.1016/j.isci.2023.106049">https://doi.org/10.1016/j.isci.2023.106049</a> Page No:106049 Year:2023 Month:Feb
Mazumdar Subhasree, Tamal Mandal, and Dalia Dasgupta Mandal	Comparative performance evaluation of chitosan based polymeric microspheres and nanoparticles as delivery system for bacterial beta-carotene derived from planococcus sp. TRC1.	International Journal of Biological Macromolecules	Volume:195 Issue No: Page No:13 Year:2022 Month:Jan
Sarkar Priyanka, Mazi Moumita, Ghosh Monidipa and Dey Apurba	Kinetic modeling of high concentration 4-nitrophenol biodegradation by an isolated bacterial consortium and post treatment ecotoxicity analysis	Biocatalysis and agricultural biotechnology	Volume:41 Issue No: Page No: Year:2022 Month:
Swamini Saini , Puranjan Mishra , Mansi Balhara , Debjani Dutta Shamik Ghosh , Surabhi Chaudhuri	Antimicrobial potency of Punica granatum peel extract: Against multidrug resistant clinical isolates	Gene Reports	Volume:30 Issue No: Page No: Year:2023 Month:Mar
Debasmita Dutta · Anamika Nayak · Debjani Dutta	Reconnoitring the Usage of Agroindustrial Waste in Carotenoid Production for Food Fortification: a Sustainable Approach to Tackle Vitamin A Deficiency	Food and Bioprocess Technology	Volume:16 Issue No: Page No:467–491 Year:2023 Month:Feb
Amita Mondal, Abhijit Hazra, Mohit Kumar Chattopadhyay, Debojyoti Kundu, Swarup Kumar Tarai, Pritam Biswas, Ashish Bhattacharjee, Sukdeb Mandal, Priyabrata Banerjee	Explicating the recognition phenomenon of hazardous nitroaromatic compound from contaminated environmental and cellular matrices by rationally designed pyridine-functionalized molecular probes	Heliyon	Volume:9 Issue No: Page No:e13620 Year:2023 Month:Mar
Samhita De, Sourav Paul, Anirban Manna, Chirantan Majumder, Koustav Pal, Nicolette Casarcia, Arijit Mondal, Sabyasachi Banerjee, Vinod Kumar Nelson, Suvranil Ghosh, Joyita Hazra, Ashish Bhattacharjee, Subhash Chandra Mandal, Mahadeb Pal and Anupam Bishayee	Phenolic Phytochemicals for Prevention and Treatment of Colorectal Cancer: A Critical Evaluation of In Vivo Studies (Review)	Cancers	Volume:15 Issue No:3 Page No:993 Year:2023 Month:Mar
Pritam Biswas, Surbhi Swaroop, Naibedya Dutta, Aditi Arya, Suvranil Ghosh, Sukhamoy Dhabal, Payel Das, Chirantan Majumder, Mahadeb Pal, Ashish Bhattacharjee	IL-13 and the hydroperoxy fatty acid 13(S)HpODE play crucial role in inducing an apoptotic pathway in cancer cells involving MAO-A/ROS/p53/p21 signaling axis.	Free Radical Biology and Medicine	Volume:195 Issue No: Page No:309–328 Year:2023 Month:Jan
Swarup Kumar Tarai, Saikat Mandal, Rituparna Bhaduri,	Bioactivity, molecular docking and anticancer behavior of	Spectrochimica Acta Part A:	Volume:287 Issue No: Page No:122059. Year:2023 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
Angana Pan, Pritam Biswas, Ashish Bhattacharjee, Sankar Ch. Moi	pyrrolidine based Pt(II) complexes: Their kinetics, DNA and BSA binding study by pectroscopic methods.	Molecular and Biomolecular Spectroscopy	
Tithli Sadhu, Sandip K. Lahiri, Jagannath Roy, Ashish Bhattacharjee, Jitamanyu Chakrabarty	Optimization of frying process for maintaining nutritional quality to satisfy consumers' sensory attributes: A novel application of multi-criteria decision-making approach	J Multi-Crit Decis Anal.	Volume:30 Issue No: Page No:44-61 Year:2022 Month:
Tithli Sadhu, Sandip K. Lahiri, Ashish Bhattacharjee, Jitamanyu Chakrabarty	Application of artificial neural network with metaheuristic optimization for improving the nutritive value of fried fish	Journal of Food Processing and Preservation	Volume:46 Issue No:12 Page No:e17190 Year:2022 Month:Dec
Pritam Biswas, Chandreyee Datta, Parul Rathi, Ashish Bhattacharjee	Fatty acids and their lipid mediators in the induction of cellular apoptosis in cancer cells (Review)	Prostaglandins and Other Lipid Mediators	Volume:160 Issue No: Page No:106637 Year:2022 Month:Jun
Fernandes GS, Singh RD, De D, Kim KK	Strategic Application of Epigenetic Regulators for Efficient Neuronal Reprogramming of Human Fibroblasts.	Int J Stem Cells	Volume:16(2) Issue No:30 Page No:156-167 Year:2023 Month:Mar
S Dutta, T Natoli, D Chanda, Sindhuja R, D De*	A Network based Efficient Drug Repurposing Strategy for Targeting Diabetes	Genes & Diseases	Volume:10(2) Issue No: Page No:340-343 Year:2023 Month:Mar
Jana, A., Naga, R., Saha, S. and Banerjee, D.R.	3D QSAR pharmacophore based lead identification of G9a lysine methyltransferase towards epigenetic therapeutics.	Journal of Biomolecular Structure and Dynamics	Volume: Issue No: Page No:1-19 Year:2022 Month:Oct
Mandal S, Bose H, Ramesh K, Sahu R, Saha A, Sar P and Kazy SK.	Depth wide distribution and metabolic potential of Chemolithoautotrophic microorganisms reactivated from deep continental granitic crust underneath the Deccan Traps at Koyna, India.	Frontiers in Microbiology	Volume:13 Issue No:1018940 Page No:1 – 23 Year:2022 Month:Dec
2. Sahu R, Kazy SK, Bose H, Mandal S, Dutta A, Saha A, Roy S, Dutta Gupta S, Mukherjee A, and Sar P	Diversity and function of microbial life in deep crystalline basement beneath the Deccan Traps explored through a 3 km scientific borehole at Koyna, western India	Environmental Microbiology	Volume:24 Issue No:6 Page No:2837-2853 Year:2022 Month:Aug
S.Saha, S.Vashishtha, B. Kundu, M. Ghosh	In-silico design of an immunoinformatics based multiepitope vaccine against Leishmania donovani.	BMC Bioinformatics	Volume:23 Issue No: Page No:103617-29 Year:2022 Month:
M. Maji, P.Kivale, M.Ghosh	A novel therapy to combat nonsmall cell lung carcinoma (A549) using platinum (IV) and barium titanate conjugate.	Journal of Drug Delivery Science and Technology	Volume:75 Issue No: Page No:1-12 Year:2022 Month:
T. Chatterjee, M. Ghosh, M. Maji, M. Ghosh, S.K. Pradhan, A.K.Meikap	Study of microstructural and electrical properties of silver substituted hydroxyapatite for drug delivery applications.	Materials Today Communications	Volume:31 Issue No: Page No:1-14 Year:2022 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
T. Chatterjee, M. Maji, S. Paul, M. Ghosh, S.K Pradhan, A. K.Meikap	Microstructural, electrical and mechanical characterizations of green-synthesized biocompatible calcium phosphate nanocomposites with morphological hierarchy	Materials Chemistry and Physics	Volume:296 Issue No: Page No:12724-5 Year:2023 Month:
Sandip Mondal, Kaustav Aikat,	Sorptive uptake of Ranitidine hydrochloride by Parthenium	Results in Surfaces and Interfaces	Volume:8 Issue No: Page No:100071 Year:2022 Month:Aug
Author(s) Name	Paper Name	Journal Name	Others Info
Gopinath Halder	hysterophorus based chemically treated N-biochar in static bed continuous flow system		
Surabhi Chaudhuri Swamini Saini, Puranjan Mishra, Mansi Balhara, Debjani Dutta, Shamik Ghosh	Antimicrobial potency of Punica granatum peel extract: Against multidrug resistant clinical isolates	Gene reports	Volume:30 Issue No:March Page No:101744 Year:2023 Month:Mar
Ritu Ningthoujam, Banishree Sahoo, Poulomi Ghosh, A. Shivani, Parna Ganguli & Surabhi Chaudhuri	Green production of zero-valent iron nanoparticles using pomegranate peel extracts and its use in lindane degradation	Nanotechnology for Environmental Engineering	Volume:8 Issue No:March Page No:581-589 Year:2023 Month:Mar
Susmita Devi, Avik Mukherjee, Debjani Dutta, Santosh Kumar	Carnauba wax-based sustainable coatings for prolonging postharvest shelf-life of citrus fruits	Sustainable Food Technology. RSC	Volume: Issue No:1 Page No:415 Year:2023 Month:Mar

#### 4.1.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Santosh Kumar, Annapureddy Rama Linga Reddy, Indr Bhusan Basumatary, Anamika Nayak, Debjani Dutta, Jyotismita Konwar, Manashi Das Purkayastha , Avik Mukherjee	Recent progress in pectin extraction and their applications in developing films and coatings for sustainable food packaging: A review	International Journal of Biological Macromolecules	Volume:239 Issue No: Page No: Year:2023 Month:Feb
Arpan Dasgupta, Sourav Saha, Parna Ganguli, Ishita Das, Debojyoti De & Surabhi Chaudhuri	Characterization of pumilacidin, a lipopeptide biosurfactant produced from Bacillus pumilus NITDID1 and its prospect in bioremediation of hazardous pollutants.	Archives of Microbiology	Volume:205 Issue No:274 Page No: Year:2023 Month:

#### 4.1.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
S. R. Dodda, M. Hossain, P. Jain, K. Aikat, and S. S. Mukhopadhyay	Comparative Biochemical and Structural Properties of an Industrially Important Biocatalyst Cellobiohydrolase Cel7A from Thermophilic Aspergillus fumigatus	Applied Biochemistry and Microbiology	Volume:58 Issue No:5 Page No:564-574 Year:2022 Month:



## 4.1.17 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Anamika Nayak, Debjani Dutta	Green packaging technology using active jujube seed powder	International e-conference on Biopolymers APA BIOFORUM-2022	DOI/ISBN: nil Volume: Issue No: Page No: Year:2022 Month:Jul Presenter:CO-AUTHOR
Dutta Debasmita, Das Manisha and *Dutta Debjani	Characterization studies of provitamin A carotenoid $\beta$ -cryptoxanthin encapsulated liposomes	2nd Virtual International Conference on Carotenoids (VICC)	DOI/ISBN: nil Volume: Issue No: Page No: Year:2022 Month:Apr Presenter:CO-AUTHOR
Saha Sanhita, *Dutta Debjani	Impact of carbon sources on $\beta$ cryptoxanthin production and study of its anti-microbial effect on E. coli	2nd Virtual International Conference on Carotenoids (VICC)	DOI/ISBN: Nil Volume: Issue No: Page No: Year:2022 Month:Apr Presenter:CO-AUTHOR
Pinkan Sadhukhan, Dharmendra Kumar, Nibedita Mahata*	The impact of linker residues on the structural stability of an EGFP-fused Novel E3 ubiquitin ligase with Bacillary Dysentery vaccine application.	Industry Academia Research Interaction BIOTECHNOLOGY 2022: A Confluence of Science and Technology	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Namita Jaiswal, Nibedita Mahata, and Nripen Chanda	An antifouling gold nanorod-protein bifunctional conjugate for targeted delivery of therapeutic RNase A in colon cancer cell spheroids	Industry Academia Research Interaction BIOTECHNOLOGY 2022: A Confluence of Science and Technology	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Namita Jaiswal, Nibedita Mahata, and Nripen Chanda	Protein based therapeutics for cancer management	Collaborative research Sakura Science Program for eight (08) days in November 2022 (12.11.2022 – 19.11.2022) funded by Japan Science and Technology (JST) organisation.	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Pinkan Sadhukhan, Nibedita Mahata*	The impact of linker residues on the structural stability of an EGFP-fused Novel E3 ubiquitin ligase following Bacillary Dysentery vaccine application	5TH REGIONAL SCIENCE & TECHNOLOGY CONGRESS (REGION 7), 2022-23 [RSTC (R7), 2022-23]	DOI/ISBN: MS09 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Sudeshna Halder, Nibedita Mahata*	ENGINEERING OF IpaD (INVASION PLASMID ANTIGEN D) FROM ENTEROINVASIVE Escherichia coli (EIEC) FOR TRACKABLE EXPRESSION, ENHANCED SOLUBILITY AND THERMAL STABILITY	12 th Annual International Conference & Exhibition [SPER 2023] [March 24-25, 2023] In Collaboration with Dr. B. C. Roy College of Pharmacy and AHS, Durgapur, (West Bengal) India on Theme: Current Pharmaceutical Industry Needs: A Key Focus on Customer-Centric Digital Transformation	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Gaurav Singh, Kunal Das, Dalia Dasgupta Mandal	A biorefinery approach for conversion of Hazardous kraft Lignin into versatile Lignin Nanoparticles	Current Issues in Agricultural, Biological, and Applied Sciences for Sustainable Development	DOI/ISBN: NA Volume: Issue No: Page No:50 Year:2022 Month:May Presenter:CO-AUTHOR
Abhishek Verma, Roshan Jaiswal, Dalia Dasgupta Mandal	Studies on the potential of Planococcus sp TRC1 in Decolorization and Detoxification of Indigo carmine, a lignin-mimicking Dye	Current Issues in Agricultural, Biological, and Applied Sciences for Sustainable Development	DOI/ISBN: NA Volume: Issue No: Page No:49 Year:2022 Month:May Presenter:CO-AUTHOR
Abhishek Verma, Dalia Dasgupta Mandal	Comparative decolorization of textile industry dye Methylene blue by potential dignifying bacterial species	National symposium: Recent trends in Sustainable technologies/tecno/commercial development	DOI/ISBN: 978-93-5636245-1 Volume: Issue No: Page No:89-92 Year:2022 Month:Sep Presenter:CO-AUTHOR
Gaurav Singh, Dalia Dasgupta Mandal	A cleaner approach for Lignin nanoparticle formulation from Paper mill effluent by-product	National symposium: Recent trends in Sustainable technologies/tecno/commercial development	DOI/ISBN: 978-93-5636245-1 Volume: Issue No: Page No:85-88 Year:2022 Month:Sep Presenter:CO-AUTHOR
R P Sahu, P Sar, S K Kazy, S Sarkar, and D Mukherjee	Extremotolerant acetogenic microorganisms from deep crystalline subsurface show promise in efficient CO <sub>2</sub> capture and conversion processes	International Conference on Biotechnology, sustainable bioresources and Bioeconomy XIX Annual convention of the Biotech Research Society, India, BSB2 - 2022	DOI/ISBN: NIL Volume: Issue No: Page No:NA Year:2022 Month:Dec Presenter:CO-AUTHOR
R P Sahu, P Sar, S Mandal, S K Kazy, H Bose	Diversity and functionality of deep life within the Archaean granitic crust underneath the Deccan Traps, India	American Geophysical Union (AGU) fall meeting 2022 Science Leads the Future	DOI/ISBN: nil Volume: Issue No: Page No:na Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.1.18 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Sandip Mahato, Kaustav Aikat	A brief review on the different aspects of the application of Bio-co-polymers	62nd Annual International Conference of Association of Microbiologists of India	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR





Reshmi Verma and Kaustav Aikat	PLA as a promising choice for production of alternative to single use plastic: bioplastic	62nd Annual International Conference of Association of Microbiologists of India	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Prakash Kumar, Hari Govind, Nijendra Pratap Singh, Kaustav Aikat	Chromium Bioremediation of tannery effluent by Indigenous microbes from Kanpur North India	9th International Conference on “Interdisciplinary Approaches in Life Sciences for Translational Research”	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Sudhir Kumar Barik, Uma Jyoti Pal, Kaustav Aikat	Optimizing Biomass Production And Lipid Extraction Methods For Biofuel Production From Indigenously Isolated Heterotrophic Marine Protist	First International Interdisciplinary Conference on Energy, Nanotechnology and Internet of Things (ENT 2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:CO-AUTHOR

#### 4.1.19 Conference: Accepted in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Sandip Mahato, Kaustav Aikat	A brief review on the different aspects of the application of Bio-co-polymers	62nd Annual International Conference of Association of Microbiologists of India	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Reshmi Verma and Kaustav Aikat	PLA as a promising choice for production of alternative to single use plastic: bioplastic	62nd Annual International Conference of Association of Microbiologists of India	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Prakash Kumar, Hari Govind, Nijendra Pratap Singh, Kaustav Aikat	Chromium Bioremediation of tannery effluent by Indigenous microbes from Kanpur North India	9th International Conference on “Interdisciplinary Approaches in Life Sciences for Translational Research”	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Sudhir Kumar Barik, Uma Jyoti Pal, Kaustav Aikat	Optimizing Biomass Production And Lipid Extraction Methods For Biofuel Production From Indigenously Isolated Heterotrophic Marine Protist	First International Interdisciplinary Conference on Energy, Nanotechnology and Internet of Things (ENT 2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:CO-AUTHOR

#### 4.1.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Debjani Dutta	Debasmita Dutta	Emerging Technologies in Food Preservation	Food Preservation by Microwave Heating	Publisher: CRC Press (Taylor and Francis group) Publication Date: 2023-0302





Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Debjani Dutta	Debasmita Dutta	Handbook of Nutraceuticals and Natural Products: Biological, Medicinal, and Nutritional Properties and	Lycopene as Nutraceuticals	Publisher: CRC Press (Taylor and Francis group) Publication Date: 2022-0825
Debjani Dutta	Sahoo, K.K., Datta, S., Nayak, A., Pranaw, K., Dutta, D., Goswami, G.	Industrial Microbiology and Biotechnology	Biological Production of Succinic Acid: State of the Art and Future Perspectives.	Publisher: Springer Publication Date: 2022-0714
Debjani Dutta	Daiji Brahma, Sibabrta Mukherjee	Industrial Microbiology Based Entrepreneurship	Mass Production of Valuable Pro-Vitamin a Pigment from a Microbe, Cost Analysis and Targeting It for Health Benefiting Purpose	Publisher: Springer Publication Date: 2022-1221
Debjani Dutta	Anamika Nayak	Handbook of Microbial Nanotechnology	Nanotechnology based Pathogen identification through surface marker identification	Publisher: Academic Press Publication Date: 2022-0818
Debjani Dutta	Samadarsi R.	Biotechnological advances for microbiology, Molecular Biology, and nanotechnology	Protein-based Nanosystems as emerging bioavailability enhancers for nutraceuticals	Publisher: Academic Press Publication Date: 2022-0814
Nibedita Mahata	Biswanath Bhunia, Muthusivaramapandian Muthuraj and Ramesh Kumar	Recent Trends and Innovations in Sustainable Treatment Technologies for Heavy Metals, Dyes and Other Xenobiotics	Bottlenecks in Sustainable Treatment of Wastewaters Using Physico-Chemical Processes and Future Prospects	Publisher: Bentham Science Publishers. Publication Date: 2022-06-22
Oindrilla Mukherjee	Bivash Sinha, Chirantana Sengupta, Praneet Kumar Sahoo, Titas Nath,	A complete guidebook on Biofilm study	Genetic regulations of microbial biofilm	Publisher: Elsevier Publication Date: 2022-0629
Maithili Adhikary, Raunak Banerjee, Surabhi Chaudhuri, Anindya Chanda		Emerging Technologies in Food Preservation	Food Preservation by Ozonation	Publisher: CRC Press Publication Date: 2023-0314

#### 4.1.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Current Issues in Agricultural, Biological and Applied Sciences for Sustainable Development	Kalimpong Science Centre, AEDS, ICAR(NAHEP)-IG	2022-06-11	2022-06-13	India



Name of the Programme	Organized By	From Date	To Date	Organizing Country
National symposium: "Recent trends in Sustainable technologies/tecno/commercial development"	HIT KOLKATA	2022-09-08	2022-09-10	India
A two days' workshop on outcome based accreditation: Challenges and opportunities.	NIT Durgapur	2022-06-23	2022-06-24	India
SIR U N BRAHMACHARI Award of Excellence" by Professor Simon Croft, London School of Tropical Medicine & Hygiene	IICB Kolkata	2023-03-14	2023-03-14	India
High End Workshop "Machine learning based approach for the identification of biomarkers and for drug discovery" Under the KARYASHALA Scheme	SERB supported, NIT DGP, Dept. of Biotech.	2022-12-12	2022-12-18	India
A one-day conclave on Science, philosophy and Education	NIT Durgapur in collaboration with Tagore Centre for Natural Sciences & Philosophy, Kolkata	2022-08-04	2022-08-04	India

#### 4.1.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Enhanced $\beta$ -cryptoxanthin production using <i>Kocuria marina</i> DAGII through medium modulation and comparative metabolome profiling	Sanhita Saha	Debjani Dutta	ONGOING	-
Mangiferin as an active packaging ingredient for the preparation of a biodegradable food packaging system	Anamika Nayak	Debjani Dutta	ONGOING	-
Investigating the role of beta-cryptoxanthin in oxidative stress and its application in nutraceuticals	Daiji Brhma	Debjani Dutta	ONGOING	-
Investigation and Development to stabilize health benefits of fortified $\beta$ -cryptoxanthin in milk	Debasmita Dutta	Debjani Dutta	ONGOING	-
Exploring the mechanism of action for delignification by selected bacterial strains	Abhishek Verma	Prof. Dalia Dasgupta Mandal	ONGOING	-
Bacterial and Enzymatic bioconversion of Lignin from lignocellulosic biomass into value added products	Gaurav Singh	Prof. Dalia Dasgupta Mandal	ONGOING	-
Studies on role of biosurfactant on bacterial delignification	Indrani Paul	Prof. Dalia Dasgupta Mandal	DEGREE AWARDED	2022-12-12
Nanoscale Delivery Systems for improved Immuno-Therapy in Cancer Management	NAMITA JAISWAL	Dr. NIBEDITA MAHATA, Dr. Nripen Chanda, CSIR – CMERI	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
The impact of linker residues on the structural stability of an EGFP-fused Novel E3 ubiquitin ligase following Bacillary Dysentery vaccine application	PINKAN SADHUKHAN	Dr. NIBEDITA MAHATA	ONGOING	-
Deciphering the role of IpaD as a novel E3 ubiquitin ligase in pathogenesis of Escherichia coli	AISHWARYA MALLICK	Dr. NIBEDITA MAHATA	ONGOING	-
Computational Study of structured and disordered proteins	Prachi Bhargava	Amita Barik	ONGOING	-
Studies on valuable Bioactive compounds characterization, extraction and application	Subhasree Mazumdar	Prof. Dalia Dasgupta Mandal	DEGREE AWARDED	2023-02-17
Studies on biodegradation of 4-nitrophenol by a bacterial consortium isolated from a pesticide contaminated agricultural soil	Priyanka Sarkar	Apurba Dey	DEGREE AWARDED	2023-01-23
Riboregulation of Helicobacter pylori oncoprotein CagA	Bivash Sinha	Oindrilla Mukherjee	ONGOING	-
Insilico screening and validation of phytocompounds from native Indian medicinal plants to utilize it for the development of therapy against Helicobacter pylori	Arghyadeep Bhattacharjee	Oindrilla Mukherjee	ONGOING	-
Development of ultra-short peptides with broad spectrum antimicrobial properties	Arpita Halder	Oindrilla Mukherjee	ONGOING	-
Role of the gut microbiome in Helicobacter pylori mediated gastritis	Somasree Pandit	Oindrilla Mukherjee	ONGOING	-
Study of Bacteriocin from Probiotic Bacteria Isolated from Indigenous Fermented Foods of North-East India	Sourav Saha	Surabhi Chaudhuri	ONGOING	-
Preclinical Studies of Theranostic Agent based on Carbon Nanocapsules and PDMS Nanoparticles and its Drug Loading Efficacy	Madhu Verma	Surabhi Chaudhuri, Debjani Dutta, Sri Sivakumar	ONGOING	-
Study of pomegranate peel extract as an alternative source of therapy for skin infections caused by drug resistant microbes	Swamini Saini	Surabhi Chaudhuri, Debjani Dutta, Shamik Ghosh	ONGOING	-
Characterization and application of Pumilacidin, a lipopeptide biosurfactant from Bacillus pumilus NITID1	Arpan Dasgupta	Surabhi Chaudhuri, Debojyoti De	ONGOING	-
Green Synthesis of Bimetallic Nanoparticles and their Application in the Development of Antibiofouling Architectural Coatings	Parna Ganguli	Surabhi Chaudhuri	ONGOING	-
Role of (AMP)-activated protein kinase [AMPK] in controlling the expression and function of	Mr. SAMEEP GEHLOT	Dr. Surabhi Chaudhuri, Dr. Ashish Bhattacharjee	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Monoamine Oxidase A (MAOA) in response to IL-13				
Activation of monocytes and cancer cells by interleukin 13 (IL-13) and its effect on cellular function	Mr. Pritam Biswas	Dr. Ashish Bhattacharjee	DEGREE AWARDED	2022-08-29
Improvement of Nutritional Quality of Fish during Conventional Frying Process: A Novel Approach Using Artificial Intelligence	Ms. TITHLI SADHU	Dr. Jitamanyu Chakrabarty and Dr. Ashish Bhattacharjee	DEGREE AWARDED	2022-05-10
Regulation of 15-lipoxygenase gene expression and function in monocytes and A549 lung cancer cells.	Ms. Surbhi Swaroop	Dr. Ashish Bhattacharjee	ONGOING	-
Elucidating the role and deciphering the molecular mechanism of Fatty acid-induced Monoamine Oxidase-A (MAO-A) expression in cancer cells	Ms. Suchandra Pal	Dr. Ashish Bhattacharjee; Dr. Debojyoti De	ONGOING	-
Compositions comprising BAM15 for exhibiting anticancer activity in cancer cells	Mr. Sourav Paul	Dr. Ashish Bhattacharjee	ONGOING	-
Protein and other biochemical component of fish and their nutritional effect.	Ms. Indrani Banerjee	Dr. Jitamanyu Chakrabarty, Dr. Ashish Bhattacharjee	ONGOING	-
Investigation of the concerted role of MYB4 and HY5 in Arabidopsis seedling development	Abhideep Pal	Sudip Chattopadhyay	ONGOING	-
Investigation of the Functional Interconnection Between ARA4 and HY5 in Arabidopsis Seedling Development	Riya Basu	Sudip Chattopadhyay	ONGOING	-
Dysbiosis of gut microbial community in Obesity	Deep Chanda	Debojyoti De	ONGOING	-
Topological properties of gut microbial coabundance network structure community in Type 2 Diabetes	Jayeeta Chatterjee	Debojyoti De	ONGOING	-
A systemic approach towards understanding Polycystic ovary syndrome	Sindhuja Rajavelu	Debojyoti De	ONGOING	-
Characterization of pumilacidin, a lipopeptide biosurfactant produced from Bacillus pumilus NITDID1 and its applications	Arpan Dasgupta	Prof. Surabhi Chaudhuri	ONGOING	-
Structure and function analysis of human ATE1 isoforms (Proposed topic)	Rahul Naga	Sougata Saha	ONGOING	-
Exploring the diversity and metabolic potential of cultivable chemolithoautotrophic microorganisms from deep continental crust beneath the Deccan Traps, India	Plaban Kumar Saha	Kazy Sofia Khannam	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Molecular and Functional characterization of a Pt(IV) based Pro-drug for targeted antinon-small cell lung carcinoma immunotherapy.	Miss. Moumita Maji	Dr. Monidipa Ghosh	SUBMITTED	2023-04-19
Devising strategies to overcome Multi Drug resistance in Staphylococcus aureus.	Suvadip Saha	Dr. Monidipa Ghosh	ONGOING	-
Integrative Analysis of miRNA and mRNA Expression Profiles in Macrophages, Infected with Staphylococcus aureus	Miss. Harshita Tiwari	Dr. Monidipa Ghosh	ONGOING	-
Exploring microbial communities and metabolic processes in deep subsurface continental crust underneath the Deccan Traps at Koyna region, Western India	Sunanda Mandal	Dr. Kazy Sufia Khannam	ONGOING	-
Characterization of deep subsurface rock dwelling microbial communities	Abhisek Sahu	Dr. Kazy Sufia Khannam	ONGOING	-
Characterization of deep subsurface microorganisms	Mouli Bhattacharyya	Dr. Kazy Sufia Khannam	ONGOING	-
Exploration of mechanistic understanding of amyloid aggregation and study of interactions of amyloid fibrils with biological systems.	Bodhisattwa Das Gupta	Sudipta Mondal	ONGOING	-
Development of Functional Short Self-Assembling Helical Peptide Building Blocks	Nandita Ghosh	Sudipta Mondal	ONGOING	-
Production of biofuel and other value-added products from oleaginous microorganisms in a biorefinery approach	Sudhir Kumar Barik	Kaustav Aikat	ONGOING	-
Bioremediation & Biosorption of Heavy metals from tannery Effluent	Prakash Kumar	Kaustav Aikat	ONGOING	-
Microbial production of lactic acid using whey and rice straw as substrates	Reshmi Verma	Kaustav Aikat	ONGOING	-
Production, Characterization and Application (as Bioplastic) of Polyhydroxyalkanoates (PHA) produced by Halophilic Microorganism, isolated from Bay of Bengal	Sandip Mahato	Kaustav Aikat	ONGOING	-
to be decided (scholar just joined)	Kirti Jyoti	Kaustav Aikat	ONGOING	-
Functional genomics of GPCRs in Magnaporthe oryzae	Nazmiara Sabnam	Dr. S. Roy-Barman	DEGREE AWARDED	2018-04-02
LaeA – its role in molecular pathogenesis in Magnaporthe oryzae	Pallabi Saha	Dr. S. Roy-Barman	DEGREE AWARDED	2021-02-05



Topic Name	Scholar	Supervisor	Status	Status Date
RNAi-based resistance to rice blast fungus: Transformative and Non-transformative	Atrayee Sarkar	Dr. S. Roy-Barman	DEGREE AWARDED	2021-04-22
Peptide self-assembly as nanobiotechnological platform	Ranik Koanr	Sudipta Mondal	ONGOING	-
Development of novel antimicrobial peptide	Rahul Kuiri	Sudipta Mondal	ONGOING	-
De	Samiran Hazra	Sudit Sekhar Mukhopadhyay, Sudipta Mondal	ONGOING	-
Fungal beta glucosidase	Shalini Das	Sudit S. Mukhopadhyay & Kaustav Aikat	ONGOING	-
Molecular cloning, expression, characterization and thermostability enhancement of effector protein, IpaD (Invasion plasmid antigen D) from Enteroinvasive Escherichia coli (EIEC)	Ms. SUDESHNA HALDER	Dr. NIBEDITA MAHATA	ONGOING	-
Encapsulation and application of probiotic consortia isolated from indigenous fermented foods	Maithili Adhikary	Surabhi Chaudhuri	ONGOING	-

#### 4.1.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Technological frontier towards sustainable treatment of coal bed Methane produced Water via Integrated Desalination Contrivance	Prof. Gopinath Haldar, Dr. Jaya Sikdar, Prof. Dalia Dasgupta Mandal	DST/TMD/EWO/WTI /DM	7400000.0	2022
Studies on the effect of anammox group of bacteria for the treatment wastewater containing nitrogenous contaminants	Prof. Apurba Dey, Prof. Tamal Mandal, Prof. Dalia Dasgupta Mandal	SERB DST	3700000.0	2021
Role of FANCD2 in mitochondria and its association with the mtDNA repair mechanism	Sudit S. Mukhopadhyay	DBT, Govt of India	6411000.0	2022
Understanding the mechanism of ICL (Inter crosslink) mediated replication collapse: involvement of Fanconi anemia proteins	Sudit S. Mukhopadhyay	SERB, Govt of India	5059945.0	2023
Cloning, Expression, Purification and Characterization of the Auxillary enzymes Lytic Polysaccharide Monoxygenases (LPMOs) and Xylanases from the genome of the thermophilic fungus Aspergillus fumigatus NITDGPKA3	Sudit S. Mukhopadhyay	DBT, Govt of India	49.11	2023





Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Investigating the role of Therapeutic compounds in Fermented foods and ethnic Beverages used by the tribal Population of west bengal as a Novel therapy for Helicobacter pylori and H.pylori mediated gastric ulcer.	Oindrilla Mukherjee	DST-SERB	2800000.0	2023
Role of adenosine monophosphate activated protein kinase (AMPK) activators in reducing cancer cell aggressiveness	P.I.: Dr. Ashish Kumar Bhattacharjee Co P.I: Dr. Surabhi Chaudhuri, Dr. Suparna Chatterjee	Department of higher education, Science & Technology and Biotechnology, Govt. of West Bengal.	2076000.0	2019
Developing a machine learning based platform for defining and mechanistic understanding of chemo-drug response/resistance biomarkers for lung cancer and subsequent validation with patient data from TCGA database	PI: Dr. Ashish Kumar Bhattacharjee CO-PI: Dr. Debojyoti Dey	Indian Council of Medical Research (ICMR), New Delhi, Govt. of India	2239932.0	2022
Role of FANCD2 in mitochondria and its association with the mtDNA repair mechanism	PI: Dr. Sudit Mukhopadhyay CO-PI: Dr. Ashish Kumar Bhattacharjee	Dept. of Biotechnology, Govt. of India	6486600.0	2022
Investigation of CAM7 multi-protein complex and its role in light signaling and thermomorphogenesis during plant growth and development	Sudip Chattopadhyay	SERB	4644992.0	2022
Developing a machine learning based platform for defining and mechanistic understanding of chemo-drug response/resistance biomarkers for lung cancer and subsequent validation with patient data from TCGA database	Asish Bhattacharjee, Debojyoti De	ICMR, GOI	2200000.0	2022
Deciphering the metabolic and microbial diversity signature in the fecal microbiota of obese patients to find their correlation with brown versus white adipogenesis pathway	Dr. Oindrila Mukherjee (PI), Debojyoti De (Co-PI)	ICMR, GOI	2900000.0	2021
Role of protein arginylation in the regulation of IL-1 $\beta$ expression and inflammatory response in macrophages and airway epithelial cells.	Sougata Saha	SERB	5500000.0	2022
"Identification of anti-leishmanial molecules, acting as novel inhibitors against intracellular lipid signalling machinery in Leishmania donovani"	Ghosh M. ( PI)	ICMR, Gov. of India	5300000.0	2023
Introducing protein folding paradigm in misfolding diseases: An attempt to redefine the structural understanding of amyloid aggregation following	Sudipta Mondal	SERB-DST	4642000.0	2021



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
nucleated conformational conversion pathway				
Chemical sensors cum inhibitors of Histone PTM	Dr. Deb Ranjan Banerjee (P.I.) Sudipta Mondal (CoP.I.)	SERB-DST	3650000.0	2022
Carbon and energy metabolism in deep life within the granitic basement of Koyna seismogenic zone.	Kazy SK and P Sar, IIT KGP	MoES, GOI	6494841.0	2022
Functional inter-connection between WISH and cell-wall biosynthesis / remodelling pathway in rice blast fungus	Dr. S. Roy-Barman, Dr. U Adhikari and Dr. N. Sabnam	SERB, DST	6000000.0	2022
Microbial production of Lactic Acid using wastes (dairy waste & rice straw) as substrates, for the production of bioplastic	Aikat, K. and Adhikari, U. (Dept. of Chemistry)	Department of Science & Technology and Biotechnology, Govt. Of West Bengal	1370000.0	2019
Cloning, expression, purification, and characterization of the auxiliary enzymes Lytic Polysaccharide Monoxygenases (LPMOs) and xylanases from the genome of the thermophilic fungus Aspergillus fumigatus NITDGPKA3 (sanctioned in 2022)	Mukhopadhyay, S.S. and Aikat, K.	DBT-Govt. of India	4761600.0	2022

#### 4.1.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Structural and functional analysis of disordered regions in unbound and bound protein-protein and protein-nucleic acid complexes	Dr Amita Barik	DST-SRG	2023
Determining the role of the gastric Microbiota in helicobacter pylori Infection to utilize it for the development of a probiotic therapy	Oindrilla Mukherjee	DST-SERB	2022
Isolation and identification of novel bacteriocin producing probiotic microbial species from Northeast region, exploration of probiotic traits and application of purified bacteriocin in food preservation.	Surabhi Chaudhuri, Sucharita Sen Maiti	Department of Biotechnology, Government of India	2022
Regulation of MCP-1-induced calcium-independent phospholipase A2 (iPLA2)-dependent monocyte migration	P.I.: Dr. Ashish Kumar Bhattacharjee Co P.I: Dr. Monidipa Ghosh	Dept. of Biotechnology (DBT), Govt. of India	2022
Molecular characterization of a small-molecule based reprogramming of non-adipocyte cells to brown adipocytes for its potential use as anti-obesity drug.	Debojyoti De	SERB, DST, GOI	2022



Title of the Project	Investigator	Sponsor Authority	Complete Year
Design of modular peptide nanotubes platforms by the selfassembly of shortest helical building blocks for application as ion channel mimic	Sudipta Mondal	SERB-DST	2022
Isolation and characterization of Magnaporthe oryzae mutants to study early events of pathogenesis	Dr. S. Roy-Barman and Prof. B. B. Chattoo	DBT	2014
Functional genomics of G-protein coupled receptors (GPCRs) in	Dr. S. Roy-Barman	DST-SERB	2014
RNAi-based resistance to rice blast fungus	Dr. S. Roy-Barman	DBT	2017
Pathogenesis of rice blast fungus	Pathogenesis of rice blast fungus	DBT	2016
Investigation of functional connection between cAMPdependent signaling pathway and MoWISH, a gene encoding a novel GPCR in rice blast fungus	Investigation of functional connection between cAMP dependent signaling pathway and MoWISH, a gene encoding a novel GPCR in rice blast fungus	DST-SERB	2021

#### 4.1.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Fertis India Pvt. Ltd.	Expression of human proteins in P pastoris	4200000.0	ongoing

#### 4.1.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Debjani Dutta	International Journal of Food Science & Technology	Wiley	2022-09-21
Debjani Dutta	Journal of Functional Food	Elsevier	2022-04-08
Debjani Dutta	Preparative Biochemistry & Biotechnology	Taylor & Francis	2022-04-22
Debjani Dutta	Journal of Food Bioscience	Elsevier	2023-01-06
Dalia Dasgupta (mandal)	Chemosphere	Elsevier	2023-06-28
Amita Barik	Journal of Biomolecular Structure & Dynamics	Taylor and Francis Ltd.	2023-02-17
Amita Barik	Phytomedicine	Elsevier	2023-03-13
Oindrilla Mukherjee	Gut Pathogens	Biomed central	2022-11-22
Surabhi Choudhuri	Indian Journal of Microbiology	Springer Nature	2022-07-25
Ashish Kumar Bhattacharjee	PLOS ONE	PLOS	2022-12-15
Sougata Saha	Cancers	MDPI	2022-12-13



Sougata Saha	BioChem	MDPI	2022-10-20
Kaustav Aikat	Bioenergy Research	Springer	2022-06-26
Kaustav Aikat	Industrial Crops and Products	Elsevier	2022-06-30

#### 4.1.27 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Sudit Sekher Mukhopadhyay	expert member in UGC Selection Committee-1 (Biological Sciences)	on line	2022-11-23	2022-11-24
Sudip Chattopadhyay	CSIR Grants review	on line mode	2020-06-01	2023-08-08
Sudip Chattopadhyay	STARS grants review (MoE)	online mode	2020-07-08	2023-08-08
Sudip Chattopadhyay	Member of the Joint Science and Education Panel (SEP) for IASc, INSA and NASI.	IISc Bangalore	2022-05-01	2023-08-08
Sudip Chattopadhyay	Fellowship Scrutiny Committee (Life Sciences), NASI	NASI, Allahabad	2015-06-01	2023-08-08

#### 4.1.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Debjani Dutta	B. Tech	Integral University	2022-07-07	2023-02-15
Debjani Dutta	Phd Thesis Examined	VIT, Vellore	2022-07-07	2023-01-19
Debjani Dutta	M. Tech examiner	Jadavpur University	2022-09-01	2022-09-18
Amita Barik	University Examination of BT Semester III (M.Sc.)	P P Savani University	2022-11-18	2022-11-18
Dalia Dasgupta (mandal)	Anvishna : Grant-in-Aid Minor Research Project, RGPV Best Project and RGPV Best Paper	RGPV	2023-01-18	2023-01-18
Sudit Sekher Mukhopadhyay	Advanced Cell Biology & Immunotechnology	Heritage Institute of Technology Kolkata	2023-03-06	2023-03-06
Sudit Sekher Mukhopadhyay	M.Sc. Semester-II Practical Examination 2022 in Molecular Biology Paper- MSMHG 206	Burdwan University	2022-10-26	2022-10-26
Surabhi Choudhuri	PhD Defence	Jadavpur University	2022-05-19	2022-05-19
Surabhi Choudhuri	PhD defence	Jadavpur University	2022-06-17	2022-06-17
Ashish Kumar Bhattacharjee	Acted as the Indian examiner of the thesis entitled "novel Molecular mechanism of probiotics in Alcoholic liver disease" and also acted as an external expert for the viva voce exam.	D. Patel Institute of Applied Sciences C Charotar University of Sciences and Technology, CHARUSAT Campus, Gujrat, India	2022-04-15	2022-06-15
Ashish Kumar Bhattacharjee	Acted as the Indian examiner of the thesis entitled "Investigation of inflammation-induced macrophage foam cell formation and its involvement in adipocyte insulin	TEZPUR University (A Central University) Napaam, Sonitpur - 784028, Assam,	2022-07-18	2022-09-15



Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
	resistance" and also acted as an external expert for the viva voce exam.	INDIA		
Ashish Kumar Bhattacharjee	Acted as the Indian examiner of the thesis entitled "protective effect of hesperidin in Arecoline-mediated cell death in nih/3t3 Fibroblasts" and also acted as an external expert for the viva voce exam	VIT University, Vellore, Vellore Dt. PIN: 632014. INDIA	2022-07-20	2022-11-15
Debojyoti De	End Term Examination paper setter	Saveetha Institute of Medical and Technical Sciences, Chennai.	2022-09-22	2022-09-22
Sudip Chattopadhyay	Board of Studies	Burdwan University	2021-04-12	2023-08-08
Kaustav Aikat	M.Tech. in Agricultural Biotechnology (project & viva voce)	Indian Institute of Technology Kharagpur	2022-05-04	2022-05-04

#### 4.1.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Apurba Dey	Biochemical Engineering	NIT Agartala	2022-05-07	2022-05-07
Surabhi Choudhuri	Project Fellow Selection	Jadavpur University	2022-08-10	2022-08-10
Ashish Kumar Bhattacharjee	Meeting of the Technical Specifications Committee for Procurement of Flow Cytometer Analyser and Sorter	Bose Institute, Kolkata	2022-11-14	2022-11-14

#### 4.1.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Dalia Dasgupta (mandal)	Refresher course on Life Sciences	UGC-Human Resource Development Centre, Guru Ghasidas Vishwavidyalaya, Bilaspur	Bilaspur	2022-08-22	2022-09-05
Sudit Sekher Mukhopadhyay	Mitochondrial role in Genomic Instability and Cancer: Special reference to Fanconi anemia	International Conference Zoospectra2022	Kolkata	2022-12-05	2022-12-06
Debojyoti De	Smart Technologies towards creating Age-friendly Community.	Lecture on World Telecommunication & Information Society Day	The Institution of Engineers (India), Durgapur Local Centre	2022-05-17	2022-05-17
Monidipa Ghosh	Immune invasion by Antigen Presenting Cells in host pathogen infection	FDP at Kamraj College Of Eng. Chennai.	Online	2022-07-04	2022-07-09



## 4.2 Department of Civil Engineering

### 4.2.1 Dept at a glance

The Department of Civil Engineering is one of the oldest Departments of this institute. Presently, the department offers B.Tech., M.Tech. and PhD. programs. The Department is actively engaged in research activities in all branches of Civil Engineering and other contemporary fields of interdisciplinary research. In addition to handling R&D projects funded by the institute as well as external funding agencies, the department also offers testing and consultancy services to various government departments and organizations from the public and private sectors. Besides, the Department conducts seminars, short term training programmes and conferences etc. from time to time for the benefit of personnel from academia, research institutions and industries.

### 4.2.2 Mission and Vision

#### Mission:

- To provide quality education with ethical values in commensuration with balanced curriculum.
- To provide advanced skills and knowledge in design, construction, consultancy and develop the state-of-the-art research facilities.
- To serve as a knowledge base and create professional expertise for the community
- To promote innovative and original thinking in the minds of civil engineering graduates

#### Vision:

- To impart knowledge, advanced skills, excellence in scientific and technical education and research with global perspectives in infrastructural developments with modern trends.
- To encourage students to imbibe the engineering ethics to serve India and World.
- To serve as a valuable resource for societal needs and economic growth of the country.

### 4.2.3 Faculty

Name	Designation	Email-id
Dr. Amiya Kumar Samanta	Professor	aksamanta.ce@nitdgp.ac.in
Dr. Amlan Das	Professor	adas.ce@nitdgp.ac.in
Dr. Atul Krishna Banik	Professor	akbanik.ce@nitdgp.ac.in akbanik@gmail.com
Dr. Dilip Kumar Singha Roy	Professor	dsingharoy.ce@nitdgp.ac.in dsr_rec_dgp@yahoo.com dilip.sroy@gmail.com
Dr. Kamal Bhattacharya	Professor	kbhattacharya.ce@nitdgp.ac.in
Dr. Purnendu Ray	Professor	pray.ce@nitdgp.ac.in
Dr. Showmen Saha	Professor	ssaha.ce@nitdgp.ac.in
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Dr. Vijay Kumar Dwivedi	Professor	vkdwivedi.ce@nitdgp.ac.in vkdwivedi10725@yahoo.co.in
Dr. Alope Kumar Datta	Associate Professor	akdatta.ce@nitdgp.ac.in
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Dr. Supriya Pal	Associate Professor	spal.ce@nitdgp.ac.in supriya070478@gmail.com
Dr. Bandhan Bandhu Majumdar	Assistant Professor	bbmajumdar.ce@nitdgp.ac.in
Dr. Gilbert Hinge	Assistant Professor	ghinge.ce@nitdgp.ac.in
Dr. Pronab Roy	Assistant Professor	proy.ce@nitdgp.ac.in





Name	Designation	Email-id
		pronabroy07@gmail.com
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Dr. Sanku Konai	Assistant Professor	skonai.ce@nitdgp.ac.in
Dr. Somnath Karmakar	Assistant Professor	Skarmakar.ce@nitdgp.ac.in structure.som07@gmail.com
Dr. Suman Saha	Assistant Professor	sumansaha.ce@nitdgp.ac.in
Dr. Sushovan Dutta	Assistant Professor	sdutta.ce@nitdgp.ac.in

#### 4.2.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
<b>Environmental Engineering Laboratory</b>			
1	Conductivity meter	27. 02. 2023	23,317.00
2	Spectrophotometer	27. 02. 2023	24,999.00
3	Bench Top Turbidity meter	06. 03. 2023	22,908.00
4	Manual pH meter	06. 03. 2023	19,050.00
5	Water quality meter	05. 03. 2023	18,390.00
6	Jar Test Apparatus	15. 03. 2023	23,500.00
<b>Transportation Engineering Laboratory</b>			
1	200 T Compression Testing Machine	07. 06. 2022	1,75,000.00
2	Automatic Speed Radar Gun	03. 02. 2023	18,000.00
3	Motorized Bitumen Extractor	22. 02. 2023	24,995.00
4	Thin Film Oven	22. 02. 2023	53,100.00
5	Particle Charge Apparatus	22. 02. 2023	14,160.00
6	Storage Stability Tester	22. 02. 2023	12,980.00
7	Digital Thermometer	22. 02. 2023	1,298.00
8	MAKITA Electric Drill (800Watt)	14. 03. 2023	8,850.00
<b>Surveying Laboratory</b>			
1	AI based moving object capturing device with 60 fps with different level mounting capacity	09. 03. 2023	1,25,995.00

#### 4.2.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Strength of Materials Laboratory	<ul style="list-style-type: none"> <li>• 20&amp; 100 Ton UTM</li> <li>• Torsion Testing Equipment</li> <li>• Hardness testing Equipment</li> <li>• Charpy Impact Tester Equipment</li> </ul>
2.	Soil Mechanics and Foundation Engineering Laboratory	<ul style="list-style-type: none"> <li>• Soil Tri-axial test apparatus</li> <li>• Rock Tri-axial Test Apparatus</li> <li>• Direct Shear Test Apparatus</li> <li>• Large Scale Direct Shear Test Apparatus</li> <li>• CBR test Apparatus</li> <li>• Automatic Compaction Test Apparatus</li> <li>• Point load test Apparatus</li> <li>• Brazilian Tensile Test Apparatus</li> <li>• Slake Durability Apparatus</li> <li>• DCPT, SCPT, Relative Density Test Apparatus</li> </ul>
3	Computer Laboratory	<ul style="list-style-type: none"> <li>• Computers and its allied accessories with centralized software like ANSYS, ABAQUS etc.</li> </ul>
4	Concrete Structure Laboratory (UG)	<ul style="list-style-type: none"> <li>• Digital balance Capacity</li> <li>• Le-Chatelier Mould</li> <li>• Vicat Needle apparatus with accessories</li> </ul>



Sl. No.	Name of Laboratory	Major equipment
		<ul style="list-style-type: none"> <li>• 200 Tonne Compression Testing Machine</li> <li>• Flexural Testing Apparatus</li> <li>• Humidity Cabinet</li> <li>• Accelerated Curing tank</li> <li>• Constant Temperature Water Bath</li> <li>• Compacting factor apparatus</li> <li>• Hardness test machine for concrete &amp; stones</li> <li>• Workability Test apparatus</li> <li>• Bar Bending Machine</li> </ul>
5	PG Structural Engineering Laboratory	<ul style="list-style-type: none"> <li>• UTM 200, CTM 300T,</li> <li>• LOADING FRAME 100T,</li> <li>• Mortar Pan Mixture, Incubator,</li> <li>• Hot Water Bath,</li> <li>• Flexure Test Machine,</li> <li>• Ultrasonic Pulse Velocity Tester,</li> <li>• Rebar Locator,</li> <li>• Digital Schmidt Hammer</li> <li>• Corrosion Testing Machine,</li> <li>• Resistivity Meter, Multimeter,</li> <li>• Core Cutter, Surface Grinder,</li> <li>• Metal Cutter</li> </ul>
6	Survey Engineering Laboratory	<ul style="list-style-type: none"> <li>• Plane table with stand</li> <li>• Total Station</li> <li>• Prismatic Compass</li> <li>• Levelling Instrument (Dumpy)</li> <li>• Theodolite</li> <li>• Linen Tape</li> <li>• Surveyor's compass with stand</li> <li>• Land measuring Chain</li> <li>• Levelling Staff</li> </ul>
7	Environmental Engineering Laboratory	<ul style="list-style-type: none"> <li>• pH meter</li> <li>• Conductivity meter</li> <li>• Turbidity meter</li> <li>• COD digester</li> <li>• Autoclave</li> <li>• BOD incubator</li> <li>• Muffle furnace</li> <li>• Incubator (ambient)</li> <li>• Hot Air Oven</li> </ul>
8	Transportation Engineering Laboratory	<ul style="list-style-type: none"> <li>• Flakiness gauge</li> <li>• Elongation gauge</li> <li>• Aggregate Impact Testing Machine</li> <li>• Aggregate Crushing test setup including Compression testing machine</li> <li>• Los Angeles abrasion testing machine.</li> <li>• Bitumen softening point test apparatus (Ring ball Apparatus)</li> <li>• Bitumen Penetration value test apparatus (penetrometer)</li> <li>• Bitumen Ductility value testing apparatus</li> <li>• Centrifuge for Bitumen Extraction Test.</li> <li>• Marshall test apparatus</li> <li>• Mechanical Soil compactor for Proctor and CBR</li> <li>• CBR (Lab and Field) test apparatus.</li> <li>• Benkelman Beam</li> </ul>
9	Structural Health Monitoring Laboratory	<ul style="list-style-type: none"> <li>• Impact Hammer</li> <li>• UPVM</li> <li>• Acoustic Emission System</li> </ul>



Sl. No.	Name of Laboratory	Major equipment
		• Rebar Locator

#### 4.2.6 PhD degree awarded till 2022-23

Twenty Six.

#### 4.2.7 Specialization

- Mechanics of Solids/ Structural Engineering
- Water Resources Engineering
- Structural Engineering
- Construction Technology and Management
- Structural Health Monitoring and Earthquake Engineering
- Geotechnical Engineering
- Geotechnical Engineering
- Transportation Engineering
- Structural Engineering
- Civil Engineering (Transportation Engineering)
- Geotechnical and Geo-environmental Engineering
- Structural Engineering
- Structure and Earthquake
- Soil Mechanics and Foundation Engineering; Earthquake Engineering
- Civil Engineering
- Environmental Engineering
- Structural Engineering • Structural Engineering
- Structural Engineering
- Hydraulics and Water Resources Engineering
- Structures
- Water Resources Engineering
- Structural Engineering

#### 4.2.8 Proposed Plan for Research

- Sustainable materials, Earthquake vulnerability assessment, Earthquake resistant non engineering buildings
- Alternative Construction Materials towards Sustainability
- Advanced Concrete Technology
- Development of smart fault detection AI model in railway track, Seismic structural health monitoring using AI, Development of cost effective Earthquake resistant structural design using AI
- Ground Movements Resulting from Deep Excavation.
- Stabilization of Intermediate Plastic Soft Clay by Fly Ash and Granulated Blast Furnace Slag (GGBFS) Based Geopolymers and its Application through Laboratory Model Studies for the Design of Steep Slopes on Varying Subgrade Conditions: Environmentally Friendly Approach
- Ground Improvement Techniques
- Model Studies on Geocell Reinforced and Geopolymer Stabilized Fly Ash Embankments Overlying Subgrades of Varying Stiffness
- Effect of deep excavation on the behavior of neighboring existing foundations under dynamic loading conditions
- Investigation of Reinforcing Effect on the Performance of Stone Columns filled with Recycled Materials
- Prediction of Soil Liquefaction under Seismic Condition Using Artificial Intelligence Techniques
- Detection of Leakage in Pipe Distribution Network using Remote sensing
- Rain water harvesting for Drought prone areas
- Remote sensing of Precipitation in Ungauged Basin
- Mapping of soil using remote sensing, Machine learning and field approach
- Planing to R& D projects and consultancy
- A novel Artificial Intelligence (AI) based Pre-Crash Warning System for road segments using Surrogate Safety Measures (SSM)
- Understanding the role of the electric vehicles as a last mile cargo delivery mode for a sustainable transportation solution: Indian and Argentine experience and potential



- Investigating the Potential and Infrastructure of Sustainable Shared Personal Mobility Services : Lessons Learned from Korea and Ways Forward for India
- Development of AI-based Smart Pre-Bicycle Crash Warning System (SPBCWS) for Indian Scenario
- I am involved as PI or co-PI of a number of research projects funded by DST SERB, MHRD-SPARC, GCRF-UK, AIA-Hyderabad and BITS Pilani in the area of Road safety, Congestion pricing, Electric mobility, Pedestrian Infrastructure improvement and public transportation access planning by non-motorized transportation modes respectively. Further, I would like to carry out socially relevant research specifically in the area of Safe and Sustainable Transportation to generate novel knowledge for improving the quality of life of commuters. Electric Vehicles (EV) can help decarbonize transport in Indian cities, improve the overall quality of life of urban commuters. In this perspective, I would like to carry out a detailed investigation on prospective users' choice decisions and plan for adequate infrastructure for EV to promote EV as an attractive alternative compared to the conventional vehicles in Indian context. I would also like to formulate cost-effective strategies aimed at crash mitigation at rural roads, urban areas and national highways using both reactive and pro-active approaches.
- Development of prototype scale constructed wetland system to decontaminate wastewater; Development of nano-composite jute geotextile for its application on pavement , railway embankment and over burden dump slopes of mines; Development of alternate materials from industrial waste products for application in flexible pavement systems; Research on technical textiles;
- Investigation of Damage using Acoustic Emission Technique, Composite Structures, Experimentation and FE Modelling.
- Dynamics on Structure; Earthquake Engineering
- Floating Breakwaters.
- Heat Resistant Concrete with Recycled Aggregate
- Composite /confined structures
- Biomedical Engineering
- Modelling effect of Climate change on water resources systems
- Design and Development of Hydrogen Storage Tank

#### 4.2.9 Area of Research Interest

- Composite Structures, Structural Health Monitoring, FE modelling
- Hydrological modelling
- Hydroclimatology
- Soil Science
- Remote Sensing of Rainfall
- Soil Science
- Concrete and structures
- Alternative Construction Materials towards Sustainability
- Advanced Concrete Technology
- Structural Health monitoring, Earthquake resistant design, seismic structural health monitoring
- Ground Improvement, Soil Stabilization, Numerical Modelling, Reinforced earth and Geosynthetics, Green and Sustainable approaches in Geotechnical Engineering, Pavement Engineering, Soil Dynamics, Environmental Geomechanics • Earth Retaining Structures
- Ground Improvements
- Soil Liquefactions
- Traffic Control
- Road Safety
- Pavement Design and Analysis
- Impact (Blast & wind) and construction management
- Travel behavior Analysis Non-motorized Transport Safe and Sustainable Transportation Electric Mobility
- Geotechnical and geo-environmental engineering
- Structural Dynamics, Earthquake Engineering, Passive, Semi-active and Hybrid Vibration Control, Non-linear Analysis of Structures, Soil-Structure Interaction, Machine Learning Artificial Intelligence and Soft Computing, Offshore Structural Engineering, Bridge Engineering, Masonry Structures
- Earthquake resistant building, Seismic vulnerability and risk analysis, sustainable materials for road and buildings • Earthquake Engineering
- Applications of Remote Sensing & GIS in environmental studies
- Nonlinear Dynamics & Control, Progressive Collapse Analysis, Floating Offshore Wind Turbine, Floating Breakwaters
- Construction Materials
- Design of steel and concrete structures



- Hydrological Modelling, Modelling effect of Climate change on water resources systems • Structural Reliability
- Machine Learning Based Reliability Analysis

#### 4.2.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Different Govt and Private Organization	Structural Engineering	Consultancy and Research
Eastern Coalfields Limited, Essar Oil Pvt. Ltd., Ministry of Textiles, GoI; National Rural Infrastructure Development Agency, MoRD, GoI; National Highway Authority of India; CPWD; Military Engineering Services;	Scientific study on mines slopes, Geotechnical testing on sub-surface rock samples at CBM blocks, Research works on technical textiles, Proof checking of DPRs on rural roads, Proof checking of DPRs on NH, Third party quality checking of infrastructures.	Scientific study of coal mine slopes at Kajora area, ECL
NRIDA	Road project	Scrutinizing and vetting, road DPR
NRCP, Min of Jal Shakti	Pollution abatement	Independent Appraisal of DPR
Mahanadi Water Disputes Tribunal (MWDT), Ministry of Jal Shakti, Govt. of India	Deputed as an Assessor to MWDT	Developing hydrological model for spatiotemporal yield of River Mahanadi

#### 4.2.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Dr. B.C. Roy College of Engineering, Durgapur	Research	Dr. S. Sengupta, Dept. of Civil Engineering	Joint research publication
CSIR-CMERI Durgapur	Research and Development	Dr. A. Mukherjee, Principal Scientist, Dept. of Robotics and Automation	Joint Research Project, Joint Publication
United Arab Emirates University	Research- Water Resource and Remote sensing	Prof. Mohamed Hamouda	Data sharing and Joint research publication
Indian Institute of Technology Roorkee	Research	Dr. Ashutosh Sharma	Joint research publication
CMERI	System development related to Structural Health Monitoring	Dr. Alope Kumar Datta and Dr. Pijush Topdar	Development of AE system related to structural health monitoring
National Institute of Technology Jamshedpur	Pavement Engineering	Dr Sabyasachi Biswas and Prof. A.K. Sinha	Guiding a PhD student and research work
West Bengal police	Road safety awareness program	Dr Sabyasachi Biswas and Dr Bandhan Bandhu Majumdar	Expert lecture and tanning program on Road safety Audit
IIT Kharagpur and IIT Bhubaneswar	FEM-SPH coupling and Traffic Engineering with road Safety	Dr. Amit Shaw and Dr. Partha pratim Dey	Research and Consultancy
La Trobe University, Australia	E-Bike Mobility	Dr Bandhan Bandhu Majumdar	Working on joint project on e-bike health benefits funded by ASCRIN
Cardiff University, UK	Congestion Pricing and Management	Dr Bandhan Bandhu Majumdar	Working on SPARC project
University of Birmingham UK	Congestion Pricing and Management	Dr Bandhan Bandhu Majumdar	Working on SPARC project



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
BITS Pilani	Writing research proposals, manuscripts , guiding students jointly	Dr Bandhan Bandhu Majumdar and Dr Sabyasachi Biswas	Writing research proposals, manuscripts , guiding students jointly
University of Namibia	Road Safety	Dr Bandhan Bandhu Majumdar	VREF Proposal Submission
NIT Calicut	Freight Transportation	Dr Bandhan Bandhu Majumdar	Submitted joint research proposal in ICSSR
University of San Marino, Argentina	Electric Mobility	Dr Bandhan Bandhu Majumdar and Dr Sabyasachi Biswas	Submitted joint research proposal
University of Hiroshima, Japan	Electric Mobility	Dr Bandhan Bandhu Majumdar	Submitted joint research proposal
Central Mechanical Engineering Research Institute, Durgapur	Structural Engineering, Structural Dynamics, Earthquake Engineering, Wind Engineering, Soil-Structure Interaction, Masonry Structures	Diptesh Das and Pijush Topdar	PhD guidance and Research
IIST Shibpur	Structural Engineering, Structural Dynamics, Non-linear Analysis of Structures, Earthquake Engineering, Passive, Semi-active and Hybrid Vibration Control, Soil-Structure Interaction, Machine Learning Artificial Intelligence and Soft Computing	Diptesh Das	PhD guidance and Research
Adamas University	Joint PhD Supervision	Dr. Abhisek Santra	PhD Guidance

#### 4.2.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Recycling of plastics waste into construction material for road in the form of crushed plastic aggregates	RP Nanda and D Banerjee	202331003483	2023-01-08

#### 4.2.13 Workshop/ Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof Krishanu Roy, University of Waikato, Hamilton, New Zealand	One day lecture on Advance Steel Structure	2023-01-10
Shri. B.C. Pradhan Consultant Director (Technical) National Rural Infrastructure Development Agency, Govt. of India; Dr. Umesh Chandra Sahoo Professor, IIT Bhubaneswar; Shri. Rajib Chattaraj Chief Engineer, P. W. (Roads) Dte., GoWB; Shri. Hemanta Dutta (Bitchem) and Dr. Supriya Pal	One day seminar on Promotion of green technology in rural road construction	0033-02-11





(NITD); Dr. Tapas Kumar Roy Professor, IEST  
Shibpur

Mr. Samir Kumar Jana, Ex-CGM, ONGC

Expert Lecture

2023-03-29

#### 4.2.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Bittu Ghosh and Somnath Karmakar	The conventional construction scenario and the emergence of advance technologies in bridge construction: implementation, impediments, and case study	Journal of Institute of Engineers India Series A	Volume:104 Issue No:3 Page No:709-720 Year:2023 Month:April
Saikat Deb, Gilbert Hinge	Passenger's perception about city buses in the aftermath of COVID 19: Experience from Guwahati city, India	International Journal of Disaster Risk Reduction	Volume:85 Issue No: Page No:103489 Year:2022 Month:Dec
Gilbert Hinge, Jay Piplodiya, Ashutosh Sharma, Mohamed A Hamouda, Mohamed M Mohamed	Evaluation of Hybrid Wavelet Models for Regional Drought Forecasting	Remote Sensing	Volume:14 Issue No:24 Page No:6381 Year:2022 Month:Dec
Aissam Gaagai, Hani Amir Aouissi, Selma Bencedira, Gilbert Hinge, Ali Athamena, Salim Heddami, Mohamed Gad, Osama Elsherbiny, Salah Elsayed, Mohamed Hamdy Eid, Hekmat Ibrahim	Application of Water Quality Indices, Machine Learning Approaches, and GIS to Identify Groundwater Quality for Irrigation Purposes: A Case Study of Sahara Aquifer, Doucen Plain, Algeria	Water	Volume:15 Issue No:2 Page No:289 Year:2023 Month:Jan
Kumar, M., Roy, P. and Khan, K.	New Empirical Equations for Determining Plastic Collapse Moment of Initially Imperfect Pipe Bends Under Internal Pressure and In-plane Closing Bending Moment	Journal of the Brazilian Society of Mechanical Sciences and Engineering (BMSE) (Springer)	Volume:44 Issue No:3 Page No: Year:2022 Month:Mar
Kumar, M., Roy, P. and Khan, K.	Evaluation of Collapse Moment of Pressurized 300 to 1800 Bend Pipes Subjected to Out-of-Plane Bending Moment	Journal of Mechanical Engineering Science (JMES) (SAGE Publication)	Volume:236 Issue No:10 Page No:5545-5555 Year:2022 Month:May
Avishek Adhikary, Debasmita Datta, Supriya Pal, Kalyan Adhikari, Sudipta Ghosh,	Assessment of subsurface migration and simultaneous removal of Carbendazim in simulated constructed wetland through physical and numerical modeling	Journal of Water Process Engineering	Volume:50 Issue No: Page No: Year:2022 Month:Dec
Raja, R., Pal, S., & Karmakar, A.	In-situ remediation of heavy metal contaminated sites through mechanical stabilization using industrial waste products	Journal of Environmental Engineering and Landscape Management	Volume:30 Issue No:2 Page No: 301-307 Year:2022 Month:Jun



Author(s) Name	Paper Name	Journal Name	Others Info
Avishek Adhikary, Sandeep Kumar, Supriya Pal, Sudipta Ghosh, Hirok Chaudhuri, Mrinal Kanti Mandal	Efficacy Evaluation of Silty-Sandy Soil and Chrysopogon zizanioides to Attenuate Doxycycline from Wastewater in a Constructed Wetland System	Journal of Environmental Engineering, ASCE	Volume:149 Issue No:06 Page No: Year:2023 Month:Mar
Sarkar, G. and Roy, P.	Generalised analytical solution for determining natural frequency of free span offshore pipelines considering nonhomogeneity of seabed soil	Ocean Engineering, Elsevier	Volume:266 Issue No:5 Page No: Year:2022 Month:Dec
Ashutosh Sharma, Anupal Baruah, Nikunj Mangukiya, Gilbert Hinge, Biswadeep Bharali	Evaluation of Gangetic dolphin habitat suitability under hydroclimatic changes using a coupled hydrological- hydrodynamic approach	Ecological Informatics	Volume:69 Issue No: Page No:101639 Year:2022 Month:Apr
Gilbert Hinge, Mohamed A Hamouda, Di Long, Mohamed M Mohamed	Hydrologic utility of satellite precipitation products in flood prediction: A meta-data analysis and lessons learnt	Journal of Hydrology	Volume:612 Issue No: Page No:128103 Year:2022 Month:Jun
Anupal Baruah, Arup Kumar Sarma, Gilbert Hinge	A Semicoupled Shallow-Water Model for Vertical Velocity Distribution in an Open Channel with Submerged Flexible Vegetation	Journal of Irrigation and Drainage Engineering	Volume:148 Issue No:9 Page No: Year:2022 Month:Jun
Gilbert Hinge, Biswadeep Bharali, Anupal Baruah, Ashutosh Sharma	Integrated groundwater quality analysis using Water Quality Index, GIS and multivariate technique: a case study of Guwahati City	Environmental Earth Sciences	Volume:81 Issue No:16 Page No:412 Year:2022 Month:Aug
Nanda, R.P, Damarla, R., Nayak, K.A.,	Android application of rapid visual screening for buildings in Indian context,	Structure, Elsevier	Volume:46 Issue No:12 Page No:1823-32 Year:2022 Month:
Behera, B., Nanda, R.P.,	Geogrid Reinforced Brick buildings for Earthquake Disaster Mitigation	Case Studies in Construction Materials, Elsevier	Volume:16 Issue No: Page No: e01113 Year:2022 Month:
Dutta, S. Nanda, R.P.,	Waste Rubber-Soil Mat for Protection of Structures from Earthquake- Induced Liquefaction	Int. Journal of Geosynthetic and Ground Engg.	Volume:8 Issue No:57 Page No:1-8 Year:2022 Month:
Tamal Kundu, Alope Kumar Datta, Pijush Topdar, Sanjay Sengupta	Optimal location of acoustic emission sensors for detecting rail damage	Proceedings of the Institution of Civil Engineers - Structures and Buildings	Volume: Issue No: Page No: Year:2022 Month:Oct
MK Diptikanta Rout, Surya kant Sahdeo, Sabyasachi Biswas, Krishanu Roy, Abdhesh Kumar Sinha	Feasibility Study of Reclaimed Asphalt Pavements (RAP) as Recycled Aggregates Used in Rigid Pavement Construction	Materials	Volume:16 Issue No:4 Page No:1-19 Year:2023 Month:Feb
MK Diptikanta Rout, Sabyasachi Biswas, Kumar Shubham, Abdhesh Kumar Sinha	A systematic review on performance of reclaimed asphalt pavement (RAP) as sustainable material in rigid pavement construction: Current status to future perspective	Journal of Building Engineering	Volume:76 Issue No:6 Page No:1-25 Year:2023 Month:Jul



Author(s) Name	Paper Name	Journal Name	Others Info
Anupam Kumar Biswas, Alope Kumar Datta, Pijush Topdar, Sanjay Sengupta	Acoustic Emission-based Damage Detection and Classification in Steel Frame Structure Using Wavelet Transform and Random Forest	Periodica Polytechnica Civil Engineering	Volume:66 Issue No:4 Page No:1183-1198 Year:2022 Month:Sep
Puja Haldar and Somnath Karmakar	State of the Art Review of Aerodynamic Effects on Bridges,	Journal of Institute of Engineers India Series A,	Volume:103 Issue No:3 Page No:943-960 Year:2022 Month:September
Atrayee Bandyopadhyay; Anwesha Saha; Diya Ghosh; Bomba Dam; Amiya K. Samanta; Susmita Dutta	Microbial Repairing of Concrete & its role in CO2 Sequestration- A Critical Review.	Beni-Suef University Journal of Basic and Applied Sciences	Volume:12 Issue No:7 Page No: Year:2023 Month:Jan
Puja Haldar and Somnath Karmakar	Wind Response on RC Trapezoidal Box Girder Bridge using Computational Fluid Dynamics	Sadhana Journal	Volume:48 Issue No: Page No:74 Year:2023 Month:
Swarnadip Dey & Atul Krishna Banik	Stability and performance analysis of hybrid braceless emisubmersible platform installed in real seas	Wind Engineering	Volume:47 Issue No:1 Page No:49-73 Year:2023 Month:Feb
Biswas, A. K., Datta, A. K., Topdar, P., & Sengupta, S.	Acoustic Emission-based Damage Detection and Classification in Steel Frame Structure Using Wavelet Transform and Random Forest	Periodica Polytechnica Civil Engineering	Volume:66(4) Issue No:4 Page No:1183-1198 Year:2022 Month:
Tamal Kundu, Parikshit Roy, Alope Kumar Datta, Pijush Topdar	Health monitoring of Indian rail section using ae technique combined with upvm: an experimental study	Journal of Structural Engineering (Madras)	Volume:49 Issue No:1 Page No:47-58 Year:2022 Month:Aug
Arijit Kumar Banerji, Pijush Topdar, Alope Datta	Effect of Axle Overloading on Pavement Structural Behaviour with Improved Clayey Subgrade Using PET Fibres	Civil Engineering and Architecture	Volume:10 Issue No:6 Page No:2410-2425 Year:2022 Month:Sep
Arijit Banerji, Alope Kumar Datta, Pijush Topdar	Structural Performance of Cement-treated Base Layer by Incorporating Reclaimed Asphalt Material and Plastic Waste	Jordan Journal of Civil Engineering	Volume:17 Issue No:2 Page No:259-271 Year:2022 Month:Dec
Banerji, A.K., Topdar, P. & Datta, A.K.	Structural Performance of Cement-treated Base Layer by Incorporating Reclaimed Asphalt Material and Plastic Waste	Jordan Journal of Civil Engineering	Volume: Issue No: Page No: 259-271 Year:2023 Month:Mar
Das, D.P., Das, D., Topdar, P., Biswas, R.K. & Ghosh, B.B.	Effect of Partial Opening on Responses of Plan Asymmetric Multistoried Building with Soil-Structure Interaction: A Case Study	Journal of The Institution of Engineers (India): Series A	Volume: Issue No: Page No: Year:2023 Month:Mar
MK Diptikanta Rout, Kumar Shubham, Sabyasachi Biswas, Abdhesh Kumar Sinha	An integrated evaluation of waste materials containing recycled asphalt fine aggregates using central composite design	Asian Journal of Civil Engineering	Volume:32 Issue No:6 Page No:1-17 Year:2023 Month:Jul
Tamal Kundu, Parikshit Roy, Alope Kumar Datta, and Pijush Topdar	Health Monitoring of Indian Rail Section Using AE Technique Combined with upvm: An Experimental Study	Journal of Structural Engineering (Madras)	Volume:49 Issue No:1 Page No:47-58 Year:2022 Month:Nov



Author(s) Name	Paper Name	Journal Name	Others Info
Sil G., Dutta A, Jena A, and Majumdar B.B.	An investigation on Travel mode preferences of university students travelling to home during vacation: An Indian experience	European Transport - Trasporti Europei	Volume:92 Issue No: Page No:1-18 Year:2023 Month:
Jayakumar.M., Majumdar B.B., Sahu PK and Pani A.	Analysis of Travel Satisfaction with Commuting in Developing Economy: A Case of New Delhi, India	Transportation in Developing Economies	Volume:9 Issue No: Page No:1-14 Year:2023 Month:
Koramati S., Mukherjee A, Majumdar B.B., and Kar A	Development of Crash Prediction Model using Artificial Neural Network (ANN): A Case Study of Hyderabad, India March 2023	J. Inst. Eng. India Ser. A	Volume:104 Issue No: Page No:63-80 Year:2023 Month:Mar
Saha, S., Rajasekaran, C., Ganiger, M. S., and Sajjan, S.	Experimental investigations on the properties of concrete containing pre-soaked recycled fine aggregate	Indian Concrete Journal	Volume:96 Issue No:9 Page No:1-12 Year:2022 Month:Sep
Roy, P., and Samanta, A. K.	The behavior of different RCC joints under various loading conditions-A review	The Indian Concrete Journal,	Volume:96 Issue No:7 Page No:28-34 Year:2022 Month:Jun
Das, D. P., Das, Diptesh, Topdar, P. and Ghosh, B.B.	Study of A Steam Turbo Generator Foundation Structure under Dynamic Load On Pile Support	Water and Energy International	Volume:65/RNI Issue No:9 Page No:45-50 Year:2022 Month:
Das, D. P., Das, Diptesh, Topdar, P. and Ghosh, B.B.	Estimate of Responses of Multistoried Building under Earthquake Ground Motion to Prevent Failure	Civil Engineering and Architecture	Volume:11 Issue No:2 Page No:668-674 Year:2023 Month:
Das, D. P., Das, Diptesh, Topdar, P., Biswas, R.K. and Ghosh, B.B.	Effect of partial opening on responses of plan asymmetric multistoried building with soil structure interaction- A case study.	Journal of The Institution of Engineers (India): Series A	Volume:104 Issue No:2 Page No:467-472 Year:2023 Month:
Das, D. P., Das, Diptesh, Topdar, P. and Ghosh, B.B.	Dynamic Performance of L-Shaped Asymmetric Building with Soil Structure Interaction	Annals of Forest Research	Volume:65 Issue No:1 Page No:1539-1550 Year:2022 Month:
Banerji, A. K., Topdar, P., & Datta, A.	Effect of axle overloading on pavement structural behaviour with improved clayey subgrade using PET fibres	Civil Engineering and Architecture	Volume: 10 (6) Issue No:6 Page No:2410-2425 Year:2022 Month:
Soumya Mukherjee, Ujjal Mondal, and, Dilip Kr. Singha Roy	Wind-structure interaction analysis of empty cylindrical silos for various slenderness ratio	Materials Today: Proceedings (Elsevier)	Volume:65 Issue No:2 Page No:1582-1588 Year:2022 Month:Apr
Soumya Mukherjee, Dilip Kr. Singha Roy, and, Amiya Kr. Samanta	Wind induced oscillation on a tall circular storage shell for various terrains	Materials Today: Proceedings (Elsevier)	Volume:65 Issue No:2 Page No:1575-1581 Year:2022 Month:May
Avishek Adhikary, Pradyumna Konar, Tapabrata Chakraborty, Supriya Pal, Sudipta Ghosh	Efficacy Assessment of Silty-Sandy Soil as Bed Material in Constructed Wetland to Treat Naphthalene-Laden Wastewater: Physical and Numerical Modeling	Journal of Hazardous, Toxic, and Radioactive Waste (ASCE)	Volume:26 Issue No:2 Page No:04021064. Year:2022 Month:Apr



Author(s) Name	Paper Name	Journal Name	Others Info
Yadav, N.K., Mitra S. S., Santra Abhisek, Samanta, A.K.	Understanding responses of spatio-temporal variability of atmospheric pollution to contradicting nexus of urbanisation-industrial emission control in Haldia, an industrial city of West Bengal	Journal of the Indian Society of Remote Sensing	Volume:51 Issue No: Page No:625-646 Year:2023 Month:Jan

#### 4.2.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Kundu, T., Datta, A. K., Topdar, P., & Sengupta, S.	Optimal location of acoustic emission sensors for detecting rail damage	Proceedings of the Institution of Civil Engineers-Structures and Buildings	Volume: Issue No: Page No: Year:2022 Month:
Marazi N, Majumdar B.B., Sahu P.K., Panda S and Koramati S	Traffic Congestion Assessment Tool for Urban Roads Based on Traffic and Geometric Characteristics: A Case of Hyderabad, India	ASCE, Journal of Transportation Engineering, Part A: Systems	Volume:In press Issue No:In press Page No:In press Year:2023 Month:Jul
Saha, S., and Rajasekaran, C.	Influence of the Mix Parameters on Shrinkage Properties of Environment-Friendly Mortar	Australian Journal of Civil Engineering	Volume: Issue No: Page No: Year:2023 Month:Feb

#### 4.2.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
Kundu, T., Pal, A., Roy, P., Datta, A. K., & Topdar, P.	On the application of UPV in health monitoring of Indian Rail section using AE Technique	NDT.net	Volume:27 Issue No:11 Page No:1-16 Year:2022 Month:

#### 4.2.17 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Tamal Kundu, Apurba Pal, Parikshit Roy, Alope Kumar Datta, Pijush Topdar	Application of UPV-Instrument in Health Monitoring of Indian Rail Section Using AE Technique	12th Structural Engineering Convention 2022	DOI/ISBN: DOI: 10.38208/acp.v1.673 Volume: Issue No: Page No:1429-1439 Year:2022 Month: Dec Presenter:CO-AUTHOR
Sudha Das Khan, Pijush Topdar & Alope Kumar Datta	A Fuzzy Synthetic Evaluation Approach for Condition Rating of RC Bridge Decks	Advanced Engineering Optimization Through Intelligent Techniques	DOI/ISBN: <a href="https://doi.org/10.1007/978981-19-9285-8_30">https://doi.org/10.1007/978981-19-9285-8_30</a> Volume: Issue No: Page No:319-330 Year:2023 Month: Jan Presenter:CO-AUTHOR
Sudha Das Khan, Pijush Topdar & Alope Kumar Datta	Application of Soft Computing Techniques in Bridge Health Assessment: A Review	Data Science and Intelligent Computing Techniques	DOI/ISBN: DOI: 10.1007/978-981-199285-8_30 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Arijit Kumar Banerji, Pijush Topdar & Alope K. Datta	Study on the Effect of Wheel Load and Temperature on Rutting Damage of Composite Flexible Pavement Using Finite Element Method	ASMA 2021: Advances in Structural Mechanics and Applications	DOI/ISBN: DOI: 10.1007/978-3-031-05509-6_17 Volume: Issue No: Page No:202-212 Year:2022 Month:Jul Presenter:CO-AUTHOR





Author(s) Name	Paper Name	Conference Name	Others Info
Soumyadip Das, Aloke Kumar Datta, Pijush Topdar & Sanjay Sengupta	Damage Localization in Reinforced Concrete Slab Using Acoustic Emission Technique	ASMA 2021: Advances in Structural Mechanics and Applications	DOI/ISBN: DOI: 10.1007/978-3-031- 05509-6_13 Volume: Issue No: Page No:162- 170 Year:2022 Month:Jul Presenter:CO-AUTHOR
Parikshit Roy, Sanjay Sengupta, Pijush Topdar & Aloke Kumar Datta	On the Applicability of Wavelet Transform in Localising Defect in a Small Plate Using AE Technique: An Experimental Study	ASMA 2021: Advances in Structural Mechanics and Applications	DOI/ISBN: DOI: 10.1007/978-3-031- 05509-6_19 Volume: Issue No: Page No:226-237 Year:2022 Month:Jul Presenter:CO-AUTHOR
Sheersha Karmakar, Parikshit Roy, Pijush Topdar & Aloke Kumar Dutta	Optimal Locations of Sensor for Structural Health Monitoring of a Steel Truss Using Acoustic Emission Technique: An Experimental Investigation	ASMA 2021: Advances in Structural Mechanics and Applications	DOI/ISBN: DOI: 10.1007/978-3-030- 98335-2_24 Volume: Issue No: Page No:364-375 Year:2022 Month:Jun Presenter:CO-AUTHOR
Mohammed Mumtaz, Loka Venkata Krishna Reddy, Pronab Roy	Seismic Response of Multistorey Building with Varying Stiffness Modifiers	17th Symposium on Earthquake Engineering (17 SEE)	DOI/ISBN: DOI:https://doi.org/10.1007/978-981-99- 1608-5 Volume: Issue No: Page No:335349 Year:2022 Month:Nov Presenter:SELF
Balsukuri Mahesh, Pronab Roy	Analysis of underground R.C.C. bunker subjected to blast load	UKIERI Concrete Congress Conference 3 (Reinforced Concrete and Precast Concrete for Sustainable Infrastructure)	DOI/ISBN: https://doi.org/10.1016/j.matpr.2023.07.027 Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR
Mohamed Hamouda ; Gilbert Hinge; Mohamed Mostofa	Performance of satellite rainfall estimates for flood and drought monitoring	European Geosciences Union	DOI/ISBN: https://doi.org/10.5194/egusphere-egu22294 Volume: Issue No: Page No:EGU22294 Year:2022 Month:May Presenter:CO- AUTHOR
MK Diptikanta Rout, Sabyasachi Biswas, Abdhesh Kumar Sinha	Mechanical and Durability Properties of Alcofine Used in Reclaimed Asphalt Concrete Pavements (RACP)	Advances in Sustainable Construction Materials	DOI/ISBN: https://doi.org/10.1007/978981-33- 4590-4_14 Volume: Issue No: Page No:131-142 Year:2021 Month:Apr Presenter:CO-AUTHOR
MK Diptikanta Rout, Sabyasachi Biswas, Abdhesh Kumar Sinha	Evaluation of Mechanical Properties of Rigid Pavement with High RAP Content	Recent Advances in Transportation Systems Engineering and Management	DOI/ISBN: https://doi.org/10.1007/978981-19- 2273-2_20 Volume: Issue No: Page No:285-298 Year:2022 Month:Nov Presenter:CO-AUTHOR
Kundu, T., Pal, A., Roy, P., Datta, A. K., & Topdar, P.	Application of UPV- Instrument in Health Monitoring of Indian Rail Section Using AE Technique	12th Structural Engineering Convention 2022	DOI/ISBN: 10.38208/acp.v1.673 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Tamal Kundu, Apurba Pal, Parikshit Roy,	On the application of UPV in health monitoring of Indian Rail section using AE Technique	ICINDE 2022	DOI/ISBN: 10.58286/27467 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR





Author(s) Name	Paper Name	Conference Name	Others Info
Aloke Kumar Datta, and Pijush Topdar.			
Sudha Das Khan, Aloke Kumar Dutta and Pijush Topdar	Application of Fuzzy Set Theory in Decision-making of Highway Concrete Bridge.	Advances in Data-driven Computing and Intelligent Systems (ADCIS 2022) at BITS Goa Campus	DOI/ISBN: 978-981-99-0981-0 Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Manhanpally, N., Nagarajan, P., Saha, S. and Y. Raja.	Mechanical and Durability Characteristics of GGBS-Dolomite Geopolymer Concrete Using Recycled Coarse Aggregate	Second International Conference on Construction Materials and Structures (ICCMS2022)	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.04.217">https://doi.org/10.1016/j.matpr.2023.04.217</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Naik, B. V., Kishor, Y., Saha, S., and Goudar, S. K.	Performance Studies on Three Types of Prestressed Concrete Railway Sleepers using Finite Element Model	Second International Conference on Construction Materials and Structures (ICCMS2022)	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.03.147">https://doi.org/10.1016/j.matpr.2023.03.147</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Debasree Roy, Kalyan Adhikari, Supriya Pal	. In Situ Remediation of Arsenic From Arsenic Infested Soil Through Electrokinetic Technique	3 rd International Conference on Advanced Technologies for Industrial Pollution Control (ATIPC-2022) held at Civil Engineering Department, IEST, Shibpur	DOI/ISBN: 978-93-5768-118-6 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Pravin Lal, Supriya Pal	Electrokinetic Remediation of Total Chromium from Contaminated Soil	3 rd International Conference on Advanced Technologies for Industrial Pollution Control (ATIPC-2022) held at Civil Engineering Department, IEST, Shibpur	DOI/ISBN: 978-93-5768-118-6 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Chandrima Bhadra, Avishek Adhikary, Supriya Pal, Kalyan Adhikari	Modeling Migration of Cr(VI) Contaminant Through Clay Liner Using HYDRUS-3D	3 rd International Conference on Advanced Technologies for Industrial Pollution Control (ATIPC-2022) held at Civil Engineering Department, IEST, Shibpur during December 21 - 23, 2022	DOI/ISBN: 978-93-5768-118-6 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Patra, S. and Das, D	Semi-active Groundhook Control of Offshore Tension Leg Platforms Using TMD with Optimized Parameters and MR Damper Under Regular waves	12th Structural Engineering Convention (SEC2022) at MNIT Jaipur	DOI/ISBN: <a href="https://doi.org/10.38208/acp.v1.716">https://doi.org/10.38208/acp.v1.716</a> Volume: Issue No: Page No:1765-1772 Year:2022 Month:Dec Presenter:SELF



Author(s) Name	Paper Name	Conference Name	Others Info
Matia, S. and Das, D	Non-Linear Visco-elastic Pounding in Multi-span Simply Supported Isolated Bridges	12th Structural Engineering Convention (SEC2022) at MNIT Jaipur	DOI/ISBN: <a href="https://doi.org/10.38208/acp.v1.544">https://doi.org/10.38208/acp.v1.544</a> Volume: Issue No: Page No:529-536 Year:2022 Month:Dec Presenter:SELF
Ghosh, D., Banerjee, T. and Das, D	Passive Vibration Control of Bridges: A State-of-the-art Review	17th Symposium on Earthquake Engineering (17SEE) at IIT Roorkee	DOI/ISBN: <a href="https://doi.org/10.1007/978981-99-1608-5_19">https://doi.org/10.1007/978981-99-1608-5_19</a> Volume: Issue No: Page No:257-271 Year:2022 Month:Nov Presenter:CO-AUTHOR
S. Banerjee and K. Bhattacharya	Soil-Structure Interaction Effect on a Multi-storied Building with Pile Foundation Considering Linear Approach .	17th Symposium on Earthquake Engineering (Vol. 3)	DOI/ISBN: 978-981-99-1578-1 Volume: Issue No: Page No:667-679 Year:2022 Month:Nov Presenter:CO-AUTHOR
Charity Marbaniang and Kamal Bhattacharya	Response of a Nuclear Containment with Soil Underneath Under Earthquake Excitation	17th Symposium on Earthquake Engineering (Vol. 3) SPRINGER	DOI/ISBN: 978-981-99-1578-1 Volume: Issue No: Page No:695-708 Year:2022 Month:Nov Presenter:CO-AUTHOR
Sourav Bhattacharjee and Kamal Bhattacharya	Nonlinear Seismic Analysis of Nuclear Containment with Soil-Structure Interaction: Study on Stresses and Damage Criteria	17th Symposium on Earthquake Engineering (Vol. 2)	DOI/ISBN: 978-981-99-1603-0 Volume: Issue No: Page No:529-540 Year:2022 Month:Nov Presenter:CO-AUTHOR
Kinshuk Mukherjee, A K Samanta	... Graphene based Concrete: Potential and utilization in 3D printing applications,	UKIERI Concrete Congress, Sustainable Concrete Infrastructure 2023 14-17 March 2023, Jalandhar, India.	DOI/ISBN: 606 Volume: Issue No: Page No:UCC-2023-606 Year:2023 Month:Mar Presenter:CO-AUTHOR
Kapildeo P. Yadav, Sudipta Ghosh and A K Samanta	Use of waste refractory brick in sustainable concrete: A review on mechanical and durability properties	UKIERI Concrete Congress, Sustainable Concrete Infrastructure 2023 14-17 March 2023, Jalandhar, India.	DOI/ISBN: 129 Volume: Issue No: Page No:[UCC-2023-129] Year:2023 Month:Mar Presenter:CO-AUTHOR
Sudipta Ghosh, Amiya K. Samanta	Utilization of Recycled Refractory Brick as Fine Aggregate on various Properties of Sustainable Concrete.	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala.	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.03.712">https://doi.org/10.1016/j.matpr.2023.03.712</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Subhrajit Sinha, Sudipta Ghosh and Amiya K. Samanta	Influence of waste refractory brick on the destructive and non-destructive properties of sustainable eco-friendly concrete.	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala.	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.03.508">https://doi.org/10.1016/j.matpr.2023.03.508</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
45. Prakash Mondal, Amiya K. Samanta, Dilip K. Singha Roy	Study on the flexural and ductility behaviour of plate reinforced concrete beam - a review.	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala.	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.04.685">https://doi.org/10.1016/j.matpr.2023.04.685</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Kapildeo Prasad Yadav and Amiya K. Samanta	Characterization and Development of Alccofine-based Sustainable Concrete: A Review	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala.	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.05.331">https://doi.org/10.1016/j.matpr.2023.05.331</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
N. Aravind and Amiya K. Samanta	Application of GFRP Composites in Flexural Strengthening of RC Beams in terms of Strength to the Weight Ratio : A way forward	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.04.210">https://doi.org/10.1016/j.matpr.2023.04.210</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Kingshuk Mukherjee, Amiya K. Samanta (2022)	A critical review on the fresh properties, mechanical and durability performance of graphene-based cement composites	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.04.500">https://doi.org/10.1016/j.matpr.2023.04.500</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Amgoth Rajender, Amiya K. Samanta	Compressive Strength Prediction of Metakaolin Based High-Performance Concrete with Machine Learning	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.03.522">https://doi.org/10.1016/j.matpr.2023.03.522</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Pranoy Roy and Amiya Kr. Samanta	Behavior of Concrete-Filled Stub Columns Confined With Cold Formed Steel under Axial Compression: A Comparative Review	2nd International Conference on Construction Materials and Structures 14-18th December 2022 (ICCMS 2022) NIT Calicut, Kerala.	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2023.04.507">https://doi.org/10.1016/j.matpr.2023.04.507</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
A. K. Banik, M. R. Teja , S. Roy	Hydrodynamic Performance of Single and Double Row Floating Breakwaters	15th International Symposium on Practical Design of Ships and Other Floating Structures	DOI/ISBN: 978-953-7738-87-7 Volume: Issue No: Page No:721-749 Year:2022 Month:Oct Presenter:SELF
M. Bandyopadhyay, A. K. Banik	Numerical modeling and nonlinear analysis of semi-rigid jointed steel frames	12th Structural Engineering Convention - An International Event (SEC 2022)	DOI/ISBN: 10.38208/acp.v1.505 Volume: Issue No: Page No:251-258 Year:2022 Month:Dec Presenter:SELF

#### 4.2.18 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Sudha Das Khan, Pijush Topdar, and Aloke Kumar Datta	Application of Soft Computing Techniques in Bridge Health Assessment: A Review.	3rd Congress on Intelligent Systems (CIS 2022)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Patil, M., Majumdar, B.B., Marazi, N. Sahu, P, Sil G, Shankar BB	Analyzing Prospective Users' Willingness to Pay for Electric Two-wheeler Infrastructure Attributes in Indian context	14TH EASTS conference, Malaysia	DOI/ISBN: Accepted Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:
Manhanpally, N., Nagarajan, P., and Saha, S.	3D Printed Concrete: A Key to Future Constructions	1st International Conference on Novel Sustainable Concepts and Technologies in Civil Engineering	DOI/ISBN: N/A Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Shalu Roy, Arindam Karmakar ,Sahinur Rahaman Mondal, and Supriya Pal	Efficacy Assessment of Electrokinetic Treatment For Ground Improvement of Soft Soil.	Ninth Indian Young Geotechnical Engineers Conference (9th IYGEC-2023), MIT AURANGABAD ( MAHARASHTRA)	DOI/ISBN: xxx Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR
Jhilik Gantait , Avishek Adhikary and Supriya Pal	Removal of doxycycline from wastewater using Chrysopogon zizanioides as bio adsorbent	9th International Groundwater Conference (IGWC-2022) , IIT ROORKEE	DOI/ISBN: xxx Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Suchhanda Mondal, Avishek Adhikary, Supriya Pal	Assessment of adsorption Potential of lightweight Expanded clay aggregates for Removal of naphthalene from wastewater	9th IGWC (international ground water conference),2022 by IIT Roorkee	DOI/ISBN: xxx Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Ghosh, S. K., Saini, A., & Das, D.	Factors affecting the properties of geopolymer concrete: A state of the art review	3rd International Conference on Recent Developments on Sustainable Infrastructure: (Engineering, Technology & Innovation) (ICRDSI-22)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Ghosh, S. K., Bera, D. K., & Das, D.	Factors affecting the strength and hydrological properties of pervious geopolymer concrete cured at ambient temperature	3rd International Conference on Recent Developments on Sustainable Infrastructure: (Engineering, Technology & Innovation) (ICRDSI-22)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Avishek Adhikary, Supriya Pal	Fate and removal of organic and inorganic contaminants using Corchorus olitorius	The 9th International Groundwater Conference 2022: Effective Management of (sub) surface Water Resources in Arid and Semi-arid regions	DOI/ISBN: xxx Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Kundan Kumar, Nisheeth Shekhar, and Supriya Pal	Study on the geo-grid reinforcement and stone column combination for enhancement of bearing capacity below circular raft foundation.	Ninth Indian Young Geotechnical Engineers Conference (9th IYGEC-2023) , MIT AURANGABAD (MAHARASHTRA)	DOI/ISBN: xxx Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
A Bandyopadhyay, A K Samanta	Effect of slenderness ratio on ductility of upvc confined reinforced concrete column	UKIERI Concrete Congress, Sustainable Concrete Infrastructure 2023 14-17 March 2023, Jalandhar, India.	DOI/ISBN: 311 Volume: Issue No: Page No:[UCC-2023] Year:2023 Month:Mar Presenter:CO-AUTHOR
Soumya Mukherjee, Niladri Biswas, Dilip Kr. Singha Roy	Interaction of open-top, short, cylindrical tank with wind-driven rain	2nd International Conference on Construction Materials and Structures, N.I.T. Calicut, Kerala	DOI/ISBN: NA Volume: Issue No: Page No:- Year:2022 Month:Dec Presenter:CO-AUTHOR
Saurabh Suman, Soumya Mukherjee, Dilip Kr. Singha Roy	A comparative review on bubble-voided reinforced concrete slab – An innovative concept for lightweight concreting	2nd International Conference on Construction Materials and Structures, N.I.T. Calicut, Kerala	DOI/ISBN: NA Volume: Issue No: Page No:- Year:2022 Month:Dec Presenter:CO-AUTHOR
Soumya Mukherjee, Jalla Sandeep Kr. Reddy, Dilip Kr. Singha Roy	The study of wind-interference effect on an elevated RC circular tank due to an adjacent building	2nd International Conference on Construction Materials and Structures, N.I.T. Calicut, Kerala	DOI/ISBN: NA Volume: Issue No: Page No:- Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.2.19 Conference: Accepted in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Tamal Kundu, Apurba Pal, Alope Kumar Datta, Pijush Topdar	On Development of Smart Energy Efficient Damage Detection ANN Model for Indian Rail Section	ESMOC	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Koramati S, Majumdar, B.B., Sahu, P, Biswas S and Maji A	A binary logistic regression based investigation of factors influencing the urban road crash severity: A case study of Hyderabad, India	14TH EASTS conference, Malaysia	DOI/ISBN: Accepted Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:
Sarkar S, Biswas S, Koramati S, Majumdar, B.B., Sinha A	A Case Study in Jamshedpur, India of an Investigation of Risk Element Recognition of Traffic Parameters in Association with Fatal Road Collisions	14TH EASTS conference, Malaysia	DOI/ISBN: Accepted Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:
Patil, M., Majumdar, B.B., Marazi, N. and Sahu, P	Travel Behaviour Analysis based investigation to Estimate the Willingness to Pay for Electric Two-wheeler Infrastructure Attributes	UMI Urban Mobility 2022, Kochi	DOI/ISBN: Accepted Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
Siddardha Koramati, Bandhan Bandhu Majumdar, Prasanta Sahu	Development of Safety Performance Functions (SPF) for Road Traffic Crash Prediction at Urban Midblock: A case study of Hyderabad, India.	CTRG Conference NIT Surat	DOI/ISBN: Accepted under review for journal consideration Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:





Author(s) Name	Paper Name	Conference Name	Others Info
Naveed Farooz Marazi, Mallikarjun Patil, Bandhan Bandhu Majumdar, Prasanta Sahu, Gourab Sil, Sadaif Andrabi	A Methodological Framework for Investigation of Service Quality Attributes Influencing Metro Feeder Modes Operations	CTRG Conference NIT Surat	DOI/ISBN: Accepted under review for journal consideration Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:
Niladri Biswas, Soumya Mukherjee, Dilip Kr. Singha Roy	Fluid-structure interaction analysis on the response of open-top, squat, circular tank due to wind-driven rain	2nd International Conference on Construction Materials and Structures, N.I.T. Calicut, Kerala	DOI/ISBN: NA Volume: Issue No: Page No:- Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.2.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Roy Pronab	Kumar M., and Khan K.	Recent Advances in Computational and Experimental Solid Mechanics, Vol -II	Numerical Investigations of Collapse Moment of Deformed Pipe Bends Subjected to Internal Pressure and Bending Moment	Publisher: Springer Nature Singapore, Pvt. Ltd Publication Date: 2022-0228
Pronab Roy	Pijus Rajak	Soft Computing and Optimization	Determination of Probability of Failure of Structures Using DBSCAN and Support Vector Machine.	Publisher: Springer Nature Singapore, Pvt. Ltd Publication Date: 2023-0315
Niranjan Shekar	Sanku Konai	Lecture Notes in Civil Engineering	Multivariate Regression Model to Predict Geotechnical Properties of Fly Ash-Stabilized Clayey Soil	Publisher: Springer Publication Date: 2022-1208
Manhanpally, N., Saha, S.		Recent Advances in Materials, Mechanics and Structures	Benefit Cost Analysis of 3D Printed Concrete Building	Publisher: Springer Singapore Publication Date: 2022-10-04
Bandhan Bandhu Majumdar	Sahu PK, Zabiulla Md,	TR News (ISSN: 07386826)	Electric Bicycles: Evolution, Research, and the Move Forward	Publisher: TRB, Washington DC USA Publication Date: 2023-03-14
Saha S.	Sajith A. S., Sahoo, D. R. and Sarkar, P.	Recent Advances in Mechanics, Materials & Structures (Select Proceedings of ICMMS2022)		Publisher: Springer Singapore Publication Date: 2022-10-04
Supriya Pal	Kenue, A.W., Sana, E., Adhikary, A., Hussain, M.	Recent Advances in Sustainable Environment	Assessment of Subsurface Migratory Behavior of Lead (Pb) Laden Leachate Generated from a Waste Dumpsite in Srinagar, Kashmir, India	Publisher: Springer Nature Singapore Pte Ltd Publication Date: 2022-1026





Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Gilbert Hinge	Anupal Baruah, Arup Kumar Sarma	River Dynamics and Flood Hazards: Studies on Risk and Mitigation	Influence of Boundary Condition on the Modified 2D Shallow Water Model near the Flow-Structure Interaction Zone: A Case Study in Brahmaputra River	Publisher: Springer Nature Singapore Publication Date: 2022-11-29
Supriya Pal	Debasmita Datta, Abdul Waris, Avishek Adhikary, Kalyan Adhikari	Recent Advances in Sustainable Environment	Assessment of Efficacy of Silty-Sandy Soil to Treat Carbendazim-Laden Wastewater	Publisher: Springer Nature Singapore Pte Ltd Publication Date: 2022-10-26
Supriya Pal	Avishek Adhikary, Pradyumna Konar, Tapabrata Chakraborty,	Transportation and Environmental Geotechnics	Assessment of Adsorptive Removal of Naphthalene Through Constructed Wetland Using Physical and Numerical Modeling	Publisher: Springer Nature Singapore Pte Ltd Publication Date: 2022-11-26

#### 4.2.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference and Exhibition on NDE (ICENDE) 2022	ASNT INDIA Section	2022-08-26	2022-08-27	India
International Interdisciplinary Conference on Mathematics, Engineering and Science (MESIICON)	B.C Roy Engineering College	2022-11-11	2022-11-12	India
3rd Energy System Modeling and Optimization Conference	NIT Durgapur	2022-12-05	2022-12-07	India
12th Structural Engineering Convention 2022	MNIT Jaipur	2022-12-19	2022-12-22	India
17th Symposium on Earthquake Engineering (17 SEE) at IIT Roorkee, India.	IIT Roorkee	2022-11-14	2022-11-17	India
Applications of Artificial Intelligence and Machine Learning in Civil Engineering	ACE Engineering College, Hyderabad	2023-01-30	2023-02-04	India
15 days Road Safety Auditors Certified Course (By IRC and MoRTH )	VNIT Nagpur association with IRC and MoRTH )	2023-07-08	2023-07-22	India
15th International Symposium on Practical Design of Ships and Other Floating Structures (PRADS 2022)	Faculty of Mechanical Engineering and Naval Architecture, of the University of Zagreb, Croatia, and Bureau Veritas, Paris, France.	2022-10-09	2022-10-13	Croatia



Name of the Programme	Organized By	From Date	To Date	Organizing Country
12th Structural Engineering Convention - An International Event (SEC 2022)	National Centre for Disaster Mitigation & Management, Malaviya National Institute of Technology Jaipur	2022-12-19	2022-12-22	India
Geo-environmental engineering webinar on “Understanding Elevated Temperature Landfill Events: From Field Observations to Numerical Modeling” delivered by Dr. Navid H. Jafari, Associate Professor, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA, USA	Online organized by Prof. Krishna R. Reddy, University of Illinois Chicago	2022-11-10	2022-11-10	USA
Geo-environmental engineering webinar on “Geotechnical Stability of Waste Fills –Lessons Learned and Continuing Challenges” delivered by Dr. Rudy Bonaparte, Board Chairman and Senior Principal, Geosyntec Consultants, and Professor of Practice, Georgia Institute of Technology, Atlanta, GA, USA	Online organized by Prof. Krishna R. Reddy, University of Illinois Chicago	2022-11-17	2022-11-17	USA
Geo-environmental engineering webinar on “Enhancing Armored Final Covers for Uranium Mill Tailings Disposal Facilities Through Naturalization” delivered by Dr. Craig H. Benson, Wisconsin Distinguished Professor Emeritus, CRESO/University of Wisconsin-Madison, WI, USA	Online organized by Prof. Krishna R. Reddy, University of Illinois Chicago	2022-10-13	2022-10-13	USA
Best Practices in Higher Education	UGC online	2022-05-30	2022-05-30	India
outcome based accreditation: Challenges and Opportunities	NIT Durgapur	2022-06-23	2022-06-24	India
Structural Design and Proof Checking Consultancy Services	BIS online	2022-09-15	2022-09-15	India
Basic Machine Learning Course at Mysuru	Infosys & Ashoka University	2022-12-12	2022-12-23	India
Valorization of Fly Ash and Steel Slag: Challenges, Innovations, and Future Trends V-FASS at Jamshedpur	TATA Steel	2022-09-22	2022-09-23	India
Health Monitoring of Structures through Instrumentation’	UltraTech Cement Ltd. & Indian Concrete Institute online	2023-02-11	2023-02-11	India
7th India Water Week	Ministry of Jal Shakti, Govt. of India	2022-11-01	2022-11-05	India
2nd International Conference on Construction Materials and Structures	N.I.T. Calicut, Kerala	2022-12-13	2022-12-19	India



#### 4.2.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Fuzzy-Logic Based Condition Assessment and Rating of Reinforced Concrete Bridges: A Study	Ms. Sudha Das Khan	Dr. Pijush Topdar and Dr. Alope Kumar Datta	DEGREE AWARDED	2023-08-03
Study and Modelling of Highway Pavement Under Dynamic Loading	Mr. Arijit Banerji	Dr. Pijush Topdar & Dr. Alope Kumar Datta	SUBMITTED	2023-08-03
Studies on Different Aspects of Acoustic Emission Technique for Damage Localisation in Structures	Mr. Parikshit Roy	Dr. Pijush Topdar and Dr. Alope Kumar Datta	SUBMITTED	2023-08-03
Detection and Monitoring of Damages in Rail Section Using Acoustic Emission Technique	Mr. Tamal Kundu	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Characterization of Rigid Pavement Using Acoustic Emission Technique	Mr. Soumyadip Das	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
A Study on Damage Localisation in Framed Structure using Acoustic Emission Technique	Mr. Anupam Kumar Biswas	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Studies and Development of AI Models for Fault Detection in Railway Track	Apurba Pal	Dr. Alope Kumar Datta	ONGOING	-
Evaluation of plastic collapse moment of initially geometric imperfect pipe bends under internal pressure and bending moments	Manish Kumar	Dr. Pronab Roy and Dr. Kallol Khan	DEGREE AWARDED	2022-02-16
Rutting Analysis by Using Construction and Demolish Waste for Low Volume Roads	Arpan Ray	Dr. R . P. Nanda and Dr. Pronab Roy	SUBMITTED	2022-12-19
A study of stability designs of the different types of Floating Offshore Wind Turbine (FOWT) system by integrated-coupled analysis under environmental loadings.	Swarnadip Dey	Prof. A. K. Banik and Dr. Pronab Roy	ONGOING	-
Analytical and Numerical Analysis of Free Spanning Offshore Pipelines Emphasising Different Geotechnical Aspects	Goutam Sarkar	Dr. Pronab Roy	ONGOING	-
Machine Learning-Based Reliability Analysis of Structures	Pijus Rajak	Dr. Pronab Roy	ONGOING	-
Machine Learning Based Leakage Detection of the Pipelines.	Koyndrik Bhattacharjee	Dr. Pronab Roy	ONGOING	-
Machine Learning Based Slope Stability Prediction	Rimjhim Ghosh	Dr. Pronab Roy	ONGOING	-
Ground Improvement	Minar Islam	Dr. Sushovan Dutta, Dr. Sanku Konai	ONGOING	-
Ground Improvement (Broad area)	Minar Islam	Dr. Sushovan Dutta and Dr. Sanku Konai	ONGOING	-
Utilization of Reclaimed Asphalt Pavement (RAP) as sustainable materials in Rigid pavement Construction	MK Diptikanta Rout	Dr. Sabyasachi Biswas	SUBMITTED	2023-08-03
Wind impact on bridge	Puja Haldar	Somnath Karmakar	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Blast Impact on bridge	Shuvra Saha	Somnath Karmakar	ONGOING	-
Response of VOP under blast loading	Goutam Kutti	Somnath Karmakar	ONGOING	-
Response specturm under wind load and its effects on slender structures	Taniya Saha	Somnath Karmakar	ONGOING	-
Digitalization in the construction industry for the assessment of the enablers to optimize the constructions	Bittu Ghosh	Somnath Karmakar	ONGOING	-
Mine blast using the FEM-SPH Coupled Computational Methods	Pawan Kumar Das	Somnath Karmakar	ONGOING	-
Study and Modelling of Highway Pavements under Dynamic Loading	Mr. Arijit Banerjee	Dr. Pijush Topdar and Dr. Alope Kumar Datta	SUBMITTED	2023-02-10
Studies on Different Aspects of Acoustic Emission Technique for Damage Localisation in Structures	Mr. Parikshit Roy	Dr. Pijush Topdar and Dr. Alope Kumar Datta	SUBMITTED	2023-03-10
Health Monitoring of Rail using Acoustic Emission Technique	Mr. Tamal Kundu	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Characterization of Pavements Using Acoustic Emission Technique	Mr. Soumyodip Das	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Fuzzy Logic-based Condition Assessment and Ranking of Reinforced Concrete Bridges: A Study	Ms. Sudha Das Khan	Dr. Pijush Topdar and Dr. Alope Kumar Datta	SUBMITTED	2022-10-24
Performance Study of Asymmetric Structure under Static & Dynamic Loads	Mr. Debiprasad Das	Dr. Diptesh Das and Dr. Pijush Topdar	ONGOING	-
A Study on Structural Defects in Frame Type Buildings using Acoustic Emission Technique	Mr. Anupam Biswas	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Broad Area of Research: SHM of Composites using Acoustic Emission Technique	Ms. Neetika Saha	Dr. Pijush Topdar	ONGOING	-
A Travel Behaviour Based Analysis on the Operational and Infrastructure Needs of Prospective Electric Two-wheeler Users	Mallikarjun Patil V	Dr Bandhan Bandhu Majumdar	DEGREE AWARDED	2023-02-08
Development of a systematic methodology for improving rod safety on roads in India	Siddharda Koramati	Dr Bandhan Bandhu Majumdar and Dr. PK Sahu (BITS Pilani)	ONGOING	-
Planning of optimal strategies and commuters behavioral implications under different congestion pricing schemes	Naveed Farooz M	Dr Bandhan Bandhu Majumdar and Dr. PK Sahu (BITS Pilani)	ONGOING	-
Electric Assist Bicycle (E-Bike) Moblity Planning Framework for Smart Cities: A Spatial, Temporal and Behavioral investigations	Md. Zabiullah	Dr Bandhan Bandhu Majumdar and Dr. PK Sahu (BITS Pilani)	ONGOING	-
Electric Three wheeler Infrastructure Mobility Planning	Arindam Prasad Sinha	Dr Bandhan Bandhu Majumdar and Dr Sabyasachi Biswas	ONGOING	-
Geopolymer concrete with recycled aggregate	Najeeb M	Prof. Praveen Nagarajan & Dr. Suman Saha	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
High Performance Concrete	Bhukya Vamsi Naik	Dr. Sharan K Goudar & Dr. Suman Saha	ONGOING	-
Rutting analysis by using Construction and demolished Waste for low volume roads	Arpan Ray	RP Nanda and P Roy	SUBMITTED	2022-12-23
Waste plastic aggregate as sustainable construction material	Debargha Banerjee	RP Nanda	ONGOING	-
Performance Study of Asymmetric Structures under Static and Dynamic Loads	Debiprasad Das	Dr. Diptesh Das, Dr. P. Topdar and Dr. R. K. Biswas	SUBMITTED	2023-08-16
Vibration Control of Structures under Multihazard Scenario	Arunabha Sen	Dr. Diptesh Das and Prof. S. Chakraborty	ONGOING	-
Vibration Control of Offshore Structures subjected to Environmental Loads	Ankita Som	Dr. Diptesh Das	ONGOING	-
Simulation and Control of Bridge Vibration under Environmental Loads	Tathagata Banerjee	Dr. Diptesh Das	ONGOING	-
Vibration Control of Base-isolated Structures	Sukamal Kanta Ghosh	Dr. Diptesh Das	ONGOING	-
Vibration Control of Offshore Structures	Shreyashee Sulakshana Sanjay	Dr. Diptesh Das	ONGOING	-
Optimization of Sustainable integrated municipal solid waste management system through case studies	Arpan Chattopadhyay	Prof. Kalyan Adhikari and Dr. Supriya Pal	ONGOING	-
Performance assessment of efficacy of hybrid constructed wetland for removal of antibiotics and polyaromatic hydrocarbons in wastewater	Avishek Adhikari (Roll No. 18/CE/1102)	Dr. Supriya Pal	SUBMITTED	2023-08-18
Prediction of ground subsidence due to underground coal mining through numerical modelling approach	Nisheeth Shekhar (21CE 1104)	Dr. Supriya Pal	ONGOING	-
Application of Jute-Geotextile in Rural Roads	Sahinur Rahaman Mondal (22CE1103)	Dr. Supriya Pal and Dr. Rajib Ghosh Choudhury	ONGOING	-
Performance Evaluation of Flyash, Slag, Cement Stabilized Coal Mine Over-Burden as a Potential Sub-Base and Base Course Material in Flexible Pavement Systems with Additional Improvement Using Geocell	Arindam Karmakar (20CE1102)	Prof. Kamal Bhattacharya and Dr. Supriya Pal	ONGOING	-
Slope Stabilization of Overburden Dump slope using Jute Geotextile	Tapabrata Chakraborty(22CE1102)	Dr. Mrinal Kanti Mandal	ONGOING	-
Experimental Investigation on the Strength and Behaviour of Plate Reinforced Concrete Beam	Prakash Mondal	Dilip Kr. Singha Roy & Amiya Kr. Samanta	ONGOING	-
An Investigation on the Wind-Structure Interaction of Cylindrical Shells for Storage Purpose	Soumya Mukherjee	Dilip Kr Singha Roy	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Condition assessment and residual life prediction of corrosion distressed reinforced concrete structures.	Amgoth rajender	AK Samanta	ONGOING	-
Identification of Urban Heat Islands from Multi Temporal MODIS Land Surface Temperature Data in the Southern Part of West Bengal, India	Nval K Yadav	AK Samanta, A Santra	SUBMITTED	2023-01-09
Experimental Investigation on the Strength and Behaviour of Plate Reinforced Concrete Beam.	Prakash Mondal	AK Samanta, DK Singha Roy	ONGOING	-
Effect of Elevated Temperature on Diverse Properties of Concrete Containing Refractory Waste Materials	Sudipta Ghosh	AK Samanta	ONGOING	-
Performance evaluation of Concrete-filled Cold-formed Steel Built-up Composite Structures	Pranoy K Roy	AK Samanta	ONGOING	-
Characterization of Sustainable Heat Resistant Concrete with Recycled Refractory Brick and Alccofine	Kapildeo P Yadav	AK Samanta	ONGOING	-
Cardiac Arrhythmia detection	Pinaki Ranjan Das	TK Bera AK Samanta	ONGOING	-
Enhancing Water Resources Management in Bankura District: A Holistic Approach using Remote Sensing, Field Data, and Modeling Techniques (Tentative)	Suktiprajna Rath	Dr. Gilbert Hinge	ONGOING	-
A comprehensive study of stability design for different types fowt system by integrated-coupled analysis under the action of dynamic environmental loads	Swarnadip Dey	A. K. Banik & P. Roy	ONGOING	-
Active passive control and dynamic stability of nonlinear flexible systems	Saikat Suvra Mondal	A. K. Banik & R. K. Mitra	ONGOING	-
Impact of Climate Change on water resource in lower Gangetic basin with specific reference to drought in the district Bankura and Purulia, West Bengal, India.	Sri Kush Kumar Dey	Prof. Vijay Kumar Dwivedi- Dept. of Civil Engg., NIT Durgapur, (ii) Dr. Satanand Mishra, Principal Scientist, CSIR-AMPRI, Bhopal, M.P, (iii) Dr. Sandip Mondal - Dept. of E & E Studies., NIT Durgapur	ONGOING	-





### 4.2.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Congestion Pricing: Planning for optimal strategies and commuters behavioral implications under different pricing schemes	Dr Bandhan Bandhu Majumdar Dr. Dimitris Potoglou; Dr. Georgina Santos (Cardiff University, UK); Dr. Dilum Dissanayake Newcastle University, UK); Prof. Ashoke Sarkar (IIT Jammu); Dr. Prasanta Kumar Sahu (BITS Pilani)	MHRD SPARC	2943000.0	2020
Electric-assist bicycle (e-Bike) mobility planning for smart cities: Fostering active transportation to improve public health	Dr Bandhan Bandhu Majumdar Dr. Rodrigo Bini; Dr. Jayden Hunter (La Trobe University, Australia); Dr. Prasanta Kumar Sahu (BITS Pilani)	Asian Smart Cities Research Innovation Network, La Trobe University	1500000.0	2021
Nanotechnological Intervention on jutegeotextile to adapt long term Sustainability and enhanced Durability for its costeffective and wide application In flexible pavement systems	Dr. Supriya Pal, Dr. Hirok Choudhuri, Dr. Mrinal Kanti Mandal, Dr. R. Ghosh Chaudhuri	National jute Board, a statutory Body, ministry of Textiles, govt. Of india	6952264.0	2021
Environmental geochemistry and treatment of organic pollutants in aquatic systems in the selected areas of China, India and Russia	Dr. Supriya Pal, Dr. Hirok Choudhuri, Dr. Mrinal Kanti Mandal, Dr. K.K.Dubey	DST-Govt. of India under BRICS STI Framework Programme	4408843.0	2019
process of height increment of overburden dumps at open cast coal mines in India using jute-geotextile as reinforcing material	Dr. Supriya Pal, Dr. Hirok Choudhuri, Dr. Mrinal Kanti Mandal, Dr. R. Ghosh Chaudhuri	National Jute Board, A Statutory Body, Ministry of Textiles, Govt. of India	7172264.0	2021
Performance Evaluation of Fly Ash –Cement Stabilized Coal Mine Overburden as a Potential Sub-base and Base Course Material in Flexible Pavement Systems	Dr. Supriya Pal, Dr. Hirok Choudhuri, Dr. Mrinal Kanti Mandal, Dr. R. Ghosh Chaudhuri	National Rural Infrastructure Development Agency Ministry of Rural Development Government of India	1892000.0	2023
Grossly Polluting Industries (GPIs) inspection by National Institute of Technology Durgapur in Main stem States of River Ganga	Dr. Supriya Pal and Dr. Sandip Mondal	Central Pollution Control Board, GoI	663750.0	2021
Prospects and study of floating offshore wind turbine (FOWT) platforms for wind energy harnessing	A. K. Banik	Department of Science & Technology, Higher Education, Govt. of WB,	850000.0	2018

### 4.2.24 Completed Sponsored Projects Details



Title of the Project	Investigator	Sponsor Authority	Complete Year
Development of a comprehensive methodology to improve road traffic safety in Indian urban roadways based on advanced statistical techniques	Dr Bandhan Bandhu Majumdar	DST SERB Start Up Research Grant	2022
Environmental geochemistry and treatment of organic pollutants in aquatic systems in the selected areas of China, India and Russia	PI: Dr. Supriya Pal, Co PI: Dr. Hirok Chaudhuri, Dr. M. K. Mandal. Dr. K. Dubey, Dr. Prof. Oleg Savichev, Dr.Prof. Zhanxue Sun	Dst-Govt. Of India Under Brics Sti Framework Programme	2022
Grossly polluting industries (gpis) Inspection by national institute of Technology durgapur in main stem states of river ganga	Dr. Supriya Pal and Dr. Sandip Mondal	Central Pollution Control Board, GoI	2023

#### 4.2.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
PIR Project and Consultancy Pvt. Ltd. Kolkata - 54.	Design Calculation of Proposed 450 mm Diameter MS Casing Pipe with 280 mm dia HDPE Carrier Water Pipeline crossing ...	81000.0	Completed
Joy Santosi Enterprise, Purulia-723121	WMM Mix Design	41000.0	Completed
Government or Private Organization	Different types of Project	2736160.0	Completed
Garge Engineering Pvt Ltd	Material Testing for Rail embankment	26845.0	Investigator(s): Dr Sabyasachi Biswas, Dr. B. B. Majumdar and Dr. S. Dutta
LLOYED Insulation India Ltd	PQC design for runway	118000.0	Investigator(s): Dr Sabyasachi Biswas and Dr. B. B. Majumdar
Maa Manasha Enterprise	Bitumen content investigation for Steel City Road	15340.0	Investigator(s): Dr Sabyasachi Biswas and Dr. B. B. Majumdar
Garge Engineering Pvt Ltd	Testing of materials for Rail embankment	31601.93	Dr Sabyasachi Biswas, Dr. B. B. Majumdar and Dr. S. Dutta
Various Industries	Mix Design and Aggregate Testing	500000.0	As Co-PI, with Prof Sabyasachi Biswas as PI
Garg Engineering & Construction Pvt. Ltd.	Soil Testing for Railway Embankment	31602.0	Soil testing
Garg Engineering & Construction Pvt. Ltd.	Soil Testing for Railway Embankment	26845.0	Evaluation of required soil properties
M/S Chittaranjan Locomotive Works, Chittaranjan	Consultancy for restoration work of damage S. K. Setu	563450.0	Ongoing



Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
National Highway Authority of India	Review/Vetting of design & drawing of 4-lane of Purulia bypass	2212500.0	Ongoing
M/S Swamy Resorts (Pvt) Ltd.	Scrutiny of design & drawing of 2B+G+7 Hotel Building at Bhabaneswar	560500.0	Completed
National Stone Works, Pakur , Jharkhand	Determination of swelling factor of ballast rock from stone mines	76700.0	completed
WBSRDA, Bishnupur Division	Consultancy work for report preparation based on pile load testing of Bridge work vide package no. WB-03-789 under PMGSY-II at Bishnupur Division	472000.0	completed
M/S Shyam Sel and Power Limited, G6 Mangalpur Industrial Estate, Paschim Bardhaman-713347	Root cause analysis for ash silo collapsed at Mangalpur plant of M/S Shyam Sel and Power Limited	337480.0	completed
Bhavya Bharat Infrastructure & Construction Pvt. Ltd. , 3 BHK in Rajlaxmi Apartment, flat 4/B, South lake Road, Bengal 723102	CBR test of subgrade soil samples for Purulia Bypass project in Purulia-West Bengal of NH-32	107380.0	completed
Associated construction and Consultancy, Kolkata	Rock sample testing for the proposed doubling line between Motumari Vishnupurum project under South central railway construction department	283200.0	completed
Eastern Coalfields limited	Determination of RMR for 4 nos. of Districts for the mines under Kajora Area, ECL	368160.0	completed
Essar Oil and Gas Exploration and Production Ltd., Gopalpur, Durgapur-713212	Rock mechanic studies of coal and non-coal samples	2876250.0	Ongoing
S.S. Solutions, Durgapur-713213	Consultancy work of vetting of technical report of oxygen Plant AIWPL, Durgapur	118000.0	completed
S.S. Solutions, Durgapur-713213	Vetting of geotechnical investigation work for 2.0 MPTA Pellet Plant at Nagannar, Chattishgarh	767000.0	completed
Bengal aerotropolis Projects Limited, 1st floor, City Heart, 5 gorky Terrace, Kolkata, WB-700017	Consultancy services for preparation of load/stress calculation over existing IOCL pipe corridor area for developing 2nd lane of the mail airport access road	153400.0	completed
Neo Metaliks Ltd., , Gopalpur, Durgapur	Retention/ Strengthening of existing foundation at Neo-Metaliks Ltd., Gopalpur, Durgapur	429520.0	completed
NSC projects Pvt. Ltd., L-87, Street no. 7C, Mahipalpur, New Delhi-110037	Determination of design mix of soil stabilization and Borewell water sample testing for Airport station	366830.0	completed



Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
panagarh			
Samar Ranjan Sahu, GM, BIVAB DEV. PVT. LTD., Nayapali, Bhubeneswa	Structural vetting , BIVAB YASHILA at Puri	531000.0	completed
NHAI	Review of design & drawing of 4laning of Purulia Bypass Section (length 103.15 km), WB	22.125	80% Complete
M/s JRA Infratech Noida	Proof-checking /vetting of Structural Design & Drawing of Married Accommodation Project for DU & JCO, MES at Panagarh & Nabagram	4.72	Complete
M/s Shyam Sel & Power Ltd, Raniganj	Root Cause Analysis for Ash Silo collapsed at Mangalpur Plant	3.37	Completed
M/s SWAMI RESORTS (P) Ltd., Bhubaneswar	Proof checking of (2B+G+7) Storied Hotel Building at Mouza - Jayadev Vihar, Bhubaneshwar, Dist: Khordha, Odisha	5.61	Completed
DAV Asansol	Health check up and testing of soil samples of the existing building foundation (Block-B).	3.07	Completed
National Council of Science Museum, Ministry of Culture, GOI	Vetting of Structural Design and drawings for proposed Science Centre (Cat II) at Ujjain, MP	118000.0	Completed
Growever Infra Private Limited, Delhi-85	Vetting of DPR for design of roads (Andaman Marine Drive) and Flyover/Crossovers and Underpass at Port Blair in Andaman and Nicobar islands	590000.0	Completed
M/s. Executive Engineer, Kolkata-III, CPWD, 3rd Floor, 1st MSO Building, Nizam Palace, 234/4 AJC Bose Road, Kolkata, Pin - 700020	Design Mix of M25 and M30 Grades of Concrete for Construction of Residential Campus of CISF at Rajarhat, Kolkata	101224.0	Completed, May, 2022
M/s. Executive Engineer, Kolkata-III, CPWD, 3rd Floor, 1st MSO Building, Nizam Palace, 234/4 AJC Bose Road, Kolkata, Pin - 700020	Design Mix of M25, M30 and M25 (for pilling) Grades of Concrete for Construction of Residential Campus of CISF at Rajarhat, Kolkata	115050.0	Completed, June, 2022
M/s Management Development Institute, Raghunathganj, Murshidabad, West Bengal, Pin-742235.	Quality inspection and assessment of construction of faculty residence block and Executive Hostel.	65692.0	Completed, March, 2022



Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
M/s JRA Infratech B-16, Sector-50, Noida-201301, UP	Proof-checking /vetting of Structural Design & Drawing of Married Accommodation Project, MES at Panagarh & Nabagram	590000.0	Completed, June, 2022

#### 4.2.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Aloke Kumar Datta	Journal of Vibration Engineering & Technologies (JVET)	Springer	2023-04-14
Aloke Kumar Datta	Journal of Vibration Engineering & Technologies (JVET)	Springer	2022-12-26
Gilbert Hinge	Remote Sensing	MDPI	2022-10-27
Gilbert Hinge	Sustainability	MDPI	2022-12-10
Gilbert Hinge	Remote sensing	MDPI	2023-03-13
Gilbert Hinge	Theoretical and Applied Climatology	Springer	2022-11-09
Gilbert Hinge	Water Conservation Science and Engineering	Springer	2022-09-29
Gilbert Hinge	Modelling Earth Science and Environment	Springer	2022-06-17
Pronab Roy	Journal of Ocean Engineering	ELSEVIER	2022-11-29
Pronab Roy	Journal of Innovative Infrastructure Solutions	Springer	2022-11-20
Aloke Kumar Datta	Journal of Vibration Engineering & Technologies (JVET)	Springer	2023-04-26
Aloke Kumar Datta	Journal of Vibration Engineering & Technologies (JVET)	Springer	2023-01-24
Somnath Karmakar	Journal of Institute of Engineers India Series A	Springer	2023-04-26
Somnath Karmakar	Indian Concrete Journal	ACC Cement	2023-01-23
Pijush Topdar	Journal of The Institution of Engineers (India): Series A	Springer	2022-05-25
Pijush Topdar	Measurement	Elsevier	2023-03-30
Bandhan Bandhu Majumdar	15 Journals Such as Transportation Research Part A, Transportation Research Record, KSCE, ASCE, Case Studies in Transport Policy, Transport Policy	Elsevier, Springer	2023-08-06
Suman Saha	Materials Today Proceedings	Elsevier	2022-12-20
Suman Saha	Journal of Structural Fire Engineering	Emerald	2023-01-19
Suman Saha	Journal of The Institution of Engineers (India): Series A (IEIA)	Springer	2023-02-09
Suman Saha	Materials Today Proceeding	Elsvier	2023-02-22
Suman Saha	Journal of The Institution of Engineers (India): Series A (IEIA)	Springer	2023-02-14



Reviewer	Name of the Journal	Publisher	Date of Final Review
Suman Saha	Asia-Pacific Journal of Science and Technology	Research and Technology Transfer Affairs Division of Khon Kaen University	2022-04-04
Suman Saha	ACI Structural and Materials Journals	American Concrete Institute (ACI)	2022-04-05
Suman Saha	Advances in Cement Research	ICE	2022-04-12
Suman Saha	Construction and Building Materials	Elsevier	2022-04-21
Suman Saha	Applied Science and Engineering Progress	King Mongkut's University of Technology North Bangkok	2022-06-30
Suman Saha	Construction and Building Materials	Elsevier	2022-09-20
Suman Saha	Advances in Materials Research	Techno-Press	2022-10-12
Suman Saha	Construction and Building Materials	Elsevier	2022-10-23
Suman Saha	Construction and Building Materials	Elsevier	2022-11-24
Suman Saha	Construction and Building Materials	Elsevier	2022-12-04
Suman Saha	Construction and Building Materials	Elsevier	2022-12-06
Suman Saha	mart Infrastructure and Construction (Proceedings of the ICE)	ICE	2022-12-17
Suman Saha	Construction and Building Materials	Elsevier	2022-12-30
Suman Saha	Environmental Science and Pollution Research	Elsevier	2022-12-27
Suman Saha	Construction and Building Materials	Elsevier	2023-03-10
Amiya Kumar Samanta	Structures	Elsevier	2022-08-24
Amiya Kumar Samanta	Journal of King Saud University - Engineering Sciences	Springer	2022-08-09
Amiya Kumar Samanta	Innovative Infrastructure Solutions	Springer	2022-09-20
Amiya Kumar Samanta	Structures	Elsevier	2022-10-18
Amiya Kumar Samanta	Natural Hazards	Elsevier	2022-10-28
Amiya Kumar Samanta	Indian Concrete Journal	Associated Cement Companies Ltd.	2022-11-23
Amiya Kumar Samanta	Cogent Engineering	Springer	2023-03-25
Vijay Kumar Dwivedi	Journal of Global Warming	Inderscience	2023-03-17
Diptesh Das	Journal of The Institution of Engineers (India): Series A (IEIA)	Institution of Engineers (India): Series A (IEIA)	2022-05-16

#### 4.2.27 Review of Books

Reviewer	Title of the Book	Name and Affiliation of the Author	Publisher	Date
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Suman Saha	Indian Concrete Journal (Feb edition)	As Guest Editor	ACC Limited	2023-02-01
Amiya Kumar Samanta	Development of eco-efficient concrete with plastic and industrial wastes	Ankur C. Bhogayata". Associate Professor, Department of Civil Engineering, Marwadi University, Rajkot, Gujarat 11-10-2022	CRC Press	2022-10-11

#### 4.2.28 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Bandhan Bandhu Majumdar	Transportation Research Group Co-chair	NIT Surat	2023-12-11	2023-12-14
Vijay Kumar Dwivedi	Mahanadi Water Disputes Tribunal	Catchment of River Mahanadi lying in the State of Odisha and Chhattisgarh	2023-04-18	2023-05-28

#### 4.2.29 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Pronab Roy	External expert in Members of Doctoral Committee of a PhD scholar	Department of Civil Engineering, IEST Shibpur, Howrah	2022-10-21	2022-10-21
Bandhan Bandhu Majumdar	MTECH Transportation Engineering	VSS University of Technology, Burla	2023-03-15	2023-08-06
Suman Saha	Ph.D. defense viva voce examination	Manipal Academy of Higher Education	2022-12-06	2022-12-06
Amiya Kumar Samanta	Examiner for BTech Project of CE	NIT Sikkim	2022-05-19	2022-05-19
Amiya Kumar Samanta	Examiner for MTech viva at Department of Civil Engineering	IITKgp	2022-05-06	2022-05-06
Diptesh Das	'External Expert' for evaluation of M.Tech theses in Structural Engineering	IEST Shibpur	2022-07-20	2022-07-20

#### 4.2.30 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Supriya Pal	Civil Engineering	Jadavpur University	2022-04-27	2022-04-27
Supriya Pal	Civil Engineering	Jadavpur University	2022-11-28	2022-11-28
Amiya Kumar Samanta	Selection of LBS-II	DMC	2022-07-25	2022-07-25
Amiya Kumar Samanta	Selection of Faculty	BPSC	2022-11-17	2022-11-23



#### 4.2.31 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Gilbert Hinge	Satellite Precipitation Products and its Application	Online Faculty Development Program on "Recent Trends of Research in Engineering & Technology"	Assam Downtown University (Virtual)	2022-07-25	2022-07-29
Bandhan Bandhu Majumdar	Road Safety Audit	DRSC RSIA – RSA 2022 Delft	Netherlands (Virtual)	2022-11-20	2023-08-26
Bandhan Bandhu Majumdar	Development and Demonstration of a Novel Congestion Assessment Tool in Indian Context	SMART 2023 CoELSCM, NIT Calicut	NIT Calicut (Virtual)	2023-07-24	2023-07-29
Suman Saha	3D Printing Concrete	Online Faculty Development Programme on 'Recent Advances in Infrastructural Developments (RAID 2023)'	NIT Calicut	2023-02-13	2023-02-18
Suman Saha	An Alternative Binder towards Sustainability	National Faculty Development Program on "Smart City Infrastructure & Sustainability"	Global Institute of Science and Technology, Haldia	2023-01-09	2023-01-13
Supriya Pal	Environmental Geotechniques :Some case studies	FDP programme "Advancement in Civil Engineering (ACE-2022)"	Dr. BC Roy Engineering College Durgapur	2022-11-15	2022-11-15
Supriya Pal	Application of geotechnical engineering in mining projects	FDP programme "Advancement in Civil Engineering (ACE-2022)"	Dr. BC Roy Engineering College Durgapu	2022-11-15	2022-11-15

#### 4.2.32 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Pronab Roy	17th Symposium on Earthquake Engineering (17SEE)	IIT Roorkee	Technical Session-6	2022-11-14	2022-11-17

### 4.3 Department of Chemistry

#### 4.3.1 Department at a Glance

Since the inception of the institute (1960), the Department of Chemistry is sincerely engaged in teaching both UG and PG students from different engineering courses. The Department began its journey with M. Tech. Program in Corrosion Science & Technology in 1987. Later on, M.Sc. in Chemistry has been introduced in 2009. From 2017, the Department has introduced 5 years integrated M. Sc. course in Chemistry. The faculty members of this department are devoted to the research activities in various fields of chemistry, such as, Electrochemistry, Natural Product Chemistry, Photochemistry, Environmental Chemistry, Coordination Chemistry, Bioinorganic, Biophysical Chemistry, Theoretical Chemistry and other interdisciplinary areas. At present, the department boasts of several ongoing sponsored research projects and a number of research scholars are pursuing their Ph.D. The research findings are regularly published in reputed international and national journals (SCI). Achievement of the department



has been acknowledged by DST, Govt. of India by granting fund under DST-FIST Scheme to uplift academic excellence to the highest level.

### 4.3.2 Mission & Vision

#### Mission

To be a globally recognized department in scientific and technical education through value-added teaching, research and innovation and producing quality human resources who can meet the challenges of the ever-changing, technology-based society.

#### Vision

To produce highly qualified, well- rounded, motivated and technologically sound students possessing fundamental understanding and knowledge in chemical science and technology, who will deliver service and leadership to the nation and the world and can fulfil the technological and socio-economic need of industry, government and society.

### 4.3.3 Faculty

Name	Designation	Email-id
Prof. Sankar Chandra Moi	Professor & HOD	scmoi.ch@nitdgp.ac.in
Prof. Apurba Kumar Patra	Professor	akpatra.ch@nitdgp.ac.in
Prof. Dipankar Sukul	Professor	dsukul.ch@nitdgp.ac.in
Prof. Milan Maji	Professor	mmaji.ch@nitdgp.ac.in
Prof. Rajnarayan Saha	Professor	rnsaha.ch@nitdgp.ac.in
Dr. Sujit Sankat Panja	Associate Professor	sspanja.ch@nitdgp.ac.in
Dr. Jitamanyu Chakaravarty	Associate Professor	jchakravarti.ch@nitdgp.ac.in
Dr. Utpal Adhikari	Associate Professor	Uadhukari.ch@nitdgp.ac.in
Dr. Paresh Nath Chatterjee	Associate Professor	pnchatterjee.ch@nitdgp.ac.in
Dr. Subhas Ghosal	Associate Professor	sghosal.ch@nitdgp.ac.in
Dr. Tanmoy Kumar Saha	Assistant Professor	tkaha.ch@nitdgp.ac.in
Dr. Deb Ranjan Banerjee	Assistant Professor	drbanerjee.ch@nitdgp.ac.in
Dr. Sourav Laha	Assistant Professor	slaha.ch@nitdgp.ac.in
Dr. Krishnendu Pal	Assistant Professor	kpal.ch@nitdgp.ac.in

### 4.3.4 Equipments

Sl. No.	Name of the equipment
1.	Single beam visible spectrophotometer (02)
2.	Dean Stark assembly (06)
3.	Hot air gun (2)
4.	8-10 Lt water bath (01)
5.	Microprocessor based automatic pH meter (03)
6.	Platinum loop (40) and Blow pipes (40)
7.	K-type Kanthal wire Muffle furnace (01)
8.	Sartorius LCD Micro weighing balance (01)
9.	Automatic Galvanized Ultra-sonic bath sonicator (01)
10.	Chemical Oxygen Demand digesting unit (01)
11.	Chromatography column (15)
12.	Benchtop non-refrigerated centrifuge (01)
13.	High-Temperature Furnace (01)
14.	Orbital shaker incubator (01)
15.	High Vacuum pump (01)
16.	Microprocessor controlled Magnetic Stirrer (08)
17.	LCD Rotary Evaporator (01)
18.	3KVA online UPS (01)
19.	Ultra low temperature laboratory deep freezer (01)
20.	300 L Frost free double door refrigerator (01)



#### 4.3.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Synthesis and characterization Laboratory ( Prof. S. C. Moi Lab.)	UV-Vis, Fluorescence, and Titro-processor,
2.	Cell culture and Molecular Biology laboratory ( Prof. S. C. Moi Lab.)	Gel Doc Aparatus, Gel documentary system, Eliza Plate reader, Laminar floe Hood, Dwinter Microscope, CO2 incubator etc.
3	UG laboratory for B. Tech and Int. M. Sc. in chemistry	Ph meters, Potentiometers, Conductivity meters, etc
4	PG laboratory for M. Sc. 2 yrs students	Common Lab Instruments for PG students
5.	Common Instruments facility Laboratory	GC-Mass, CHNS analyzer, Multiplate reader, FTIR, CV, EPR etc.

#### 4.3.6 PhD Degree awarded till 2022-23

Sixty four.

#### 4.3.7 Any other relevant information

Prof. S. C. Moi have been recognized as a Fellow member of Royal Society of Chemistry (FRSC) by Royal Society of Chemistry, London, UK in April 2022)

#### 4.3.8 Specialization

- Materials Chemistry, Solid State Chemistry, Energy Materials
- Organic Chemistry
- Theoretical Physical Chemistry
- Nonlinear Dynamics
- Physical Chemistry
- inorganic Chemistry
- Physical chemistry
- Inorganic Chemistry, Environmental Chemistry, Environmental Engg
- Inorganic Chemistry
- Bio-inorganic Chemistry
- Organic Chemistry
- Organic Chemistry
- Theoretical and Computational Chemistry
- Anticancer Drug Design and Drug Development
- Organic chemistry and Drug design and drug development
- Organic chemistry

#### 4.3.9 Proposed Plan for Research

- Nano and photo catalysis
- Food Chemistry
- Effect of Higher Order Interactions in complex dynamical systems systems
- Electrochemistry
- 1. Transition metal catalyzed small organic tranformations
- 2. Synthesis bioactive heterocycles using bioinspired NPs
- Synthesis and characterization new energy materials
- Nano Material Synthesis and its Environmental Applications, Water and Wastewater Treatment Design
- study on electronic structure of molecules and structure function correlation
- Active site modelling of Cu and Ni containing metalloenzyme's
- to write projects in the area of Corrosion science, Metal-Organic Framework, Covalent Organic Framework, carbohydrate chemistry, and synthesis of small organic molecules to find their applications in the area of sensor. The goal of the research work will be to maintain sustainable development by developing ecofriendly and environment friendly molecules.



- The overall goal of my research lab is to develop and apply novel technologies to address the issues at the interface of chemistry and biology, and to break the wall between these two. By combining research expertise in drug discovery, organic synthesis, structural biology, and biophysical/biochemical techniques, my research lab use chemical biology approach to discover epigenetic drugs targeting cancer and AD. Additionally, we design and synthesize sensors for biologically relevant metals and biomolecules.
- Calculation of thermodynamic and spectroscopic properties of small molecules using Density Functional Theory (DFT) and coupled cluster (CCSD) methods
- To develop less toxic and more effective anticancer drug compared to recognised drugs like; cisplatin, carboplatin and oxaliplatin, the globally used chemotherapeutics. My research group is working on Pt(II) and Pd(II) based better soluble and more specific drug candidate. The total work in brief is (i) Synthesis of Pt(II) and Pd(II) complexes with different ancillary groups and their characterization by spectroscopic analysis. (ii) Their DNA and BSA binding study (iii) Kinetics and mechanism of the bio-molecular interactions (iv) Theoretical DFT study based on structural optimization, HOMO-LUMO energy, reactivity descriptor, NBO analysis, Molecular Docking (v) Cytotoxic property of the complexes on different cancer cell lines, cell death mechanism.
- Organic methodologies using organometallic catalysts, Lewis acid and Bronsted acid catalysts in homogeneous and heterogeneous media

#### 4.3.10 Area of Research Interest

- Lipid Chemistry
- Food Chemistry
- Nano and photo catalyst
- Cryopreservation
- Theoretical Ecology, Neuron Bio-Physics
- Organic corrosion inhibitor
- Organic Methodology; Green Chemistry; Transition metal chemistry; Multi-component coupling reaction
- Photochemistry, Fluorescence spectroscopy, Fluorescent sensor
- Materials Chemistry, Solid State Chemistry, Energy Materials
- Water and Wastewater Treatment, Ground Water Remediation, Green Chemistry, Nano Material Synthesis and its Environmental Applications
- coordination chemistry and electronic structure
- Currently the reactivity studies of the Nitrosocyanin Model Complexes
- Corrosion science and technology, Metal-Organic Framework, Covalent Organic Framework, Carbohydrate chemistry and synthesis of small molecules
- Epigenetics, Drug design, Chemical sensors
- Theoretical Investigation of hydrocarbon molecules having Astrochemical Interest
- Understanding structure and reactivity through DFT and MD Simulations
- Pt(II) and Pd(II) based anticancer Drug Design and Drug Development
- Homogeneous and heterogeneous catalysis

#### 4.3.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
CSIR- Institute of Minerals and Materials Technology	pH dependent synthesis and electrochemical arsenic sensing behavior of metal oxides, carbonates and hydroxysulphates	One PhD student is working having Coguide at CSIR-IMMT
Dr. Reddy's Lab, Hyderabad	Structure and properties of molecules of pharmaceutical interest	Joint publications and research
Damodar Valley Corporation, Mejia Thermal Power station, Bankura	Industrial Visit, discussion on High temperature corrosion and demineralization of water	Industrial visit and Water treatment related issues
TCG LifeSciences Kolkata	Green Chemistry	Guiding PhD scholars as a co-supervisor



#### 4.3.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
CSIR-CMERI	Design and synthesis of chemoreceptors for selective sensing of toxic anions	Dr. Priyabrata Banerjee	Joint guidance of PhD, publication
Chemistry Department, Burdwan University	Nano and photo catalysis	Dr. Debasish Das	Joint research, publication
Indian Institute of Technology Ropar (IIT Ropar)	Theoretical Ecology	Dr. Partha Sharathi Dutta, Department of Mathematics	Published a paper in Physical Review E journal.
CSIR-CMERI	Corrosion inhibition	Dr Priyabrata Banerjee	Joint project, Joint publication, joint PhD supervision
NISER Bhubaneswar	Single crystal Xray diffraction	Dr. J. N. Behera & Dr. T. K. Saha	Structure solving of coordination compounds
IIT(ISM) Dhanbad	Instrumental analysis	Dr. Chanchal Halder & Dr. T. K. Saha	NMR of synthesized molecules
National Institute of Technology Kurukshetra	Solid State Chemistry	Dr. Avijit Kumar Paul	Sample preparation, characterization, data analysis, manuscript preparation, publication
Presidency University Kolkata	Energy Materials	Dr. Anjan Banerjee	Sample preparation, characterization, data analysis, manuscript preparation, publication
Indian Institute of Petroleum and Energy, Visakhapatnam	Energy Materials	Dr. Somnath Ghosh	Sample preparation, characterization, data analysis, manuscript preparation
Indian Institute of Technology Patna	Solid State Chemistry	Dr. Debajit Sarma	Sample preparation, characterization, data analysis, manuscript preparation
Max Planck Institute for Solid State Research, Stuttgart, Germany	Energy Materials	Prof. Dr. Bettina V. Lotsch	Sample preparation, characterization, data analysis, manuscript preparation, publication
Burdwan University, CSIR-CMERI Durgapur	Water and Wastewater treatment, Environmental Chemistry	Dr. Srimanta Gupta (BU), Dr. Nipen Chandra (CSIR-CMERI Durgapur)	Joint research Project, Publications etc
University of Barcelona, Spain	Research	Christian Griñán-Ferré	Joint publication and projects
IIT Kharagpur	Theoretical Investigation of hydrocarbon molecules having Astrochemical Interest	Prof. Anoop Ayyappan	Ongoing joint research project funded by DST
San Diego State University, USA	Theoretical Investigation of hydrocarbon molecules having Astrochemical Interest	Prof. Venkatesan S. Thimmakonda	Joint publications





Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
(i) Vienna University of technology, Vienna, Austria, Europe.	Very fast reaction kinetics and their mechanism using stopped-flow spectrophotometer. We have published more than 10 (ten) research papers from this collaboration. Since 2010, I have visited four times in this Laboratory for fast kinetics. for one month in summer time. Letter on three number of research scholars from my group have visited for one month in 2016,2017 and 2018.	Prof. Wolfgang Linert. (Retired now)	Very fast reaction kinetics and their mechanism using stopped-flow spectrophotometer. We have published more than 10 (ten) research papers from this collaboration. Since 2010, I have visited four times in this Laboratory for fast kinetics. for one month in summer time. Letter on three number of research scholars from my group have visited for one month in 2016,2017 and 2018.
(ii) Calcutta University, Department of Zoology, Cancer research laboratory in Prof. Urmi Chatterjee since 2018	Cell culture and cell death mechanism of cancer cells in Cancer research Laboratory	Prof. Urmi Chatterjee , Department of Zoology, CU.	Cell culture and cell death mechanism of cancer cells in Cancer research Laboratory and we have published five research papers from this collaboration.
(iii) Visva-Bharati University, Department of Zoology with Prof. Sudipta Moitra NIT Meghalaya	Cell culture and cell death mechanism of cancer cells in Cancer research Laboratory	Prof. Sudipta Moitra	We have published more than 3 research papers from this collaboration .
	Catalytic approaches to carbon-carbon bond breaking reactions	Dr. Naba Kamal Nath, Asst. Prof., NIT Meghalaya & Dr. Paresh Nath Chatterjee, Assoc. Prof., NIT Durgapur	Guiding PhD scholar as a cosupervisor
University of Barcelona, Spain	Research Visit, Training in NMR	Prof Miquel Pons	Research Visit, Training in NMR instrument

#### 4.3.13 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Less toxic and more effective anticancer activity of pyridine derivative and few labile group-based Pt(II) complexes	Prof. Sankar Chandra Moi and Miss. Rituparna Bhaduri	NA till now and shortly we will get it through our Institute.	2023-02-02

#### 4.3.14 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Arup Kr. Chandra, Director, Acmechem-Merchem, Gujarat, India	Industrial opportunity of chemists in polymer and Rubber Industry	2022-04-01
Dr. Atanu Bhattacharya, Assistant Professor, IISc Bangalore, IPC division	Ultrafast Surface Chemical Dynamics: Recombinative Desorption from Pd(110) and Pd(100) Surfaces	2022-08-05
Dr. Indranil Sengupta, Director Singapore Region for Actylis	Career with Chemistry – perspective & needs of the Industry	2023-03-29



Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Sarnath Chattaraj, Senior Research Director of Medtronic , USA	Sitting at the cross-roads of combinatorial sciences: Design & development of medical devices	2023-03-13

#### 4.3.15 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Shyam Sundar Mondal, Namita	Monosaccharide Linked Schiff Base Metal Complexes of	ChemistrySelect	Volume:7 Issue No: Page No:e202200060 Year:2022 Month:Jun
Jaiswal, Rajat Kumar Tripathy, Partha Sarathi Bera, Nripen Chanda, J. N. Behera, Subhas Ghosal, and Tanmoy Kumar Saha*	Cu(II), Zn(II) and Mn(II): Exploring the Antiproliferative Activity and Cell Death Mechanism		
A. Mondal, P. Banerjee, J. Chakrabarty	Rational design of reversible CN – selective multifarious responsive chemosensors: Theoretical substantiation and adaptable real–world applications	Journal of Photochemistry & Photobiology, A: Chemistry	Volume:428 Issue No: Page No:113893 Year:2022 Month:Jun
T. Sadhu, A. Bhattacharjee, S.K. Lahiri, J. Chakrabarty	Application of artificial neural network with metaheuristic optimization for improving the nutritive value of fried fish	Journal of Food Processing and Preservation	Volume: Issue No: Page No:10.1111/jfpp.17190 Year:2022 Month:Sep
A. Rai, B. Bishayee, A. Dey, A. Kumar, S.K. Lahiri, J. Chakrabarty, S. Dutta	Tertiary treatment of coke-oven wastewater using suspended and immobilized whole live cells of constructed bacterial-microalgal consortium: modeling and optimization using ANN-GA hybrid methodology	Water Science & Technology	Volume:87 Issue No:3 Page No:509-526 Year:2023 Month:Feb
Manash Gope, Anibrata Das, Sandip Mondal Apurba Ratan Ghosh & Rajnarayan Saha	Immobilization of Cr(III) and Cr(VI) from contaminated aqueous solution by using sewage produced biochar: Affecting factors and mechanisms	Energy Sources, Part A: Recovery, Utilization and Environmental Effects	Volume:44 Issue No:3 Page No:5812-5828 Year:2022 Month:Jun
Mishra, S.; Kumar, S.; Bhandari, A.; Das, A.; Mondal, P.; Hundal, G.; Olmstead, M. M.; Patra, A. K.	Reactivity of Nitric Oxide and Nitrosonium Ion with Copper(II/I) Schiff Base Complexes: Mechanistic Aspects of Imine C=N Bond Cleavage and Oxidation of Pyridine- 2-aldehyde to Pyridine-2-carboxylic Acid.	Inorganic Chemistry	Volume:61 Issue No:17 Page No:6421-6437 Year:2022 Month:Apr
Sanjoy Satpati, Aditya Suhasaria, Subhas Ghosal, Utpal Adhikari, Priyabrata Banerjee, Sukalpa Dey , Dipankar Sukul	Anti-corrosive propensity of naturally occurring aldehydes and 1-(3-aminopropyl)imidazole condensed Schiff bases: Comparison on the effect of extended conjugation over electron donating substituents	Journal of Molecular Structure	Volume:1268 Issue No:15 Page No:133684 Year:2022 Month:Jul



Author(s) Name	Paper Name	Journal Name	Others Info
S. Kr. Tarai, S. Mandal, R. Bhaduri, A. Pan, K. Misra, S. C. Moi*,	Theoretical hydrolysis mechanism of anticancer Pt (II) and Pd (II) dichloro complexes with N, N bidentate chelator in aqueous medium and their molecular docking.,	Journal of Chemical Physics	Volume:553 Issue No:NA Page No:111390 Year:2022 Month:Jun
R. Bhaduri, S. Mandal, S. Kumar Tarai, A. Pan, S. Mukherjee, A. Bagchi, A. Biswas, S. C. Moi*	Cytotoxic activity of nitrogen, sulfur, and oxygen chelated Pt(II) complexes; their DNA/BSA binding by in vitro and in silico approaches	J. Mol Liquids	Volume:360 Issue No:NA Page No:119529 Year:2022 Month:Apr
S. Mandal, S. Kr. Tarai, A. Pan, R. Bhaduri, P. Biswas, S. C. Moi*,	Cytotoxic effects of Pd(II) complexes on cancer and normal cells: Their DNA & BSA adduct formation and theoretical approaches	Journal of Bioorganic Chemistry	Volume:128 Issue No:NA Page No:106093 Year:2022 Month:Aug
S. Mandal, A. Pan, R. Bhaduri, S. Kr. Tarai, B. Singh Kapoor, S. C. Moi*,	Theoretical investigation on hydrolysis mechanism of cis-platin analogous Pt(II)/Pd(II) complex by DFT calculation and molecular docking approach for their interaction with DNA & HSA	J. Mol. Graphics and Modelling	Volume:117 Issue No:NA Page No:108314 Year:2022 Month:Aug
S. Kr. Tarai, A. Pan, S. Das, R. Bhaduri, S. Mandal, S. Maitra and S. C. Moi*	Anticancer property and normal cell toxicity profile of pyrrolidine-based platinum (II) complexes: Their DNA, BSA interaction, and molecular docking	Journal of Applied Organometallics Chemistry	Volume:6859 Issue No:NA Page No:e6859, 6859 Year:2022 Month:Oct
R. Bhaduri, A. Pan, S. Kr. Tarai, S. Mandal, A. Bagchi, A. Biswas, S. C. Moi*	In vitro anticancer activity of Pd(II) complexes with pyridine scaffold: Their bioactivity, role in cell cycle arrest, and computational study	J. Molecular Liquids	Volume:367 Issue No:NA Page No:120540 Year:2022 Month:Jul
S. Mandal,§ S. Kr. Tarai,§ P. Patra, P. Nandi, S. Sing, B. Rajak, and S. C. Moi*	Brief Research on the Biophysical Study and Anticancer Behavior of Pt(II) Complexes: Their DNA/BSA Binding, Molecular Docking, and Cytotoxic Property	Langmuir	Volume:44 Issue No:38 Page No:13613 Year:2022 Month:Oct
S. Kr. Tarai, S. Mandal, R. Bhaduri, A. Pan, P. Biswas, A. Bhattacharjee, S. C. Moi*	Bioactivity, molecular docking and anticancer behaviour of pyrrolidine based Pt(II) complexes: their kinetics, DNA and BSA binding study by spectroscopic methods Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	Volume:287 Issue No:1 Page No:122059 Year:2023 Month:Jan
A. Pan, R. Bhaduri, S. Mandal, S. Kr. Tarai, A. Bagchi, A. Biswas, S. C. Moi*	Photophysical study on DNA & BSA binding and cytotoxic behaviour of piperidine-Pt(II) complexes: Their kinetics & mechanism and molecular docking	J. Photochem. Photobiol. A	Volume:441 Issue No:NA Page No:114740 Year:2023 Month:Mar



Author(s) Name	Paper Name	Journal Name	Others Info
Gitumoni Kalita, Sharat Sarmah, Atanu Singha Roy, Paresh Nath Chatterjee*	Synthesis of 2,2-disubstituted- 2H-1-benzopyrans using tetraphenylethylene-based heterogeneous acidic organocatalyst and the evaluation of their binding interaction with human serum albumin	Journal of Heterocyclic Chemistry	Volume:60 Issue No:2 Page No:297-317 Year:2023 Month:Feb
Dipankar Paul, Paresh Nath Chatterjee*	The Rise of Carbon-based Leaving Groups	ChemistrySelect	Volume:7 Issue No:37 Page No:e202200965 Year:2022 Month:Oct
Gitumoni Kalita, Snehadrinarayan Khatua, Paresh Nath Chatterjee*	A Brønsted Acid Catalyzed Easy Access to Conjugated DieneDiones from Tertiary Propargyl Alcohols and 1,3-Dicarbonyl Compounds	Synlett	Volume:34 Issue No:7 Page No:815-822 Year:2023 Month:Jan
T. Sadhu, S.K. Lahiri, J. Roy, A. Bhattacharjee, J. Chakrabarty	Optimization of frying process for maintaining nutritional quality to satisfy consumers' sensory attributes: A novel application of multi-criteria decision-making approach	Journal of Multi-Criteria Decision Analysis	Volume:10.1002/mcda.17 99 Issue No: Page No: Year:2022 Month:Nov
Sanjoy Satpati, Aditya Suhasaria, Subhas Ghosal, Sukalpa Dey, Dipankar Sukul	Interaction of newly synthesized dipeptide Schiff bases with mild steel surface in aqueous HCl: Experimental and theoretical study on thermodynamics, adsorption and anti-corrosion characteristics	Materials Chemistry and Physics	Volume:296 Issue No: Page No:127200 Year:2023 Month:Feb
Sanjoy Satpati, Aditya Suhasaria, Subhas Ghosal, Utpal Adhikari, Priyabrata Banerjee, Sukalpa Dey, Dipankar Sukul	Anti-corrosive propensity of naturally occurring aldehydes and 1-(3-aminopropyl)imidazole condensed Schiff bases: Comparison on the effect of extended conjugation over electron donating substituents	Journal of Molecular Structure	Volume:1268 Issue No: Page No:133684 Year:2022 Month:Nov
Tapashree Mondal, Sourav Biswas, Manoj V Mane, Sujit S Panja	Deciphering swift reversal of multifaceted photodynamics of a novel pyrene appended unsymmetrical salicylaldehyde azine derivative in aqueous and protein environments	New Journal of Chemistry	Volume:47 Issue No:11 Page No:5280 Year:2023 Month:Feb
Soumita Mukherjee, Subrata Dasgupta, Sujit Sankar Panja, Utpal Adhikari	Structural insight to human Retinoid X receptor alpha- Thyroid hormone receptor beta heterodimer by molecular modelling and MD-simulation studies: role of conserved water molecules	Journal of Biomolecular Structure and Dynamics	Volume: Issue No:1 Page No:1-12 Year:2022 Month:Nov
Koushik Mondal, Ashim Pramanik, Tapashree Mondal, Sujit Sankar Panja, Rajat Sarkar, Pathik Kumbhakar	Self-Assembly of SolventStabilized Au Nanocluster as Efficient Förster Resonance Energy-Transfer Initiator for White Light Generation	The Journal of Physical Chemistry Letters	Volume:13 Issue No:13 Page No:3079 Year:2022 Month:Mar



Author(s) Name	Paper Name	Journal Name	Others Info
Tanmay Rom, Sourav Laha*, Srushti Gadiyaram, Pradip K. Maji, Avijit Kumar Paul*	Rare-earth (Nd and Eu) Induced Structural Transformation and Optical Properties of Brownmillerite-type Sr <sub>2</sub> ScGaO <sub>5</sub> Oxide	Journal of Solid State Chemistry	Volume:317 Issue No: Page No:123696 Year:2023 Month:Jan
Hugo A. VignoloGonzález, Andreas Gouder†, Sourav Laha†, Viola Duppel, Sol Carretero-Palacios, Alberto Jiménez- Solano, Takayoshi Oshima, Peter Schützendübe, Bettina V. Lotsch († These authors contributed equally)	Morphology Matters: 0D/2D WO <sub>3</sub> Nanoparticle-Ruthenium Oxide Nanosheet Composites for Enhanced Photocatalytic Oxygen Evolution Reaction Rates	Advanced Energy Materials	Volume:13 Issue No:6 Page No:2203315 Year:2023 Month:Feb
Manash Gope, Puja Paramanik, Ipsita Som, Apurba Ratan Ghosh & Rajnarayan Saha	A review on low-cost adsorbent (biochar) for the elimination of potentially toxic elements (PTEs) from contaminated water	Arabian Journal of Geosciences	Volume:15 Issue No:20 Page No:1609 Year:2022 Month:Oct
Ipsita Som, Sourav Suman, Mouni Roy, Srimanta Gupta & Rajnarayan Saha	Effective phosphate removal from sewage water using zerovalent iron nanomaterial as an adsorbent	Water Quality Research Journal of Canada	Volume:57 Issue No:3 Page No:177–199. Year:2022 Month:Jul
T. Sadhu, S. Chowdhury, S,	A comparative study of metaheuristics algorithms based	Decision Making: Applications in Management and Engineering	Volume:DOI: <a href="https://doi.org/10.31181/dmame0306102022r">https://doi.org/10.31181/dmame0306102022r</a> Issue No: Page No: Year:2022 Month:Oct
Mondal, J. Roy, J. Chakrabarty, S.K. Lahiri	on their performance of complex benchmark problems		
Dr. Apeksha Ashok Phadte, Prof. P. Bhavana, Prof. Subhas Ghosal, Dr. Raviprasad Aduri, Prof. Subhadeep Banerjee	Synthesis, Optical Properties and DNA-Binding Behavior of a Quinoxaline Ring-Fused πElongated Chlorin – Efforts Towards Preparation of Long Wavelength Absorbing Porphyrinoids	Chemistryselect	Volume:7 Issue No:17 Page No:e202200492 Year:2022 Month:May
Krishnendu Pal, Smita Deb and Partha Sharathi Dutta	Tipping points in spatial ecosystems driven by shortrange correlated noise	PHYSICAL REVIEW E	Volume:106 Issue No:5 Page No:054412 Year:2022 Month:Nov
Jyotirmoy Halder, Tarun Roy, Sayon Satpati, Subhas Ghosal, Deboshree Mukherjee, Benjaram M. Reddy	Insight of solvent effect on CeO <sub>2</sub> catalyzed oxidation of styrene with tert-butyl hydroperoxide: A combined experimental and theoretical approach	Catalysis Communications	Volume:164 Issue No: Page No:106413 Year:2022 Month:April
Jana, A.; Naga, R.; Saha, S.; Banerjee, D. R.*	3D QSAR pharmacophore based lead identification of G9a lysine methyltransferase towards epigenetic therapeutics	Journal of Biomolecular Structure and Dynamics	Volume: Issue No: Page No: Year:2022 Month:Oct





Author(s) Name	Paper Name	Journal Name	Others Info
Aditya Suhasaria, Sanjoy Satpati, Subhas Ghosal, Sukalpa Dey, Dipankar Sukul	Effect of the Heterocyclic Groups on the Anti-corrosion Performance of Heterocyclic Schiff Bases of Benzothiazole for Mild Steel in 1 M Aqueous HCl	Journal of Bio- and TriboCorrosion	Volume:9 Issue No: Page No:26 Year:2023 Month:Mar
A. Rai, B. Kamila, S. Dutta, J. Chakrabarty	Macromolecules Assessment from Spent Biomass during Phycoremediation of Pollutants from Coke-oven Wastewater: A Prospective Approach for Production of Value added Products	Journal of the Indian Chemical Society	Volume:99 Issue No:7 Page No:100555 Year:2022 Month:Jul
Jana, A.; Naga, R.; Saha, S.; Christian, G-F.; Banerjee, D. R.*	Integration of ligand and structure-based pharmacophore screening for the identification of novel natural leads against Euchromatic Histone Lysine Methyltransferase 2 (EHMT2/G9a)	Journal of Biomolecular Structure and Dynamics	Volume: Issue No: Page No: Year:2023 Month:Feb
Aditya Suhasaria, Sanjoy Satpati, Subhas Ghosal, Sukalpa Dey & Dipankar Sukul	Effect of the Heterocyclic Groups on the Anti-corrosion Performance of Heterocyclic Schiff Bases of Benzothiazole for Mild Steel in 1 M Aqueous HCl	Journal of Bio- and TriboCorrosion	Volume:9 Issue No: Page No:26 Year:2023 Month:Mar
Sanjoy Satpati, Aditya Suhasaria, Subhas Ghosal, Sukalpa Dey, Dipankar Sukul	Interaction of newly synthesized dipeptide Schiff bases with mild steel surface in aqueous HCl: Experimental and theoretical study on thermodynamics, adsorption and anti-corrosion characteristics	Materials Chemistry and Physics	Volume:296 Issue No:15 Page No:127200 Year:2023 Month:Feb
Thipashini Ganesan, Prakash Muthudoss, Raja Sekhar Voguri, Subhas Ghosal, Eddy Yii Chung Ann, Jayson Kwok, Sajid Syed Shahnawaz, Muhammad Firdaus Omar, Ravikiran Allada, Hong Heng See	A new Febuxostat-Telmisartan Drug-Drug Cocrystal for Gout-Hypertension Combination Therapy	Journal of Pharmaceutical Sciences	Volume:111 Issue No:12 Page No:3318 Year:2022 Month:Dec
Sanjoy Satpati, Aditya Suhasaria, Subhas Ghosal, Utpal Adhikari, Priyabrata Banerjee, Sukalpa Dey, Dipankar Sukul	Anti-corrosive propensity of naturally occurring aldehydes and 1-(3-aminopropyl)imidazole condensed Schiff bases: Comparison on the effect of extended conjugation over electron donating substituents	Journal of Molecular Structure	Volume:1268 Issue No:15 Page No:133684 Year:2022 Month:Nov
Tarun Roy, Venkatesan S. Thimmakondur, and Subhas Ghosal	New Carbenes and Cyclic Allenes Energetically Comparable to Experimentally Known 1-Azulenylcarbene	ACS Omega	Volume:7 Issue No: Page No:30149 Year:2022 Month:August
Tarun Roy, Sayon Satpat, Venkatesan S. Thimmakondur and Subhas Ghosal	Theoretical Investigation on C <sub>11</sub> H <sub>8</sub> Bicyclic Carbene and Allene Isomers	Frontiers in Physics	Volume:10 Issue No: Page No:907466 Year:2022 Month:June





Author(s) Name	Paper Name	Journal Name	Others Info
Shyam Sundar Mondal, Namita Jaiswal, Rajat Kumar Tripathy, Partha Sarathi Bera, Dr. ripen Chanda, Dr. J. N. Behera, ubhas Ghosal, Dr. Tanmoy Kumar Saha	Monosaccharide Linked Schiff Base Metal Complexes of Cu(II), Zn(II) and Mn(II): Exploring the Antiproliferative Activity and Cell Death Mechanism	Chemistryselect	Volume:7 Issue No:21 Page No:e202200060 Year:2022 Month:June

#### 4.3.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
Suman Samai, Paresh Nath Chatterjee, Sapna Sethi	A symptom based study of water quality in village Talwandi Sabo, District-Bathinda, Punjab, India	Journal of Indian Water Works Association	Volume:Oct-Dec Issue No:NA Page No:276-279 Year:2022 Month:Nov

#### 4.3.17 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Banerjee, D. R.	A chemist's dream to investigate epigenetics: A combined theoretical and experimental studies	International Symposium on Emerging trends in chemical science (ETCS-2023) at NEHU, Shillong	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:SELF

#### 4.3.18 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Symposium On Emerging Trends In Chemical Sciences	NEHU, Shillong	2023-03-02	2023-03-04	India
Emerging Trends in Chemical Sciences-2023	NEHU, Shillong, Meghalaya	2023-03-02	2023-03-04	India
Computational Methods for Physics and Material Science CMPMS-2022	Jaypee University of Information Technology Solan, Himachal Pradesh, India	2022-12-29	2023-01-03	India
59th annual convention for chemists-2022; International conference on Recent trends in Chemical Sciences	In collaboration of Indian Chemical Society; IIT (ISM) Dhanbad	2022-12-16	2022-12-18	India
59th Annual Convention of Chemists and International Conference on Recent Trends in Chemical Sciences	IIT (ISM) Dhanbad and Indian Chemical Society, Kolkata	2022-12-16	2022-12-18	India



#### 4.3.19 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Design and synthesis of chromogenic and fluorogenic chemoreceptors for selective sensing of toxic anions	Amita Mondal	J. Chakrabarty, P. Banerjee (CSIR-CMERI)	DEGREE AWARDED	2022-04-06
Improvement of nutritional quality of fish during conventional frying process: A novel approach using Artificial Intelligence	Tithli Sadhu	J. Chakrabarty, Ashish Bhattacharjee (BT)	DEGREE AWARDED	2022-05-10
Protein and other biochemical components of fish and their nutritional effect	Indrani Banerjee	J. Chakrabarty, Ashish Bhattacharjee (BT)	ONGOING	-
Not registered yet	Pulak Pradhan	J. Chakrabarty,	ONGOING	-
The molecular dynamics simulation studies on Thyroid hormones receptor	Soumita Mukherjee	Sujit Sankar Panja	ONGOING	-
Chemistry of various p and d block metal complexes of Schiff bases having different N,O donor sites: Catalytic and sensor applications	Sourav Chatterjee	Dipankar Sukul, Priyabrata Banerjee, Tanmoy Chattopadhyay	DEGREE AWARDED	2022-07-28
Anti-corrosive activity of Schiff bases involving biomolecules towards mild steel in hydrochloric acid medium	Sanjoy Satpati	Dipankar Sukul, Priyabrata Banerjee	DEGREE AWARDED	2022-11-17
Synthesis of bioactive heterocycles catalyzed by nanoparticles (preparing for submission)	Mr. Partha Sarathi Bera	Dr. T. K. Saha	ONGOING	-
Muticomponent reaction catalyzed by transition metal	Ms. Jharana mahato	Dr. T. K. Saha	ONGOING	-
Development And Photophysical Investigation Of Aggregation-Induced Emission Enhancement Active Luminogens And Their Multifarious Applications	Tapashree Mondaal	Sujit Sankar Panja	SUBMITTED	2023-03-30
Development and photo-physical study of fluorescein based fluorescent sensor and their different applications	Swapnadip Roy	Sujit Sankar Panja	DEGREE AWARDED	2022-08-03
Synthesis and reactivity studies of copper complexes relevant to biologicals sites	Shibaditya Kumar	Milan Maji and Apurba Kumar Patra	ONGOING	-
Advances in Mesoporous Nanomaterialbased Water Treatment Approaches for Remediation of Aqueous Contaminants	Ipsita Som	Prof. Rajnarayan Saha	ONGOING	-
Synthesis of nano Photocatalyst and its application for the degradation of dyes	Satyabhama Sahu	Prof. Rajnarayan Saha	ONGOING	-
Biological Relevance and Reactivity of Cu(II/I) Complexes Supported by N, S Donor Ligands	Saikat Mishra	Apurba K. Patra	DEGREE AWARDED	2023-01-27



Topic Name	Scholar	Supervisor	Status	Status Date
carbon-Carbon bond formation via redox reactions : Green chemistry exercise and role of nano architecture	Bibhas Mondal	Utpal Adhikari, Ujjal kanti Roy	DEGREE AWARDED	2020-06-12
Studies on the extracts of some Indian plants as corrosion inhibitors of mild steel in 1M HCl medium	Shipra Mukhopadhyay	Utpal Adhikari	ONGOING	-
Corrosion inhibition and antioxidant activities of the extracts from the Indian samples of Purple Knight Hedge plant and Snap Melon	Surajit Hazra	Utpal Adhikari	SUBMITTED	2022-11-04
pH dependent synthesis and electrochemical Arsenic sensing behaviour of Fe, Co based oxides, carbonates and hydroxysulphates	Priyanka Mukherjee	Utpal Adhikari (NIT Durgapur), Mamta Mahapatra (CSIR-IMMT)	ONGOING	-
rational Design and synthesis of functionalized metal-organic frameworks for targeted remediation of heavy metal ions and organic toxins	Pallav Mondal	Utpal Adhikari	ONGOING	-
Azo-linked CHEF-PET regulated 'turn-on' molecular probe for metal ion sensing	Subhabrata Mabhai	Deb Ranjan Banerjee	SUBMITTED	2023-02-22
Computational Investigation on Epigenetics and Identification of potential Inhibitors	Abhisek Jana	Deb Ranjan Banerjee	ONGOING	-
Growth Mechanism of Polycyclic Aromatic Hydrocarbons (PAHs) in the interstellar medium	Tarun Roy	Subhas Ghosal	ONGOING	-
Structure Elucidation of Hydrocarbon Molecules through Global Optimization using Density Functional Theory and postHF Methods	Sayon Satpati	Subhas Ghosal	ONGOING	-
Bioactivity and cytotoxic property of Pt(II) & Pd(II) complexes with different (N, N) bidentate chelates: their biophysical analysis on DNA/BSA binding, molecular docking and theoretical aspects	Mr. saikat Mandal	Prof. Sankar Chandra Moi (Sole)	SUBMITTED	2023-08-07
Anticancer activity of Pt(II) & Pd(II) complexes with pyridine scaffold: their biomolecular interactions, cell death mechanism and computational study	Miss. Rituparna Bhaduri	Prof. Sankar Chandra Moi (Sole)	SUBMITTED	2023-08-07
Bronsted acid catalyzed electrophilic activation of tertiary propargylic alcohols to synthesize various indenones, benzopyrans and conjugated dienediones	Gitumoni Kalita (roll no. P18CH007), registered at NIT Meghalaya	Dr. Paresh Nath Chatterjee	SUBMITTED	2022-11-21
Pharmaceutical wastewater treatment by adsorption and photocatalytic Processes	Priyanka Khan	Prof. Rajnarayan Saha and Prof. Gopinath Halder	ONGOING	-



#### 4.3.20 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Design and Development of Two Stage Efficient Laboratory Wastewater Treatment (Advanced Oxidation and Activated Sludge Process) Plant for Producing Environmentally Safe and Clean Water for further uses	Prof. R.N. Saha., Dr. J.Chakrabarty	DHESTBT, Govt. of West Bengal	315000.0	2019
Design and Development of two stages efficient laboratory waste water treatment	Rajnarayan Saha (PI) and J. Chakrabarty (Co-PI)	Department of Higher Education, Science & Technology and Biotechnology, Govt. of West Bengal	315000.0	2019
Emerging Contaminants and their accumulation in ecosystem of lower stretch of Hooghly River	Mondal S (PI) & Rajnarayan Saha (Co-PI)	Department of Higher Education, Science & Technology and Biotechnology, Govt. of West Bengal	998000.0	2018
Chemical sensors cum inhibitors of Histone PTM	Deb Ranjan Banerjee	SERB	3651494.0	2022
NMR studies of Lys/Arg side chain interactions in epigenetics and membrane-induced dimerization	Deb Ranjan Banerjee	SERB	712754.0	2022
Structure elucidation of simple hydrocarbons through Global Optimization using Density Functional Theory and post HF methods	Subhas Ghosal (PI, NIT Durgapur) and Prof. Anoop A (co-PI, IIT Kharagpur)	DST under National Supercomputing Mission (NSM)	2552000.0	2021
Ultracold Chemistry of Molecular ions	Subhas Ghosal	SERB, India	2400959.0	2020
Synthesis and characterization of Cis-platin based Pt/Pd(II) complexes: Their kinetics, mechanism, DNA- binding property and theoretical study	Prof. sankar Chandra Moi (Sole)	DST-BT Government of West Bengal	2499100.0	2018
Searching of less toxic and more effective Cis-platin based new Pt(II) anticancer agents: Kinetics, DNA binding, bio-activity and DFT study	Prof. Sankar Chandra Moi (Sole)	CSIR- GRDG, Govt. of India	1030000.0	2018
Bio-transformation reactions of Pt(II)/Pd(II) and Pt(IV)-sulfur chelates to metal-DNA adduct with nucleobases: their kinetics, mechanistic pathway, bio-activity and theoretical aspects	Prof. Sankar Chandra Moi (Sole)	DST-SERB, Govt. of India	4466000.0	2017

#### 4.3.21 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
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Investigation of corrosion inhibition properties of newly synthesized green inhibitors against mild steel in acidic medium	Utpal Adhikari, Dipankar Sukul	DST-SERB	2022
“Investigation of corrosion inhibition properties of newly synthesized green corrosion inhibitors against mild steel in acidic medium”	Utpal Adhikari, Dipankar Sukul	DST-SERB, Govt. of India	2022
“Investigation on the extracts of Swertia chirata, Butea monosperma, Tradescantia Pallida and Madhuca indica as green corrosion inhibitors for mild steel in acidic medium”	Utpal Adhikari, Suprakash Roy	Science and Technology and Biotechnology Department, Govt. of West Bengal	2021
“Forward-osmosis integrated membrane distillation coupled with solar photocatalytic reactor for textile wastewater”	Jaya Sikder (NIT Durgapur), Utpal Adhikari	Department of Science & Technology and Biotechnology, Govt. of West Bengal	2022
“Microbial production of lactic acid using wastes (diary waste and rice straw) as substrates, for the production of bioplastic”	Koustav Aikat (NIT Durgapur), Utpal Adhikari	Department of Science & Technology and Biotechnology, Govt. of West Bengal	2022
“Chemically modified polysaccharides linked to Schiff base ligand-metal complexes: a novel approach of investigation toward antioxidant and antitumor activities”	Tanmoy Kumar Saha (NIT Durgapur), Utpal Adhikari	DST-SERB, Govt. of India	2020
Functional inter-connection between WISH and cell-wall biosynthesis / re-modelling pathway in rice blast fungus	Subhankar RoyBarman (NIT Durgapur), Utpal Adhikari	DST-SERB, Govt. of India	2024
Interaction of Bio-active Molecules with Pt(II) and Pd(II) complexes of bidentate supporting Ligands: Their Kinetics, mechanism and speciation study	Dr. Sankar Chandra Moi (Sole)	DST-SERB, Govt. of India	2017

#### 4.3.22 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Dipankar Sukul	ACS Omega	ACS	2022-05-20
Jitanyu Chakraborty	Comprehensive Reviews in Food Science and Food Safety	Wiley	2022-06-04
Jitanyu Chakraborty	Cleaner Chemical Engineering	Elsevier	2022-06-25
Jitanyu Chakraborty	Current Nutrition & Food Science	Bentham Science	2022-07-09
Jitanyu Chakraborty	Journal of Water Process Engineering	Elsevier	2022-07-26
Jitanyu Chakraborty	Journal of CO2 Utilization	Elsevier	2022-09-14
Jitanyu Chakraborty	Environmental Progress & Sustainable Energy	Wiley	2022-10-08
Dipankar Sukul	Results in Chemistry	ScienceDirect	2022-09-18
Dipankar Sukul	ACS Sustainable Chemistry & Engineering	ACS	2022-07-23
Dipankar Sukul	ACS Omega	ACS	2022-07-20
Dipankar Sukul	Journal of Dispersion Science and Technology	Taylor & Francis	2022-09-27
Dipankar Sukul	Journal of Environmental Science and Health, Part A	Taylor & Francis	2022-08-24



Reviewer	Name of the Journal	Publisher	Date of Final Review
Dipankar Sukul	Materials Research	SciELO-Brazil	2022-06-26
Tanmoy Kumar Saha	Topics in catalysis	Springer Journals	2022-10-30
Dipankar Sukul	Sustainable Chemistry and Pharmacy	ScienceDirect	2023-01-04
Dipankar Sukul	ACS Omega	ACS	2023-01-18
Tanmoy Kumar Saha	ChemistrySelect	Wiley Publications	2022-08-12
Sujit Sankar Panja	Journal of Photochemistry & Photobiology, A: Chemistry	Sciencedirect	2022-10-11
Apurba Kumar Patra	Journal of the American Chemical Society	American Chemical Society	2023-01-30
Apurba Kumar Patra	Inorganic Chemistry	American Chemical Society	2022-11-02
Apurba Kumar Patra	Inorganic Chemistry	American Chemical Society	2022-08-27
Paresh Nath Chatterjee	ChemistrySelect	Wiley	2023-03-30
Sankar Chandra Moi	Cell	MDPI	2022-04-04
Sankar Chandra Moi	Journal of Medicinal Chemistry	American Chemical Society	2022-07-13
Sankar Chandra Moi	Journal of Molecular Structure	Elsevier	2022-06-09
Sankar Chandra Moi	Journal of Molecular Structure	Elsevier	2022-07-21
Sankar Chandra Moi	Journal of Molecular Structure	Elsevier	2022-05-10
Sankar Chandra Moi	Journal of Molecular Structure	Elsevier	2022-05-27
Sankar Chandra Moi	Inorganica Chimica Acta	Elsevier	2023-02-13
Sankar Chandra Moi	Inorganica Chimica Acta	Elsevier	2023-02-09
Sankar Chandra Moi	Chemical Research in Toxicology	American Chemical Society	2022-12-28
Paresh Nath Chatterjee	Research on Chemical Intermediates	Springer	2022-06-02
Paresh Nath Chatterjee	New Journal of Chemistry	Royal Society of Chemistry	2022-09-08
Paresh Nath Chatterjee	Results in Chemistry	ScienceDirect	2022-09-20
Paresh Nath Chatterjee	Results in Chemistry	ScienceDirect	2023-01-07
Paresh Nath Chatterjee	Results in Chemistry	ScienceDirect	2023-02-22

#### 4.3.23 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Jitamanyu Chakraborty	Paper-Setter of M.Sc in Conservation Biology	Kazi Nazrul University	2023-02-20	2023-02-20
Jitamanyu Chakraborty	Paper-Setter of M.Sc in Conservation Biology	Kazi Nazrul University	2022-06-17	2022-06-17
Dipankar Sukul	PhD defence seminar	Manipal university Jaipur	2022-09-21	2022-09-21
Sourav Laha	Physical Chemistry Practical Examination	Bankura University	2023-02-09	2023-02-09





Utpal Adhikari	M.Sc. 4th Semester Examinations 2022 of Kazi Nazrul University, Asansol	Kazi Nazrul University, Asansol	2022-07-11	2022-07-11
Sankar Chandra Moi	M. Sc. Chemistry Practical Examination	Bankura University	2023-02-01	2023-02-01
Sankar Chandra Moi	Ph. D. Course work question moderation	Bardwan University	2023-01-10	2023-01-10
Paresh Nath Chatterjee	PhD thesis examination	IIIT Allahabad, Prayagraj	2023-02-07	2023-02-07
Apurba Kumar Patra	PhD Thesis Examiner	Delhi University	2023-02-06	2023-02-06
Apurba Kumar Patra	PhD Thesis Examiner	IACS, Kolkata	2022-10-25	2022-10-25
Rajnarayan Saha	Pre-Ph.D Seminar	Visva-Bharati University	2022-08-08	2022-08-08
Rajnarayan Saha	MSc. in Conservation Biology	Kazi Nazrul University	2023-02-10	2023-02-10
Rajnarayan Saha	MSc. in Conservation Biology	Kazi Nazrul University	2023-03-21	2023-03-21
Rajnarayan Saha	BRS meeting in Conservation Biology	Kazi Nazrul University	2022-05-02	2022-05-02
Rajnarayan Saha	UGBOS meeting for conducting the UG 2nd and 4th semester examination.	Dept. of Chemistry, Kazi Nazrul University	2022-04-27	2022-04-27
Rajnarayan Saha	UGBOS meeting for conducting the UG 2nd, 4th and 6th semester examination	Dept. of Chemistry, Kazi Nazrul University	2023-03-28	2023-03-28

#### 4.3.24 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Milan Maji	chairman of Research fellow selection	CMERI	2022-12-09	2022-12-09
Apurba Kumar Patra	Engineering, science, IDDP, M.Tech, PGDAMT	CSIR-CMERI	2023-05-23	2023-05-23
Rajnarayan Saha	Admission in Ph.D Engineering Science and Chemical Science	CSIR-CMERI	2022-11-03	2022-11-04
Rajnarayan Saha	Admission in Ph.D programme in conservation Biology	Kazi Nazrul University	2023-01-31	2023-01-31

#### 4.3.25 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Deb Ranjan Banerjee	A chemist's dream to investigate epigenetics: A combined theoretical and experimental studies	International Symposium On Emerging Trends In Chemical Sciences	NEHU, Shillong	2023-03-02	2023-03-04
Subhas Ghosal	Structure elucidation of simple hydrocarbons through Global Optimization using Density Functional Theory and post HF methods	Young Scientist Lecture (YSL) invitation for ETCS-2023, NEHU, Shillong	NEHU, Shillong	2023-03-02	2023-03-04



Sankar Chandra Moi	Pt(II) based anticancer drug design and drug development	Inauguration programme for centre in recent advances in chemistryment of	Bankura University	2023-03-28	2023-03-28
Sankar Chandra Moi	Pt(II) based anticancer drug design and drug development	59th Convection of chemists (ACC-2022) of Indian Chemical Society (International Conference on Recent Trends in Chemical Sciences-2022(RTCS-2022))	Department of Chemistry, IIT (ISM) Dhanbad	2022-12-16	2022-12-18
Sankar Chandra Moi	A brief research on biophysical study on soft and bio-materials to design and develop Pt(II) based anticancer drug	One day Seminar in DBT Star College Scheme	Durgapur Government College	2023-02-08	2023-02-08
Paresh Nath Chatterjee	Greener approaches to organic synthesis and utilization of spectroscopic techniques in mechanistic understanding	Seminar cum workshop organized by Department of Chemistry, Durgapur Govt. College	Durgapur	2023-03-27	2023-03-27
Rajnarayan Saha	Biodegradability Enhanced by Advanced Oxidation Process for Highly Toxic Organics	Seminar cum Workshop series under the DBT STAR COLLEGE SCHEME of Durgapur Government College.	Durgapur Government College.	2023-03-31	2023-03-31

#### 4.3.26 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Sankar Chandra Moi	59th Convention of chemists (ACC-2022) of Indian Chemical Society (International Conference on Recent Trends in Chemical Sciences-2022(RTCS-2022))	IIT (ISM) Dhanbad	Analytical Chemistry Section division	2022-12-16	2022-12-18
Rajnarayan Saha	5th Regional Science & Technology Congress (Region 7), 2022-23, DST & BT Govt. of Westbengal	The University of Burdwan	2022-23	2023-01-06	2023-01-07



## 4.4 Department of Computer Science & Engineering

### 4.4.1 Department at a Glance

The Department started imparting instructions with the most modern curricula and syllabus to the students for undergraduate course since 1991 and post graduate course since July, 2004. The Department maintains an excellent teaching/learning and research environment with dedicated, qualified and dynamic faculties and well equipped laboratories.

The Department of Computer Science and Engineering (CSE) embodies the Institute's tradition of excellence in engineering education. CSE is in a period of exciting growth and opportunity. CSE Graduates capture leading academic appointments as well as opportunities in renowned computer industries.

Apart from UG & PG S/W & H/W Laboratories the Department has designed few specialized research Laboratories which includes highly sophisticated VLSI laboratory & Embedded Systems laboratory, Bio-medical Engineering laboratory, Systems laboratories, Data Science laboratory, Software Engineering Laboratory, etc. It also focuses research in areas like Bioinformatics, algorithms, security, natural language processing which the researchers have made a foray into in recent years. The newly built augmented space in the Department (1st floor of the Chemistry Building) department will host sophisticated Software Laboratories for Undergraduate & Post Graduate Programmes, dedicated server rooms including few specialized Laboratories.

### 4.4.2 Mission & Vision

#### Mission:

M1. Imparting quality education through the well-designed curriculum in tune with the challenging needs of the industry and society.

M2. Providing state-of-art research facilities to generate knowledge and develop technologies in the thrust areas of Computer Science and Engineering.

M3. Developing linkages with world-class organizations to strengthen industry-academia relationships for mutual benefit.

M4. To produce quality engineers, researchers, and successful professionals who will become responsible citizens by contributing to the progress of the nation.

#### Vision:

Attaining global recognition in the area of Computer Science & Engineering through creating, applying, and imparting scientific and technical education, research, and training to meet the growing needs of the industry and society.

### 4.4.3 Faculty

Name	Designation	Email-id
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Jaydeep Howlader	Assistant Professor	jhowlader.cse@nitdgp.ac.in
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Parag K Guha Thakurta	Assistant Professor	pkguhathakurta.cse@nitdgp.ac.in
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Subhankar Majhi	Assistant Professor	smajhi.cse@nitdgp.ac.in
Sujoy Saha	Assistant Professor	ssaha.cse@nitdgp.ac.in
Narayan Murmu	Assistant Professor	nmurmu.cse@nitdgp.ac.in
Shyantani Maiti	Assistant Professor	smaiti.cse@nitdgp.ac.in
Monalisa Mandal	Assistant Professor	mmandal.cse@nitdgp.ac.in
Subhas Chandra Sahana	Assistant Professor	scsahana.cse@nitdgp.ac.in
Suvadip Batabyal	Assistant Professor	sbatabyal.cse@nitdgp.ac.in

#### 4.4.4 Equipments

Sl. No.	Equipment	Quantity	Date of purchase	Amount (₹)
01.	Water Cooler cum Purifier(120 Liter)	01	April, 2022	1,98,500/-
02.	Water Cooler cum Purifier(80 Liter)	01		
03.	Digital 24 port L2 Switch	07	November, 2022	73,815/-
04.	Arduino Board	13	November, 2022	23,400/-
05.	Rack Server (PowerEdgeR750)	01	December,2022	71,05,101/-
06.	Server Rack(NRS600 series)	01		
07.	Online UPS(MFP3120L16)	01		
08.	Desktop(Optiplex 7000 Tower)	62		
09.	Desktop Category1(Dell)	67	March,2023	71,62,915/-
10.	Desktop Category2(Dell)	02		
11.	Laptop(HP)	01		
12.	Projector(InFocus)	05		
13.	Online UPS(APC, SURT 20 KVA)	02		
14.	TinyML(Type-1)	02	March,2023	37,524/-
15.	TinyML(Type-2)	06		
16.	White Board(8ftX4ft)	01	September,2022	8,496/-
17.	White Screen Projector	01	September, 2022	12,500/-
18.	Computer Table	18	December,2022	11,29,974/-
19.	Wall Mount Wardrobe	02		
20.	Dias + Podium	01		
21.	White Board	02		
22.	Office Table	05		
23.	Executive office table	01		
24.	Steel Almirah	01		



Sl. No.	Equipment	Quantity	Date of purchase	Amount (₹)
25.	File Cabinet	02		
26.	Executive Chair	02		
27.	Office Chair	12		
28.	Center Table	02		
29.	Window Curtain	18		
30.	Fibre Chair without arm	60		
31.	Aluminum Frame partition (850cmX270cm)	01		
32.	Custom made Computer Table	1800 cm.		
33.	Almirah	15	October, 2022	5,03,070/-
34.	Office Table	04		
35.	Executive Chair	10		
36.	Visiting Chair	25		
37.	Fiber Chair	50		
38.	Soft Partition	01	February, 2023	35,000/-
39.	Centre Table (wood top) [914mmX533mm]	01	March, 2023	8,000/-
40.	Wooden Almirah	01	February,2023	15,000/-
41.	Horizontal Vanishing Curtain	12	March,2023	23,750/-
42.	Shoe Rack[3ftX1.5ft.X1.2ft]	04	March, 2023	19,800/-
43.	2 seater sofa with Leatherite c	01	February, 2023	22,000/-

#### 4.4.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Software Lab - I	Computers (62 nos.)
2	Software Lab - II	Server (1no.), Computers (95 nos.)
3	Software Lab - III	Computers (8 nos.)
4	Research Lab - I	Computers ( 13 nos.)
5	Research Lab - II	Super micro GPU System (01 no.), Computers (6 nos.), Workstation (1 no.)
6	Research Lab - III	Computers ( 12 nos.)
7	Server Room	Rack Server (1 no.)
8	VLSI Lab	Computers (35 nos.), Server (1 no.), Xilinx Spartan 3E (24 nos.)
9	Embedded System Lab	Computers (25 nos.), Arduino Board (13 nos.)
10	Biomedical and Healthcare Engineering Lab	Workstation (02), Server (01), Mobile Devices, Printer (01), EEG and fNIRS devices
11	CoE-IoTIS Lab	Workstation (02), Desktop (02), Tobii-Pro Eyetracker Device (01), GSR-EMG Biofeedback Device (02), Mobile Device (01)

#### 4.4.6 PhD degree awarded till 2022-23

One hundred six.

#### 4.4.7 Specialization

- Compiler Design
- Machine Learning
- Data Structures
- Deep Learning for Image Processing
- Operating Systems
- Natural Language Processing
- Computational Geometry
- VLSI Design and Test



- Networks and Communication, Real-time systems
- Computer Vision, Biometrics, Information Security
- Computer Vision, Medical Imaging, Evolutionary Optimization Algorithm, Machine Learning
- Algorithms and Game Theory
- CAD for VLSI Design and Test, Algorithms and Game Theory
- Computer vision and image processing
- AI applications
- Mobile Computing
- Computational Biology, Bioinformatics
- Mobile Computing
- Sensor Network
- Internet of Things
- Ubiquitous Computing
- Multi Agent System, Social Network Analysis, Distributed Computing
- Wireless Networks & Mobility
- Data Analytics, Grid Computing, Recommender System
- Software Engineering, Database System
- Cellular Automata
- Computer Security
- Knowledge Management Systems, DBMS
- Cryptography, Theoretical Computation, Blockchain
- Information Security (Steganography)
- Quantum Computing
- Cryptography and Network Security
- Communication networks, Distributed Systems
- Artificial Intelligence and Machine Learning
- Machine Learning and Optimization
- Database management systems
- Software Engineering, Multi Agent Systems, Medical Image Specification using Machine Learning
- Operating Systems, Object Oriented Programming, Computer Networks
- IoT, Security, Blockchain, Cybersecurity
- Computer Science and Engineering

#### 4.4.8 Proposed Plan for Research

- Natural Language Processing
- Geometric facility location problems for Imprecise data
- Computer Vision, Biometrics, Information Security
- Cognitive Science
- Developing Computer Aided Diagnostic System for Healthcare
- Behavioural Economics and Game Theory, Crowdsourcing, Kidney Exchange problem, Voting, Multi-Armed Bandit, Matching
- Meteorological issues
- Working on good quality research proposal
- The hype in the field of aging research during the recent years indicates that healthy aging has long term societal impacts and economic consequences. The valuable knowledge which can be gained from this project along with the possibilities created by other technological developments can be considered to develop novel treatments which are very much required in society. The age related diseases cause degradation in the quality of life and are a reason for healthcare and socioeconomic challenges. Many countries are trying to solve this problem by developing new healthcare programs and plans. Machine learning and Artificial Intelligence combined with Big Data and other novel computational approaches can be used to track and monitor disease patterns, make better healthcare systems for people, develop new drugs and design appropriate ways to lead a healthy life. These all factors are interrelated which will help us to unravel the path towards healthy aging and longevity.
- Currently working in the area of caching in D2D networks for improving QoE in multimedia streaming. Will be implementing a test-bed on this. Further research will be done using mmWave and beamforming. Also working in the area of Integrated Access and Backhaul for multimedia streaming.
- IoT, Human Activity Monitoring, Pervasive Sensing, Body Area Networks
- Gesture Recognition using Vision Based Sensor & Wearables Sensors
- Exploration of TinyML for different Societal Applications
- Design & Development of AI enabled Rural Education/Telemedicine System





- The plan is to find out cancer biomarkers from cancer microarray gene expression data computationally. After doing some literature survey we concluded that the problem of identifying gene markers from cancer microarray data reduces to the problem of identifying the genes that are differentially expressed in normal and cancerous samples. From a computational point of view, this problem can be modeled as a feature selection problem, where genes are considered as the features. Then we developed different feature selection methods such as multiobjective optimization based Particle Swarm Optimization, Fuzzy Rule-based Classifier, Graph-Theoretic framework, etc. to get the resultant marker genes and performed various statistical validation on the outcome.
- Multi Agent System, Social Network Analysis, Distributed Computing
- In today's rapidly evolving technological landscape, Adaptive and Inclusive Technology has emerged as a pivotal multidisciplinary field that addresses the diverse needs of individuals, particularly those with disabilities. This dynamic field is dedicated to developing and implementing innovative technologies that transcend limitations and empower individuals to engage fully in all dimensions of life. This proposed research plan seeks to delve into the intricacies of Adaptive and Inclusive Technology, exploring its multifaceted dimensions, innovative applications, and far-reaching implications. By delving into the heart of this transformative field, this research endeavors to contribute valuable insights that propel us toward a more equitable and inclusive technological landscape.
- Software Integrated IoT Based Applications
- IOT , Cellular Automata, Data Analysis
- On Distributed Systems and Computer Security
- Development of ASR in Santali and Sadri (Nagpuri) languages. Development of a system for automatic evaluation of Handwritten Bengali answers of school students.
- Plan to research more on cognitive systems and publish research papers on the same area.
- Research for a class of functions that can be securely evaluated without knowing the function itself,
- Designing Different Quantum Image Representation
- Finding Computational Aesthetic of photographs
- The hype in the field of aging research during the recent years indicates that healthy aging has long term societal impacts and economic consequences. The valuable knowledge which can be gained from this project along with the possibilities created by other technological developments can be considered to develop novel treatments which are very much required in society. The age related diseases cause degradation in the quality of life and are a reason for healthcare and socioeconomic challenges. Many countries are trying to solve this problem by developing new healthcare programs and plans. Machine learning and Artificial Intelligence combined with Big Data and other novel computational approaches can be used to track and monitor disease patterns, make better healthcare systems for people, develop new drugs and design appropriate ways to lead a healthy life. These all factors are interrelated which will help us to unravel the path towards healthy aging and longevity.
- Authentication and Privacy Preservation in IoT based Health care System
- To Contribute in Public Policy Formulation using Computational Social Science
- Application of AI and ML in Terrestrial (Cosmic) Object Classification
- To develop algorithm for various fair division problems
- Presently working in the area of 5G Device to Device (D2D) Networks, and Elastic Optical Networks. We are trying to develop an approach which effectively manage different resources in Elastic Optical Networks, and as well as protect the network from failure. Also working in the area of Resource Allocation and Cluster-Head Selection for Energy Aware 5G Device to Device communication.
- Our research focus on designing algorithms for different colour spanning problems of coloured geometric objects. We also study the 2 center covering, hitting, stabbing problem for line segments.
- VLSI
- Design and Development of Non-invasive Anaemia Detection Systems
- Image Specification using Machine Learning
- To develop systems to solve problems faced in developing regions focusing areas like transportation, disaster management, environment monitoring Cognitive Computing based on Brain Signal Data

#### 4.4.9 Area of Research Interest

- Swarm Robotics, Distributed Algorithms
- Deep Learning
- Machine Learning
- Image Processing
- Biometrics
- Pattern Classification
- Natural Language Processing, Education Technology, Speech Processing
- Formal Verification and Performance Analysis of VLSI circuits. Boolean Satisfiability based Simulation Techniques in VLSI Design Automation and Testing. FPGA based Embedded System design. Hardware Security.
- Computer Vision, Biometrics, Information Security



- Computational Geometry, Approximation Algorithm
- Hardware Security
- Cognitive Science
- Hardware Trojan Detection and Prevention
- Secure Architecture for IoT application
- Quantum-dot Cellular Automata (QCA), Reversible Logic and Fault-Tolerant Architecture
- Behavioural Economics and Game Theory, Crowdsourcing, Kidney Exchange problem, Voting, Multi-Armed Bandit
- Computer-aided design and testing of digital VLSI circuits, Algorithms for design and testing of digital microfluidic biochips, Fault-tolerant design of quantum-dot cellular automata circuits, Fairness issues in automated decision making
- Robotics Vision, Stereo Vision
- Data analysis
- Wireless Sensor Networks, IoT, Mobile Computing
- Intelligent Biomedical Devices, Multi-Processor and Multi-Core Architecture, Hardware Security, VLSI Design and Test, Theory and Applications of Cellular Automata (CA)
- D2D communication, multimedia streaming, Integrated access and backhaul, mobile opportunistic networks.
- Scheduling in real-time systems
- Bioinformatics, Machine Learning, Data Mining, Cancer Informatics
- Internet of Things
- Ubiquitous Computing
- Speech Processing
- Human Computer interaction
- Soft Computing, Cognitive Computing, Pattern Recognition, Evolutionary Multi-objective Optimization, ANN, Fuzzy Logic
- Multi Agent System, Social Network Analysis, Distributed Computing
- Adaptive and Inclusive Technology
- Deep Learning and Activity Recognition
- Software Design, Database System Design
- IOT, Cellular Automata, Machine learning
- Computer Security
- DBMS, Case based Reasoning, NLP, Knowledge Systems, Cognitive Sciences
- Computational Aesthetics
- Multiparty Computation, Secure function Evaluation
- Quantum Computing
- Steganography & Watermarking
- Research area: Bioinformatics and Computational Biology
- Research area: Bioinformatics and Computational Biology
- IoT Security
- Communication Networks, IoT Service Management, Computational Social Science
- Computational Geometry, Design and analysis of algorithms, Approximation Algorithms
- Image Processing and Pattern Recognition, Data Warehousing and Data Mining, Application of AI and ML in Terrestrial (Cosmic) Object Classification 3) Text and Image Categorization and Summarization
- Optical Network, D2D Communication Network, Delay Tolerant Network, Wireless Sensor Networks
- Neural Architecture Search, Explainable AI, Generative AI, Evolutionary Computation VLSI
- Software Engineering, Multi Agent Systems, Medical Image Specification using Machine Learning
- IoT, Sensing Systems, Pervasive Computing, Network Science
- IoT, Security, Blockchain, Cybersecurity

#### 4.4.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Consultancy Service, Mumbai	Cognitive Science	Cognitive load assessment methods for the blind, in adaptation to new assistive technologies
IBM	DBMS	Internship
TCS	Human Computer Interaction	Research Activities/Project
DRDO	Speech Processing	Research Activities/Project
Samsung India	Mobile App Development	Project Guide



Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Consultancy Services, Mumbai	Inclusive Technology	Project and Research
George Mason University, USA	5G Technologies, Design of robust UAV Networks	Joint journal papers

#### 4.4.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
NIT Silchar	VLSI Design	Dr. Shyamapada Mukherjee	PhD Guidance
Indian Institute of Technology Delhi	Cognitive Science	Dr. Suvrojit Das, Prof. Suchismita Roy, Prof. Anupam Basu	Neurocomputing and Cognitive Intelligence- Developing a model for Analysing the Learning Disabilities of Dyslexic Child
Department of Computer Science , Universitat Politècnica de Catalunya Barcelona, Spain	Game Theory and its Applications to Cloud, Fog, Healthcare, Crowdsourcing, Surplus Food Distribution etc.	Sajal Mukhopadhyay and Fatos Xhafa	Research
University of Calcutta	Research and Project	Amlan Chakraborti, Subrata Nandi	Project and PhD guidance
University of Sabanci, Turkey	Networks and Communication	Prof. Ozgur Ercetin	Research, article publication
IIT Jodhpur	Real-time stream processing	Dr. Debasis Das	research, article publication
NIBMG Kalyani Nadia	Wetlab Experiments for the Computational Outcome	Dr. Arindam Maitra	TBD
Eindhoven University of Technology , Netherlands	Computational Biology	Federica Eduati	TBD
IIST Shibpur	Human Computer Interaction	Dr. Nirnay Ghosh	Research Activities
Claude Bernard University Lyon 1	Multi Agent System	Prof. Samir Aknine	Joint Publications
Polytechnic of Porto, Portugal	Multi Agent System, Social Network Analysis	Dr. Mariana Curado Malta	Publication, Joint Research Projects
GLA University	Image Processing, Biometrics, Computer Vision	Prof. Phalguni Gupta	Research
IIST Shibpur	Cellular Automata	Dr. B. K Sikdar	Research
Indian Statistical Institute, Kolkata	Generative AI and Speech Synthesis	Prof. Swagatam Das	Joint PhD supervision
Indian Statistical Institute, Kolkata	Computational Geometry	Prof. Subhas C Nandy	Research
Carleton University, Canada	Computational Geometry	Prof. Anil Maheswari	Research
Czech Technical University in Prague	Computational Geometry	Dr. Maria Saumell	Research
Universitat Politècnica de Catalunya	Computational Geometry	Dr. Rodrigo I. Silveira	Research
Utrecht University, Netherlands	Computational Geometry	Dr. Maarten Löffler	Research
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar	Theoretical Computer Science	Dr. Supantha Pandit	Research
Indraprastha Institute of Information Technology, Delhi	Theoretical Computer Science	Dr. Diptapriyo Majumdar	Research



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, Gujarat, India	Computational Geometry	Dr. Supantha Pandit	Joint Research.
University of Calcutta	Water Management, IoT	Prof Amlan Chakraborty	Joint Project proposal Submitted, joint paper submitted
George Mason University, USA	5G Technologies, Design of robust UAV Networks	Dr Vijay Shah	Joint journal papers

#### 4.4.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
A Portable Apparatus for Enabling Steady Capture of Color Transformer of Finger Nail-bed	Dr. Mamata Dalui, Dr. Dakshina Ranjan Kisku, Sunanda Das, Abhishek Kesarwani, Dr. Bibhash Sen, Prof. Suchismita Roy, Prof. Anupam Basu	202331017986A	2023-03-16
A method and system for prognosis of anaemia Based on observation of palm colour.	Dalui, M., Kisku, D.R., Kesarwani, A., Das, S., Sen, B., Roy, S. and Basu, A.	202131000062.	2021-01-01
A portable apparatus for Enabling steady capture Of color transformation of finger nail-bed	Dalui, M., Kisku, D.R., Das, S., Kesarwani, A., Sen, B., Roy, S. and Basu, A.	202331017986	2023-03-16

#### 4.4.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Mr. Gopal Kumar Nath	GATI Self Defence Program	2023-01-07
Prof. Amlan Chakraborty	Research Scholar Day, 2023	2022-11-17
Dr. Aniruddha Sinha, TCS Innovation Lab, Kolkata & Prof. Sanjoy K Saha, JU	Two Days' workshop on "Assessment of the Learning Materials (LMs)"	2022-04-22
Prof. Soumyajit Dey, Dept. of CSE, IIT Kharagpur	Workshop on high performance computing	2023-01-18
Prof. Swarnendu Biswas, Dept. of CSE, IIT Kanpur	Workshop on high performance computing	2023-01-21
Prof. Niloy Ganguly	Technical Talk	2023-02-15



**4.4.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science**

Author(s) Name	Paper Name	Journal Name	Others Info
A Kesarwani, S Das, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, Anupam Basu	Non-invasive Anaemia Detection by Examining Palm Pallor: A Smartphone-based Approach	Biomedical Signal Processing and Control	Volume:79 Issue No:1 Page No:1-13 Year:2023 Month:Jan
Dhawaleswar Rao CH and Sujan Kumar Saha	Generation of Multiple- Choice Questions from Textbook Contents of School-Level Subjects	IEEE TRANSACTIONS ON LEARNING TECHNOLOGIES	Volume:16 Issue No:1 Page No:40-52 Year:2023 Month:Feb
Ankur Priyadarshi, Sujan Kumar Saha	A Study on the Performance of Recurrent Neural Network based Models in Maithili Part of Speech Tagging	ACM Transactions on Asian and Low-Resource Language Information Processing	Volume:22 Issue No:2 Page No:1-16 Year:2013 Month:Feb
Amit Prakash, Niraj Kumar Singh, Sujan Kumar Saha	Automatic extraction of similar poetry for study of literary texts: An experiment on Hindi poetry	ETRI Journal, Wiley	Volume:44 Issue No:3 Page No:413-425 Year:2022 Month:Apr
Ankush Acharyya; Ramesh Jallu; Vahideh Keikha; Maarten Loffler; Maria Saumell	Minimum Color Spanning Circle of Imprecise Points	Theoretical Computer Science	Volume:930 Issue No: Page No:116-127 Year:2022 Month:
Sudeshna Kundu, Suchismita Roy, Shyamapada Mukherjee	Congestion-aware Rectilinear Steiner Tree Construction using PB-SAT	World Scientific Journal of Circuits, Systems and Computers	Volume:31 Issue No:09 Page No:Article No. 2250165 Year:2022 Month:
Anindan Mondol, Bibhash Sen, Suchismita Roy	4. Hardware Trojan Detection using Transition Probability with Minimal Test Vectors	ACM Transactions on Embedded Computing Systems	Volume:22 Issue No:1 Page No:1-21 Year:2022 Month:Oct
A Kesarwani, Sunanda Das, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, Anupam Basu	3. Non-invasive Anaemia Detection by Examining Palm Pallor: A Smartphone-based Approach	Elsevier Biomedical Signal Processing and Control	Volume:79 Issue No:1 Page No: Year:2023 Month:Jan
Kshitiza Vasudeva, Saravanan handran	SCL-FExR: supervised contrastive learning approach for facial expression Recognition	Multimedia Tools and Applications	Volume:82 Issue No: Page No:31351-31371 Year:2023 Month:Mar
Amit Kumar Pramanik, Mahabub Hasan Mahalat, Jayanta Pal, Seyed- Sajad Ahmadpour, Bibhash Sen	Cost-effective synthesis of QCA logic circuit using genetic algorithm	The Journal of Supercomputing	Volume:79 Issue No:4 Page No:3850-3877 Year:2022 Month:Sep
Amit Kumar Pramanik, Jayanta Pal, Kumar Mohit, Mrinal Goswami, Bibhash Sen	Cost-efficient method for inverter reduction and proper placement in quantum-dot cellular automata	International Journal of Electronics	Volume: Issue No: Page No:1-34 Year:2022 Month:Dec
Sanjib Saha, Subhadeep Dutta, Biswarup Goswami, Debashis Nandi	ADU-Net: An attention dense U-Net based deep supervised DNN for automated lesion	Biomedical Signal Processing and Control	Volume: Issue No: Page No: Year:2023 Month:Mar



Author(s) Name	Paper Name	Journal Name	Others Info
	segmentation of COVID-19 from chest CT images		
Manas Sarkar, Priyanka Rakshit Sarkar, Ujjwal Mondal, Debashis Nandi	Tetrolet Transform and Dual Dictionary Learning-Based Single Image Fog Removal	Arabian Journal for Science and Engineering	Volume:48 Issue No:10771-10786 Page No: Year:2023 Month:Mar
Amit Paul and Animesh Dutta	Community detection using Local Group Assimilation	Expert Systems with Applications	Volume:206 Issue No: Page No:117794 Year:2022 Month:
Samridhhi Sarkar, Mariana Curado Malta, and Animesh Dutta	A survey on applications of coalition formation in multi-agent systems	Concurrency and Computation: Practice and Experience	Volume:34(11) Issue No: Page No:e6876 Year:2022 Month:
Abhijit Adhikari, Biswanath Dutta, and Animesh Dutta	Finding most informative common ancestor in cross-ontological semantic similarity assessment: An intrinsic information content based approach	Expert Systems with Applications	Volume:192 Issue No: Page No:116281 Year:2022 Month:
Priyabrata Dash, Dakshina Ranjan Kisku, Phalguni Gupta, Jamuna Kanta Sing	Fast Face Detection using a Unified Architecture for Unconstrained and Infrared Face Images	Cognitive Systems Research	Volume:74 Issue No:1 Page No:18-38 Year:2022 Month:Apr
Rinku Datta Rakshit, Ajita Rattani and Dakshina Ranjan Kisku	An LDOP approach for face identification under unconstrained scenarios	Journal of Experimental & Theoretical Artificial Intelligence	Volume: Issue No: Page No:1-49 Year:2023 Month:Mar
Teressa Longjam, Dakshina Ranjan Kisku, Phalguni Gupta	Multi-scripted Writer Independent Off-line Signature Verification using Convolutional Neural Network	Multimedia Tools and Applications	Volume:82 Issue No:4 Page No:5839-5856 Year:2023 Month:Feb
Teressa Longjam, Dakshina Ranjan Kisku, and Phalguni Gupta	Writer independent handwritten signature verification on multi-scripted signatures using hybrid CNN-BiLSTM: A novel approach	Expert Systems with Applications	Volume:214 Issue No: Page No:1-19 Year:2023 Month:Mar
PKD Pramanik, T Biswas, P Choudhury	Multicriteria-based Resourceaware Scheduling in Mobile Crowd Computing: A Heuristic Approach	Journal of Grid Computing	Volume:21 Issue No: Page No: Year:2023 Month:Jan
Rath, C.K., Mandal, A.K., Sarkar, A.	Microservice based scalable IoT architecture for device interoperability	Computer Standards and Interfaces, Elsevier	Volume:84 Issue No: Page No:103697 Year:2022 Month:
P. Pramanil, P. Karmakar, P. K Sharma, A. Roy, S Mondal, S hatterjee, S Nandi, S Chakrabarty, M saha and S saha	AQuaMoHo: Localized Low-cost Outdoor Air Quality Sensing over a Thermo-hygrometer	ACM Transaction on Sensor Network	Volume: Issue No:Vol 19 No. 3 Page No:1-30 Year:2022 Month:Nov





Author(s) Name	Paper Name	Journal Name	Others Info
Sutapa Sarkar , Biplab Kumar Sikdar and Mousumi Saha	Cellular automata based multi-bit stuck-at fault diagnosis for resistive memory	Frontiers of Information Technology & Electronic Engineering, Springer	Volume:23 Issue No:7 Page No:1110-1126 Year:2022 Month:Aug
Nandan Banerjee and S. Choudhury	Auction inspired service replication for context-aware IoT environment	Concurrency and Computation, Practice and Experiences	Volume:35 Issue No:9 Page No:e7641 Year:2023 Month:Feb
D Naik, A Bauri, T De	Renewable Energy Aware Traffic Grooming in Hybrid Optical and WiMAX Networks	Wireless Personal Communications	Volume:123 Issue No: Page No:2317-2339 Year:2022 Month:Apr
J Dutta, PS Barma, A Mukherjee, S Kar, T De, D Pamučar, Š Šukevičius, Giedrius Garbinčius	Multi-objective green mixed vehicle routing problem under rough environment	Transport	Volume:37 Issue No:1 Page No:51-63 Year:2022 Month:May
R Pradhan, A Agarwal, T De	A Multi-Criteria Route Selection Method for Vehicles Using Genetic Algorithms Based on Driver's Preference	Wireless Personal Communications	Volume:125 Issue No:3 Page No:2477-2496 Year:2022 Month:Aug
Arghya Pathak, Jayashree Karmakar, Debashis Nandi , Mrinal Kanti Mandal	Feature enhancing image inpainting through adaptive variation of sparse coefficients	Signal, Image and Video Processing	Volume:17 Issue No: Page No:1189-1197 Year:2022 Month:Aug
Amish Kumar, Palash Ghosal, Soumya Snigdha Kundu, Amritendu Mukherjee, Debashis Nandi	A lightweight asymmetric U- Net framework for acute ischemic stroke lesion segmentation in CT and CTP images	Computer Methods and Programs in Biomedicine	Volume:226 Issue No: Page No:107157 Year:2022 Month:Nov
Surja Sanyal, Sajal Mukhopadhyay, Fatos Xhafa	Enhanced incentive schemes for volunteers to distribute surplus food in smart cities	Sustainable Cities and Society	Volume:91 Issue No:April 2023 Page No:104409 Year:2023 Month:Apr
Biswajit Maity, Abdul Alim, Sanghita Bhattacharjee Subrata Nandi,	DeHonk: A deep learning based system to characterize vehicular honks in presence of ambient noise	Pervasive and Mobile Computing	Volume:88 Issue No: Page No:101727 Year:2022 Month:Nov
Pragna Labani Sikdar, Abhinav Anurag and Parag Kumar Guha Thakurta	Efficacious tuning in energy efficient street lighting	Int. J. Ad Hoc and Ubiquitous Computing	Volume: Vol. 43, Issue No:No. 1 Page No:53-63 Year:2023 Month:May
Manas Kumar Mohanty, Parag Kumar Guha Thakurta, Samarjit Kar	Agricultural commodity price prediction model: a machine learning framework	Neural Computing and Applications	Volume:35 Issue No:20 Page No:15109-15128 Year:2023 Month:Mar
AKesarwani, Sunanda Das, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, and Anupam Basu	Non-invasive anaemia detection by examining palm pallor: A smartphone-based approach	Biomedical Signal Processing and Control	Volume:79 Issue No:1 Page No: Year:2023 Month:Jan



Author(s) Name	Paper Name	Journal Name	Others Info
Subashis Karmakar, Supreeti Kamily, Prasenjit Dey, Parag K. Guhathakurta, Mamata Dalui, Tushar Kanti Bera, Suman Halder, Chiranjib Koley, Tandra Pal, and Anupam Basu	Real time detection of cognitive load using fNIRS: A deep learning approach	Biomedical Signal Processing and Control	Volume:80 Issue No:1 Page No: Year:2023 Month:Feb
Mamata Dalui, Bidesh Chakraborty, Nilanjana Das and Biplab K. Sikdar	NSRT diagram for identification of SACA and TACA rules in null-boundary	International Journal of Modern Physics C, World Scientific	Volume:33 Issue No:06 Page No: Year:2022 Month:Jun
Leki Chom Thungon, Subhas Chandra Sahana and Md. Iftekhar Hussain	A lightweight certificate- based authentication scheme for 6LoWPAN-based internet of things	The Journal of Supercomputing	Volume:79 Issue No:11 Page No:12523--12548 Year:2023 Month:Mar
P Pramanik, Prasenjit Karmakar, Praveen Kumar Sharma, Soumyajit Chatterjee, Abhijit Roy, Santanu Mandal, Subrata Nandi, Sandip Chakraborty, Mousumi Saha, Sujoy Saha	AQuaMoHo: Localized Low- cost Outdoor Air Quality Sensing over a Thermo- hygrometer	ACM Transactions on Sensor Networks	Volume:19 Issue No:3 Page No:1-30 Year:2021 Month:Mar
Prasenjit Karmakar, Vijay K Shah, Satyaki Roy, Krishnandu Hazra, Sujoy Saha, Subrata Nandi	Reliable Backhauling in Aerial Communication Networks Against UAV Failures: A Deep Reinforcement Learning Approach	IEEE Transactions on Network and Service Management	Volume:19 Issue No:3 Page No:2798-2811 Year:2022 Month:Aug
R Mondal, T Pal, and P Dey	A Hybrid Regularized Multilayer Perceptron for Input Noise Immunity	IEEE Transactions on Artificial Intelligence	Volume:1 Issue No: Page No:1 - 12 Year:2023 Month:Jan
S. Karmakar, S. Kamilya, P. Dey, P. K Guhathakurta, M. Daluia, T.K Bera, S. Halder, C. Koley, T. Pal and A. Basu	Real Time Detection of Cognitive Load Using fNIRS: A Deep Learning Approach	Biomedical Signal Processing and Control	Volume:80 Issue No:1 Page No: Year:2023 Month:Feb
Debnath, S., Roy, R. & Changder, S.	A novel approach using deep convolutional neural network to classify the photographs based on leading-line by fine- tuning the pre-trained VGG16 neural network	Multimedia Tools and Applications	Volume: Issue No: Page No: Year:2022 Month:Jul
Rayani, P.K., Changder, S.	Continuous user authentication on smartphone via behavioral biometrics: a survey	Multimedia Tools and Applications	Volume:82 Issue No:2 Page No:1633-1667 Year:2023 Month:Jan
Rayani, P.K., Changder, S.	Sensor-based continuous user authentication on smartphone through machine learning	Microprocessors and Microsystems	Volume:96 Issue No: Page No:104750 Year:2023 Month:Feb
Changder, S., Majumder, A., Kundu, S.	An improved location mapping and cover synthesis based data hiding by model SSSP problem generation	Multimedia Tools and Applications	Volume:82 Issue No: Page No:29255–29281 Year:2023 Month:Feb



Author(s) Name	Paper Name	Journal Name	Others Info
Arunita Das, Amrita Namtirtha, and Animesh Dutta	Levy-Cauchy arithmetic optimization algorithm combined with rough K-means for image segmentation	Applied Soft Computing	Volume:140 Issue No: Page No:110268 Year:2023 Month:
Samridhhi Sarkar, Tuhin Biswas, Mariana Curado Malta, Deolinda Meira, and Animesh Dutta	A coalition formation framework of smallholder farmers in an agricultural cooperative	Expert Systems with Applications	Volume:221 Issue No: Page No:119781 Year:2023 Month:
Ramya D. Shetty, Shrutilipi Bhattacharjee, Animesh Dutta, and Amrita Namtirtha	GSI: An Influential Node Detection Approach in Heterogeneous Network using Covid-19 as Use Case	IEEE Transactions on Computational Social Systems	Volume: Issue No: Page No:01-15 Year:2022 Month:
Amrita Namtirtha, Biswanath Dutta, and Animesh Dutta	Semi-global triangular centrality measure for identifying the influential spreaders from undirected complex networks	Expert Systems with Applications	Volume:206 Issue No: Page No:117791 Year:2022 Month:
Narayan Changder, Samir Aknine, and Animesh Dutta	An Abortion Based Search Method for Optimal Coalition Structure Generation	Group Decision and Negotiation	Volume:31 Issue No: Page No:747-768 Year:2022 Month:
Chakraborty, P., Sarkar, A.	Dynamic Context Driven Reconfigurable Business Process	Annals of Emerging Technologies in Computing	Volume:6 Issue No:3 Page No:pp. 37-55 Year:2022 Month:
Suvadip Hazra and Mamata Dalui	Characterization of Single Length Cycle Two-Attractor Cellular Automata Using Next-State Rule Minterm	Complex Systems	Volume:31 Issue No:4 Page No: Year:2022 Month:
Narayan Murmu, Debashis Nandi	3D Shape Reconstruction using Single Camera and Two Mirrors	International Journal of Computing and Digital Systems	Volume:13 Issue No:1 Page No:159-167 Year:2023 Month:Jan
Praveen Kumar Sharma, Bidyut Dalal, Ananya Mondal, Argha Sen, Amartya Banerjee, Sandip Mondal, Tanmay De, Sujoy Saha	Indoor Air Sensing: A Study in Cost, Energy, Reliability and Fidelity in Sensing	Journal of Sensing and Imaging (Springer)	Volume:24 Issue No:1 Page No: Year:2023 Month:Feb
Anil Bikash Chowdhury, Vikash Kumar Singh, Sajal Mukhopadhyay, Abhishek Kumar, and Meghana M Dhananjaya	A Truthful Mechanism for Crowdsourcing-based Tourist Spots Detection in Smart Cities	International Journal of Grid and Utility Computing	Volume:13 Issue No:4 Page No:363-375 Year:2022 Month:Aug
Narayan Murmu, Debashis Nandi	3D Shape Reconstruction using Single Camera and Two Mirrors	International Journal of Computing and Digital Systems	Volume:13 Issue No:1 Page No:159-167 Year:2023 Month:Jan
J Dutta, PS Barma, A Mukherjee, S Kar, T De	A hybrid multi-objective evolutionary algorithm for open vehicle routing problem through cluster primary-route secondary approach	International Journal of Management Science and Engineering Management	Volume:17 Issue No: Page No:132-146 Year:2022 Month:Apr
Trushna Parida, Kanika Nath, Suvrojit Das	SAM: A Mechanism to Facilitate Smear-Aware Forensic Analysis of Volatile System Memory	Journal of Applied Security Research	Volume: <a href="https://doi.org/10.1080/019361610.2022.2161972">https://doi.org/10.1080/019361610.2022.2161972</a> Issue No: Page No: Year:2022 Month:Dec



Author(s) Name	Paper Name	Journal Name	Others Info
MK Mohanty, PKG Thakurta, S Kar	Efficient sensor node localization in precision agriculture: an ANN based framework	Opsearch	Volume:60 Issue No:2 Page No:1-24 Year:2023 Month:Feb
Madhumita Sardar, Deepanwita Das, Srabani Mukhopadhyay	Grid Exploration by a Swarm of Au- tonomous Robots with Minimum Repetitions	Theoretical Computer Science	Volume:933 Issue No: Page No: 67-87 Year:2022 Month:Sep
P K Sharma, B Dalal, A Mondal, A Sen, A Banerjee, S Mondal, T De, S Saha	Indoor Air Sensing: A Study in Cost, Energy, Reliability and Fidelity in Sensing	Sensing and Imaging	Volume:24 Issue No:1 Page No: Year:2023 Month:Feb
Kailash Pati Mandal, Prasenjit Mukherjee, Atanu Chattopadhyay, Baisakhi Chakraborty	XBLQPS: An Extended Bengali Language Query Processing System for e-Healthcare Domain	International Journal of Advanced Computer Science and Applications	Volume:13 Issue No:7 Page No:502-512 Year:2022 Month:
Sugyan Kr. Mishra, Anirban Sarkar	Service-oriented architecture for Internet of Things: A semantic approach	Journal of King Saud University – Computer and Information Sciences, Elsevier	Volume:34 Issue No:10 Page No:PP 8765-8776 Year:2022 Month:
Ratna Mandal, Prasenjit Karmakar, Soumyajit Chatterjee, Debaleen Das Spandan, Shouvit Pradhan, Sujoy Saha, Sandip Chakraborty, Subrata Nandi	Exploiting Multi-modal Contextual Sensing for City bus's Stay Location Characterization: Towards Sub-60 Seconds Accurate Arrival Time Prediction	ACM Transactions on Internet of Things	Volume:pp 1–24 Issue No:Volume 4 Issue 1 Page No:1-24 Year:2023 Month:Feb
Dhaneshwar Mardi, Jaydeep Howlader	Anonymous Bitcoin transaction: A solution using secure multiparty computation	Security and Privacy	Volume:5 Issue No:4 Page No:1--26 Year:2022 Month:Apr

#### 4.4.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Sunanda Das, Abhishek Kesarwani, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, Anupam Basu	2. Smartphone-based non-invasive haemoglobin level estimation by analysing nail pallor	Elsevier Biomedical Signal Processing and Control	Volume: Issue No: Page No: Year:2023 Month:
Manas Sarkar, Priyanka Rakshit Sarkar, Ujjwal Mondal, Debashis Nandi	Single image rain removal via tetrolet transform and morphological decomposition	Sadhana	Volume: Issue No: Page No: Year:2023 Month:Mar
Amit Mukhopadhyay, Debashis Nandi, Umapada Pal, Baisakhi Chakraborty	CCOCSA-based multi-frame sparse coding super-resolution via mutual information- based weighted image fusion	Multimedia Tools and Applications	Volume: Issue No: Page No: Year:2023 Month:Mar
Suvadip Hazra and Mamata Dalui	Exploring NSRT Diagram for Scalable Synthesis of TACA	Journal of Cellular Automata,	Volume: Issue No: Page No: Year:2022 Month:Sep
A Biswas, S P Tripathy and T Pal	On Multi-objective Covering salesman problem	Neural Computing and Applications	Volume:34 Issue No:24 Page No:22127–22140 Year:2022 Month:Dec



Author(s) Name	Paper Name	Journal Name	Others Info
Gourish Goudar; Suvadip Batabyal	Estimating Buffer Occupancy sans Message Exchange in Mobile Opportunistic Networks	IEEE Networking Letters	Volume:4 Issue No:2 Page No:73-77 Year:2022 Month:Feb
Sugyan Kr. Mishra, Anirban Sarkar	An efficient clustering mechanism towards large scale service composition in IoT	International Journal of Web and Grid Services, (Inderscience Publishers),	Volume: Issue No: Page No: Year:2023 Month:Jan
Sugyan Kr. Mishra, Anirban Sarkar	Context-free dynamic service clustering of IoT-based services	Innovations in Systems and Software Engineering, Springer-Verlag London Ltd	Volume: Issue No: Page No: Year:2022 Month:
Kailash Pati Mandal, Prasenjit Mukherjee, Devraj Vishnu, Baisakhi Chakraborty	Unsupervised Machine Learning Approach to Handle Natural Language Queries in Bengali with Semantically Close Words	International Journal of Computing and Digital Systems	Volume: Issue No: Page No: Year:2022 Month:Jun
Kailash Pati Mandal, Prasenjit Mukherjee, Sauvik Ganguly and Baisakhi Chakraborty	Bengali Query Processing System for Disease Detection using LSTM and GRU	International Journal of Computing and Digital Systems	Volume: Issue No: Page No: Year:2022 Month:Jun
Chakraborty, P., Sarkar, A.	Re-configurable Business Process: A Constraint-based Approach	International Journal of Business and Systems Research (Inderscience Publishers)	Volume: Issue No: Page No: Year:2022 Month:May

#### 4.4.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
D Bhowmik, AK Pramanik, J Pal, P Sen, AR Singh, AK Saha, B Sen	Regular clocking-based Automated Cell Placement technique in QCA targeting sequential circuit	Computers & Electrical Engineering	Volume:98 Issue No: Page No:107668 Year:2022 Month:Jan
A. Mondal, S. Karmakar, M. H. Mahalat, S. Roy, B. Sen and A. Chattopadhyay	Hardware Trojan Detection using Transition Probability with Minimal Test Vectors	ACM Transactions on Embedded Computing Systems	Volume:22 Issue No:1 Page No:1-21 Year:2022 Month:Oct

#### 4.4.17 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Banashree Mandal, Madhumita Sardar, Deepanwita Das	Swarm Coverage in Continuous and Dis-crete Domain: A Survey of Robots Behaviour.	Advances in Data-driven Computing and Intelligent Systems.(ADCIS 2022)	DOI/ISBN: 10.1007/978-981-99-0981-0 44 Volume: Issue No: Page No:573-587 Year:2022 Month:Sep Presenter:CO-AUTHOR
D. Das, S. Roy, M.H.Mahalat and B. Sen	A Novel Cross-Platform Physically Unclonable Function for Emerging FPGA-based IoT Devices	2022 Asian Hardware Oriented Security and Trust Symposium (AsianHOST)	DOI/ISBN: 10.1109/AsianHOST56390.2022.10022185 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:SELF





Author(s) Name	Paper Name	Conference Name	Others Info
Sourav Roy, Abir Maji, Mahabub Hasan Mahalat, Bibhash Sen	PUF based Authentication and Key Sharing Protocol for Smart Water Monitoring System	TENSYMP2022	DOI/ISBN: 10.1109/TENSYMP54529.2022.9864376 Volume: Issue No: Page No: Year:2022 Month:Jul Presenter:SELF
A.K. Pramanik, J. Pal,	Performance Analysis of Regular	15th International Conference and	DOI/ISBN:
B. K. Sikdar and B. Sen	Clocking based Quantum-dot Cellular Automata Logic Circuit: Fault Tolerant approach	School “Cellular Automata for Research and Industry” ACRI- 2022	<a href="https://doi.org/10.1016/j.compelceng.2021.107640">https://doi.org/10.1016/j.compelceng.2021.107640</a> Volume: Issue No: Page No: Year:2022 Month: Presenter:SELF
Tiyasa Chakraborty, Ashok Kumar Bhadra, Debashis Nandi	SVM-based Pre-and Posttreatment Cancer Segmentation from Lung and Abdominal CT Images via Neighborhood-Influenced Features	International Conference on Information and Communication Technology	DOI/ISBN: <a href="https://doi.org/10.1007/978-981-19-5090-2_3">https://doi.org/10.1007/978-981-19-5090-2_3</a> Volume: Issue No: Page No:35-43 Year:2021 Month:Dec Presenter:CO-AUTHOR
Palash Ghosal, Amish Kumar, Ashis Datta, Hiren Kumar Deva Sarma, Debashis Nandi	Computer-Aided Detection of Brain Midline Using CT Images	International Conference on Information and Communication Technology	DOI/ISBN: <a href="https://doi.org/10.1007/978-981-19-50902_11">https://doi.org/10.1007/978-981-19-50902_11</a> Volume: Issue No: Page No:117-123 Year:2021 Month:Dec Presenter:CO-AUTHOR
Sukanya Maji and Sanjib Sadhu	Arbitrary-Oriented Color Spanning Region for Line Segments	9th Annual International Conference on Algorithms and Discrete Applied Mathematics (CALDAM)	DOI/ISBN: DOI: 10.1007/978-3-031-25211-2\ 6 Volume: Issue No: Page No:71-86 Year:2023 Month:Feb Presenter:CO-AUTHOR
Sukanya Maji and Sanjib Sadhu	Color-Spanning Problem for Line Segments	22nd International Conference on Computational Science and Its Applications	DOI/ISBN: DDOI: 10.1007/978-3-031-10522-7\ 6 Volume: Issue No: Page No:76-89 Year:2022 Month:Jul Presenter:CO-AUTHOR
Surja Sanyal, Sajal Mukhopadhyay, Fatos Xhafa, Vikash Kumar Singh & Banhi Sanyal	An Incentive Framework for Surplus Food Distribution in the Context of Smart Cities	The 25th International Conference on Network-Based Information Systems (NBIS-2022)	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-14314-4_4">https://doi.org/10.1007/978-3-031-14314-4_4</a> Volume: Issue No: Page No: 35-47 Year:2022 Month:Sep Presenter:SELF
Rajib Kumar Mondal, Mohammed Ubaid Khan, Sanghita Bhattacharjee, Tandra Pal	A greedy algorithm for maximizing target Q-coverage in directional sensor networks	IEEE 6th Conference on Information and Communication Technology (CICT)	DOI/ISBN: 978-1-6654-7312-5 Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:CO-AUTHOR
Prajna Paramita Pradhan, Aditya Kumar, Sanghita Bhattacharjee	Traffic Priority based Forwarder Selection for Data Routing in Mobile WBANs	TENCON 2022	DOI/ISBN: <a href="https://doi.org/10.1109/TENCON55691.2022.9977694">https://doi.org/10.1109/TENCON55691.2022.9977694</a> Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:SELF





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Biswajit Maity, Maddu Amar Sri Lakshmi Prasanna Trinath, Sanghita Bhattacharjee, Subrata Nandi	PredHonk: A Framework to Predict Vehicular Honk Count using Deep Learning Models	TENCON 2022	DOI/ISBN: <a href="https://doi.org/10.1109/TENCON55691.2022.9977644">https://doi.org/10.1109/TENCON55691.2022.9977644</a> Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:CO-AUTHOR
M Goswami, S Bhattacharjee, S Changder	A Novel Approach for Crop Yield Prediction Model Validation	ADICS2022	DOI/ISBN: <a href="http://dx.doi.org/10.56155/978-81955020-2-8-10">http://dx.doi.org/10.56155/978-81955020-2-8-10</a> Volume: Issue No: Page No:103-116 Year:2022 Month:Sep Presenter:CO-AUTHOR
Sanjukta Mishra and Parag Kumar Guhathakurta	Identification of Cloud types for Meteorological Satellite images: A character-based CNN-LSTM hybrid caption model	Fifth International Conference on Computational Intelligence in Communications, and Business Analytics (CICBA-2023)	DOI/ISBN: 27 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Soumyadipta Kar, Manas Kumar Mohanty and Parag Kumar Guha Thakurta	Automated Prediction of Income from Farming of a Commodity: An ARIMA based Framework	International Conference on Optimization, Learning and Analytics in Business (OLAB 2022)	DOI/ISBN: 29 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Pragna Labani-Sikdar, Samarjit Kar and Parag Guhathakurta	Multi Objective Energy Efficient Street Lighting: AMOSA based Framework	13th Triennial International Conference of the Association of Asia Pacific Operational Research Societies (APORS)	DOI/ISBN: 33 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
S. Das, A. Kesarwani, D.R. Kisku and M. Dalui	Non-invasive Haemoglobin Estimation by Observing Nail Color: A PCA based Approach	IEEE 6th Conference on Information and Communication Technology (CICT), 2022, Gwalior, India	DOI/ISBN: 10.1109/CICT56698.2022.9997888 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
A. Kesarwani, S. Das, M. Dalui and D.R. Kisku	Non-invasive Haemoglobin Estimation using Different Colour and Texture Features of Palm	7th International Conference on Computer Vision & Image Processing (CVIP), 2022, Nagpur, Maharashtra, India	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-31417-9_14">https://doi.org/10.1007/978-3-031-31417-9_14</a> Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
S. Das, A. Kesarwani, D.R. Kisku and M. Dalui	Non-invasive Haemoglobin Prediction using Nail Color Features: An Approach of Dimensionality Reduction	18th International Conference on Intelligent Computing (ICIC), 2022, Xi'an, China	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-13870-6_66">https://doi.org/10.1007/978-3-031-13870-6_66</a> Volume: Issue No: Page No: Year:2022 Month:Aug Presenter:CO-AUTHOR
Praveen Kumar Sharma, Debjit Chatterjee, Debaleen Das, Sujoy Saha	Can I take class in that classroom now? In the perspective of Air Quality	ICDCN 2023	DOI/ISBN: <a href="https://doi.org/10.1145/3571306.3571442">https://doi.org/10.1145/3571306.3571442</a> Volume: Issue No: Page No:396-401 Year:2023 Month:Jan Presenter:CO-AUTHOR



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Pritisha Sarkar, Mahesh Kumar Makkena, Amit Bose, Munshi Yusuf Alam, Sujoy Saha and Mousumi Saha.	Impact of bursting fireworks during Diwali in Durgapur suburb, India: A case study	ICDCN 2023	DOI/ISBN: <a href="https://doi.org/10.1145/3571306.3571440">https://doi.org/10.1145/3571306.3571440</a> Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Anju Bhuiya, Koyena Chowdhury, Suman Nandi and Animesh Dutta	Semi-Global Circular Centrality to find Influential Spreaders	15th International Conference on Communication Systems & Networks (COMSNETS). IEEE	DOI/ISBN: 10.1109/COMSNETS56262.2023.10041382 Volume: Issue No: Page No: Year:2023 Month:January Presenter:
Koyena Chowdhury, Amit Paul, and Animesh Dutta	Cancel Out GCN Diffusion (CoutGCN): Finding the Indumenta Spreaders to Diffuse Information	15th International Conference on Communication Systems & Networks (COMSNETS). IEEE	DOI/ISBN: 10.1109/COMSNETS56262.2023.10041335 Volume: Issue No: Page No: Year:2023 Month:January Presenter:
Arunita Das, Amrita Namtirtha, and Animesh Dutta	Automatic Fast Fuzzy Clustering Algorithm for Nucleus Segmentation of Color Pathology Images	2022 IEEE 19th India Council International Conference (INDICON).	DOI/ISBN: 10.1109/INDICON56171.2022.10039694 Volume: Issue No: Page No: Year:2022 Month:November Presenter:
Sunanda Das, Abhishek Kesarwani, Dakshina Ranjan Kisku and Mamata Dalui	Non-invasive Haemoglobin Prediction using Nail Color Features: An Approach of Dimensionality Reduction	18th International Conference on Intelligent Computing (ICIC 2022)	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-138706_66">https://doi.org/10.1007/978-3-031-138706_66</a> Volume: Issue No: Page No:811–824 Year:2022 Month:Aug Presenter:CO-AUTHOR
Abhishek Kesarwani, Sunanda Das, Mamata Dalui and Dakshina Ranjan Kisku	Non-invasive Haemoglobin Estimation using Different Colour and Texture Features of Palm	7th International Conference on Computer Vision & Image Processing (CVIP'22)	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-314179_14">https://doi.org/10.1007/978-3-031-314179_14</a> Volume: Issue No: Page No:176–189 Year:2022 Month:Nov Presenter:CO-AUTHOR
Sunanda Das, Abhishek Kesarwani, Dakshina Ranjan Kisku and Mamata Dalui	Non-invasive Haemoglobin Estimation by Observing Nail Color: A PCA based Approach	The Conference on Information and Communication Technology (CICT'22)	DOI/ISBN: 10.1109/CICT56698.2022.9997888 Volume: Issue No: Page No:1-5 Year:2022 Month:Nov Presenter:CO-AUTHOR
Rohan Kumar Gupta and Dakshina Ranjan Kisku	ImpressionNet: A Multi view Approach to Predict Socio Facial Impressions	15th International Conference on Agents and Artificial Intelligence (ICAART'22)	DOI/ISBN: 10.5220/0010762400003116 Volume: Issue No: Page No:33-38 Year:2022 Month:Feb Presenter:CO-AUTHOR
Avick Kumar Dey, Vineet Chauhan, Pradeep Kumar Singh, Prasenjit Choudhary	LSTM based Top-N Recommendation System Using Cognitive Data	11th International Conference on System Modeling & Advancement in Research Trends (SMART)	DOI/ISBN: 10.1109/SMART55829.2022.10046838 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:
Chouhan Kumar Rath, Amit Kr. Mandal and	A Feature-Weighted Clustering approach for Context Discovery and Selection of Devices in IoT	4th International Conference on Computing and Communication	DOI/ISBN: 10.1109/I3CS58314.2023.10127469



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Anirban Sarkar		Systems (I3CS), IEEE Sponsored, Shillong, India, 2023.	Volume: Issue No: Page No:1-6 Year:2023 Month:Jan Presenter:CO-AUTHOR
Sugyan Kumar Mishra, Anirban Sarkar	Validating User-Centric Business Process based Service Composition	4th International Conference on Computing and Communication Systems (I3CS), IEEE Sponsored, Shillong, India, 2023	DOI/ISBN: 10.1109/I3CS58314.2023.10127469 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Rath, C.K., Mandal, A.K., Sarkar, A.	Data Quality Driven Design Pattern for Internet of Things	9th International Doctoral Symposium on Applied Computation and Security Systems, Lecture Notes in Networks and Systems,	DOI/ISBN: LNNS,volume 555 Volume: Issue No: Page No:285-303 Year:2022 Month:Sep Presenter:CO-AUTHOR
Manvendra Singh and Abhijit Sharma	Assessment and Rehabilitation of Low Back Pain (LBP) Using Artificial Intelligence and Machine Learning – A Review	Artificial Intelligence Trends in Systems	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-09076-9_40">https://doi.org/10.1007/978-3-031-09076-9_40</a> Volume: Issue No: Page No: Year:2022 Month:Jul Presenter:CO-AUTHOR
Sanjeet Kumar and Suvrojit Das	An Open Source and Practical Approach to X2X linux workload migration	12th International Conference on Cloud Computing and Services Science CLOSER	DOI/ISBN: 10.5220/0011083700003200 Volume: Issue No: Page No:272-279 Year:2022 Month:Apr Presenter:CO-AUTHOR
Baisakhi Das, Mousumi Saha, Nilanjana Das and Biplab K Sikdar	Identification of Periodic Boundary SACA Rules Exploring NSRT Diagram	ACRI 2022	DOI/ISBN: 10.1007/978-3-031-14926-9_3 Volume: Issue No: Page No:29-39 Year:2022 Month:Sep Presenter:SELF
Kailash Pati Mandal, Baisakhi Chakraborty	Natural Language Query in Bengali to SQL Generation Using Named Entity Recognition	IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI-2022), organized by IEEE MP Section and ABV-IIITM Gwalior, India.	DOI/ISBN: DOI: 10.1109/IATMSI56455.2022.10119243 Volume: Issue No: Page No: Year:2022 Month: Presenter:CO-AUTHOR
P Mukherjee and T De	Energy Aware Cluster Head Rotation for D2D multicasting	10th International Conference on Signal Processing and Integrated Networks (SPIN)	DOI/ISBN: 10.1109/SPIN57001.2023.10116310 Volume: Issue No: Page No:840-845 Year:2023 Month:Mar Presenter:CO-AUTHOR
S. Dhar, A. Vishwakarma, D. Ghanti and N. D. Jana	Ensemble Learning based Plant Leaf Disease Classification Considering Deep Convolutional Features from Pre-trained CNN	IEEE 6th Conference on Information and Communication Technology (CICT), Gwalior, India, 2022	DOI/ISBN: 10.1109/CICT56698.2022.9997819 Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:CO-AUTHOR



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Md. T. Akhter, P. Banerjee, S. Dhar, N. D. Jana	An Analysis of Performance Evaluation Metrics for Voice Conversion (VC) Models	IEEE 19th India Council International Conference at Cochin, Kerala, India 2022	DOI/ISBN: 10.1109/INDICON56171.2022.10040000 Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:CO-AUTHOR
A. Ghosh and N. D. Jana	Artificial Bee Colony Optimization based Optimal Convolutional Neural Network Architecture Design	19th India Council International Conference (INDICON), Kochi, India, 2022	DOI/ISBN: 10.1109/INDICON56171.2022.10040217 Volume: Issue No: Page No:1-7 Year:2022 Month:Nov Presenter:CO-AUTHOR
S. Dhar, A. Ghosh, A. Mazumder, S. Roy and N. D. Jana	Hyper-parameter Optimization of CNN using Genetic Algorithm for Speech Command Recognition	ADCIS 2022	DOI/ISBN: 10.1007/978-981-99-0981-0_10 Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:SELF
Dhar, S., Phukan, S., Gogoi, R., Jana, N.D.	Speaker Identification Using Ensemble Learning With Deep Convolutional Features	ADCIS 2022	DOI/ISBN: 10.1007/978-981-99-0981-0_10 Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
A. Chatterjee, N. D. Jana	Classification of Sleep Apnea Event Type Using Imbalanced Labelled EEG Signal	2022 IEEE Region 10 Symposium (TENSYP)	DOI/ISBN: 10.1109/TENSYP54529.2022.9864566 Volume: Issue No: Page No:1-6 Year:2022 Month:Jul Presenter:CO-AUTHOR
Goutam Sarker	A New Method of Galaxy Classification Using Optimal Convolution Neural Network	International Symposium on Artificial Intelligence	DOI/ISBN: <a href="https://doi.org/10.1109/22485-0_26.1007/978-3-03-284-293">https://doi.org/10.1109/22485-0_26.1007/978-3-03-284-293</a> Volume: Issue No: Page No:284-293 Year:2022 Month:Mar Presenter:SELF

#### 4.4.18 Conference: Accepted in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Prasenjit Mukherjee, Chandrima Chakraborty, Nandan Banerjee, Baisakhi Chakraborty	Time-Related Natural Language Query Handling to Extract Autism Spectrum Disorder Information from Temporal Database	Fourth International Conference on Advanced Computational and Communication Paradigms (ICACCP 23), Sikkim Manipal Institute of Technology, Sikkim, India	DOI/ISBN: 10.13140/RG.2.2.13309.23528 Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:CO-AUTHOR
Prasenjit Mukherjee, Chandrima Chakraborty, Nandan Banerjee, Baisakhi Chakraborty	Natural Language Query Processing System to Extract Autism Spectrum Disorder Information from Database Bengali language-based Disease diagnosis system for rural people using Bidirectional Encoder Representations from Transformers	Fourth International Conference on Advanced Computational and Communication Paradigms (ICACCP 23), Sikkim Manipal Institute of Technology, Sikkim, India	DOI/ISBN: 10.13140/RG.2.2.13309.23528 Volume: Issue No: Page No: Year:2023 Month: Feb Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Kailash Pati Mondal, Souvik Ganguly, Baisakhi Chakraborty	Bengali language-based Disease diagnosis system for rural people using Bidirectional Encoder Representations from Transformers	OPJU international Technology conference On Emerging Technologies for Sustainable Development	DOI/ISBN: <a href="https://doi.org/10.1109/OTCON56053.2023.10113944">https://doi.org/10.1109/OTCON56053.2023.10113944</a> Volume: Issue No: Page No: Year:2023 Month: Feb Presenter:CO-AUTHOR

#### 4.4.19 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Kshitiza Vasudeva, Saravanan Chandran	Classifying Skin Cancer and Acne using CNN	15th International Conference on Knowledge and Smart Technology	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:SELF
Sunil Kumar Patel, Saravanan Chandran	PDF Steganography using Hybrid Crypto Encryption Technique	ICICNIS 2022: International Conference on IoT Based Control Networks and Intelligent Systems	DOI/ISBN: NA Volume: Issue No: Page No:425-436 Year:2022 Month:Jul Presenter:CO-AUTHOR
Kazi Amrin Kabir and Parag Kumar Guha Thakurta	Change Detection in LULC for Durgapur: An efficient GIS based Framework	Fourth International Conference on Advanced Computational and Communication Paradigms (ICACCP 2023)	DOI/ISBN: 25 Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:CO-AUTHOR
Goutam Sarker	One Optimal Convolution Neural Network for Differentiation among Coronavirus Pneumonia and Normal Chest	International Conference on Advances in Data-driven Computing and Intelligent Systems (ADCIS2022)	DOI/ISBN: - Volume: Issue No: Page No:- Year:2022 Month:Sep Presenter:SELF

#### 4.4.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Sajal Mukhopadhyay	Surja Sanyal, Fatos Xhafa, Vikash Kumar Singh & Banhi Sanyal	Advances in Engineering and Information Science Toward Smart City and Beyond	Incentives in Surplus Food Distribution for Smart Cities and Beyond: An Activity Aware Solution	Publisher: Springer Link Publication Date: 2023-0525
Anandaprova Majumder	Suvamoy Changder	Intelligent Cyber-Physical Systems Security for Industry 4.0	An Automated Cover Text Selection System for Text Steganography Algorithms	Publisher: Chapman and Hall/CRC Publication Date: 2022-12-16





#### 4.4.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Moving and Computing 2022 - MAC 2022	University of Pisa	2022-09-19	2022-09-22	Italy
15th International Conference on Knowledge and Smart Technology	KST	2023-02-21	2023-02-24	Thailand
The 25th International Conference on Network-Based Information Systems (NBIS-2022)	Kwansei Gakuin University	2022-09-07	2022-09-09	Japan
9th Annual International Conference on Algorithms and Discrete Applied Mathematics (CALDAM 2023)	Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India	2023-02-09	2023-02-11	India
Second Winter School on Deep Learning (WSDL)	ISI Kolkata	2023-01-06	2023-03-04	India
ACC100 Symposium	Calcutta University	2023-01-08	2023-01-09	India
Workshop on GPU Programming	NIT Durgapur	2023-01-18	2023-01-21	India
3rd International Conference on Frontiers in Computing and Systems	IEEE (IIT Ropar)	2022-12-19	2022-12-23	India
24th International Conference On Distributed Computing And Networking	ACM (IIT Kharagpur)	2023-01-04	2023-01-07	India
Research Visit to Polytechnic of Porto, Portugal under ERASMUS+ICM (International Credit Mobility)	European Union	2023-01-16	2023-01-20	Portugal
GATI (Gender Advancement for Transforming Institutions) study visit to UK Universities	British Council and DST-Govt of India	2023-03-27	2023-03-31	UK
Special Session on "Artificial Intelligence in Real World Applications" at the 18th International Conference on Intelligent Computing (ICIC' 22), Online	ICIC Organizing Committee	2022-08-07	2022-08-11	China
7th Meeting of LITD 32 Biometrics Sectional Committee hosted online by Bureau of Indian Standards (BIS)	BIS India	2023-01-04	2023-01-04	India
Stakeholder Discussion of the Electronics and IT Sector for Standards National Action Plan (SNAP)	BIS India	2022-08-26	2022-08-26	India
Conference paper presentation in TENCON 2022	IEEE TENCON	2022-11-01	2022-11-04	Hong Kong
HPC and GPU programming	NIT Durgapur	2023-01-18	2023-01-21	India
ICACCP, 2023	Sikkim Manipal Institute of Technology	2023-02-16	2023-02-18	India
CALDAM Indo-Dutch Pre-Conference School on Algorithms and Combinatorics	Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India	2023-02-06	2023-02-07	India





Name of the Programme	Organized By	From Date	To Date	Organizing Country
Advances in Data-driven Computing and Intelligent Systems Conference	BITS Pilani, Goa Campus	2022-09-24	2022-09-26	India
Second Asian Symposium on Cellular Automata Technology (ASCAT 2023)	IIST Shibpur	2023-03-02	2023-03-04	India
Winter School on Deep Learning (WSDL)	ISI Kolkata	2023-01-06	2023-03-04	India
International Conference on Advances in Data Driven Computing and Intelligent Systems (ADCIS 2022)	BITS Pilani, KK Birla Goa Campus, India	2022-09-23	2022-09-25	India
International Symposium on Artificial Intelligence (ISAI - 2022)	Computer Society of India	2022-02-17	2022-02-19	India

#### 4.4.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Distributed Exploration by a Swarm of Mobile Robots in Discrete Domain	Madhumita Sardar	Deepanwita Das, Srabani Mukhopadhyaya	ONGOING	-
Distributed Area Coverage in Continuous Domain	Banashree Mandal	Deepanwita Das	ONGOING	-
Automatic Speech Recognition in Indian Languages	Malay Kumar Majhi	Sujan Kumar Saha	ONGOING	-
Floorplanning and Placement in VLSI Circuits	Suchandra Banerjee	Suchismita Roy	DEGREE AWARDED	2022-09-24
SAT based Rectilinear Steiner Tree Construction and its applications in Global Routing	Sudeshna Kundu	Suchismita Roy, Shyamapada Mukherjee	DEGREE AWARDED	2022-09-26
Hardware Trojan : Analysis of Attacks and Detection in the context of Hardware Security	Anindan Mondol	Bibhash Sen, Suchismita Roy	SUBMITTED	2022-12-12
Hardware Security Issues at Synthesis Level	C.S. Ashwin	Suchismita Roy	ONGOING	-
Hardware Trojan Detection using Learning Techniques	Sitikantha Chattopadhyay	Suchismita Roy	ONGOING	-
Facial Features Extraction for Various Applications using Neural Network	Kshitiza Vasudeva	CHANDRAN SARAVANAN	ONGOING	-
Implementation and Synthesis of Efficient Computing Reversible Arithmetic and Logical Circuits to design a reversible ALU	Biswajit Das	CHANDRAN SARAVANAN	ONGOING	-
Investigation and Development of Steganography Schemes	Sunil Kumar Patel	CHANDRAN SARAVANAN	ONGOING	-
Analysis and Design of Image Compression Techniques	Raj Kumar Paul	CHANDRAN SARAVANAN	ONGOING	-
Variations of Covering Problem for Colored Geometric Objects	Sukanya Maji	Sanjib Sadhu	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Design & Analysis of Light Weight Physically Unclonable Function (PUF) Targeting Cost-Effective Hardware Security	Mahabub Hasan Mahalat	Dr. Bibhash Sen	DEGREE AWARDED	2022-10-21
Lung and Liver Cancer Status Evaluation from Pre- and Post-treatment CT Images Using ML-based Image Segmentation	Tiyasa Chakraborty	Debashis Nandi	ONGOING	-
Machine Learning Based Automated Glaucoma Detection From Fundus Images	Arindam Chowdhury	Debashis Nandi	ONGOING	-
Machine Learning Based Lung Disease Analysis From Chest CT Images	Sanjib Saha	Debashis Nandi	ONGOING	-
Design of Microwave Based Medical Imaging System	Mautusi Mondal	Debashis Nandi	ONGOING	-
Cloud and Fog Computing: A Mechanism Design Perspective	ANJAN BANDYOPADHYAY	SAJAL MUKHOPADHYAY	DEGREE AWARDED	2022-09-15
A Study on Crowdsourcing and Behavioural Economics	NAREN DEBNATH	SAJAL MUKHOPADHYAY	ONGOING	-
On the Study of Matching and Spatial Crowdsourcing	PRATIK CHOWDHURY	SAJAL MUKHOPADHYAY	ONGOING	-
Ensemble of Learners in AI Assisted CAD Systems for Medical Image Analysis	Rohit Agarwal	Prof. Debashis Nandi and Dr. Narayan Murmu	ONGOING	-
Ensemble of Learners in AI Assisted CAD Systems for Medical Image Analysis	Rohit Agarwal	Debashis Nandi, Narayan Murmu	ONGOING	-
Coverage and Connectivity of Wireless Sensor Network in the Paradigm of Computational Intelligence	Rajib Kumar Mondal	Sanghita Bhattacharjee, Tandra Pal	ONGOING	-
Studies on Interference Aware Routing and Scheduling in Wireless Body Area Networks	Prajna Paramita Pradhan	Sanghita Bhattacharjee	ONGOING	-
Exploring Outdoor Context using Multimodal Sensor Logs	Biswajit Maity	Sanghita Bhattacharjee	ONGOING	-
Studies on various prediction strategies and coverage in smart agriculture	Moumita Goswami (Sen)	Sanghita Bhattacharjee	ONGOING	-
IoT in Agriculture	Manas Kumar Mohanty	Parag K Guha Thakurta	ONGOING	-
Energy Research	Pragna Laboni Sikdar	Parag K Guha Thakurta	ONGOING	-
Urban Development	Kazi Amrin Kabir	Parag K Guha Thakurta	ONGOING	-
Design of Light-weight Identity based Authentication schemes	Ananya Banerjee	Dr. Subhas Chandra Sahana	ONGOING	-
Designing lightweight Authentication scheme for 6lowpan based internet of things	Leki Chom Thungon	Dr. Subhas Chandra Sahana and Prof. Md. Iftexhar Hussain	DEGREE AWARDED	2022-12-21



Topic Name	Scholar	Supervisor	Status	Status Date
Analysis and design of Authentication Techniques for Internet of Things (IoT) based Healthcare System	Donbyntalang Dewkhaid	Dr. Subhas Chandra Sahana and Prof. B. Bhuyan	ONGOING	-
SECURED INFORMATION-CENTRIC NETWORKING (ICN)	Mebanjop Kharjana	Dr. Subhas Chandra Sahana and Prof. G. Saha	ONGOING	-
Privacy Preservation of Patients' Information in IoT based Healthcare System	Tahmina Syeda Takshin	Dr. Subhas Chandra Sahana and Prof. Md. Iftekhar Hussain	ONGOING	-
Optimal Resource Planning for Situational Information Extraction During Post-Disaster Scenarios.	Krishnandu Hazra	Subrata Nandi, Sujoy Saha	DEGREE AWARDED	2022-08-08
A Cost-effective Framework for Indoor and Outdoor Air Quality Monitoring and Prediction	Praveen Kumar Sharma	Dr. Sujoy Saha, Dr. Tanamy De	DEGREE AWARDED	2022-09-27
Designing an Efficient Framework for Hybrid Ad hoc Network Scenarios using WiFi and VLC	Kashi Nath Datta	Sujoy Saha	ONGOING	-
Identification of Classroom Activities using Heterogeneous sensors	Ruma Ghosh	Sujoy Saha	ONGOING	-
On Covering Salesman Problems	Siba Prasada Tripathy	Tandra Pal and Samarjit Kar	ONGOING	-
Biosensor Based Cognitive Load Assessment	Subashis Karmakar	Tandra Pal and Chiranjib Koley	ONGOING	-
On Generalization and Robustness of Neural Networks	Rahul Mondal	Tandra Pal and Prasenjit Dey	ONGOING	-
A Deep Learning Approach to Recognize the Compositional aspect of Different Lines and Shapes in a Photograph	Soma Debnath	Dr. Suvamoy Changder	DEGREE AWARDED	2022-07-29
Secure Data Hiding with Cover Synthesis Techniques	Anandaprova Majumder	Dr. Suvamoy Changder	ONGOING	-
Study and Design of Continuous Authentication Algorithms for Smartphone using Behavioral Biometrics	Praveen Kumar Rayani	Dr. Suvamoy Changder	ONGOING	-
An Approach to Develop Quantum Image Representation and Its Applications	Arnab Chatterjee	Dr. Suvamoy Changder	ONGOING	-
Pattern mining for Single Cell gene expression data	Anamika Das	Monalisa Mandal	ONGOING	-
Coalition Formation in Multi-agent System	Samriddhi Sarkar	Animesh Dutta, Mariana Curado Malta	DEGREE AWARDED	2023-08-04
Location Prediction in Social Media using Hybrid Modelling	Amit Paul	Animesh Dutta	ONGOING	-
Coalition Formation of Multi-agent Systems in Heterogeneous Environment & Ongoing	Tuhin Kr. Biswas	Animesh Dutta	ONGOING	-
Enhancement of Partitional Clustering Techniques for Pathology Image Segmentation	Arunita Das	Animesh Dutta, Amrita Namtirtha	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Social Network Analysis	Suman Nandi	Animesh Dutta	ONGOING	-
Social Network Analysis	Srestha Sadhu	Animesh Dutta	ONGOING	-
Social Network Analysis	Nilanjana Saha	Animesh Dutta	ONGOING	-
Estimating the Attention of Faces through Visual Saliency	Ravi Kant Kumar	Goutam Sanyal and Dakshina Ranjan Kisku	DEGREE AWARDED	2019-09-07
Study and Analysis on Some Aspects of Cohort Selection for Face Recognition	Jogendra Garain	Goutam Sanyal and Dakshina Ranjan Kisku	DEGREE AWARDED	2019-11-18
Experimental Investigation and Computational Modeling of the Electrohydrodynamic Inkjet Printing System	Amit Kumar Ball	Shibendu Sekhar Roy, Naresh Chandra Murmu and Dakshina Ranjan Kisku	DEGREE AWARDED	2020-11-11
Some Certain Studies on Facial Complexities for Face Identification with Local Descriptors	Rinku Datta Rakshit	Dakshina Ranjan Kisku	DEGREE AWARDED	2021-07-12
Some Studies on Pattern Matching Techniques: Novel Interpretations with Local Descriptors and Wavelets	Deep Suman Dev	Dakshina Ranjan Kisku	DEGREE AWARDED	2021-09-29
Single-scripted and Multi-scripted Offline Signature Verification Systems	Teressa Longjam	Dakshina Ranjan Kisku	SUBMITTED	2023-07-31
Unconstrained Face Recognition	Dipak Kumar	Dakshina Ranjan Kisku	ONGOING	-
Complex and Degraded Face Recognition	Srinibas Rana	Dakshina Ranjan Kisku	ONGOING	-
Non-invasive Anaemia Detection using Palm Video	Abhishek Kesarwani	Mamata Dalui and Dakshina Ranjan Kisku	ONGOING	-
Image Description Generation and Conversion to Audio for Visually Impaired Persons	Biswajit Patra	Dakshina Ranjan Kisku	ONGOING	-
Mitigating Demography Biasness in Biometrics	Shweta Patel	Dakshina Ranjan Kisku	ONGOING	-
Sustainable Computing with Mobile Crowd Computing	Pijush Kanti Dutta Pramanik	Prasenjit Choudhury	DEGREE AWARDED	2023-01-30
Personalized Recommendation in Ubiquitous Learning	Saurabh Pal	Prasenjit Choudhury	SUBMITTED	2022-12-30
Design of an Architectural Framework for Dynamic Web Services	Faisal Ahmad	Anirban Sarkar	DEGREE AWARDED	2017-09-12
Functional Specification of Microservice based Framework for IoT Applications	Chauhan Kumar Rath	Anirban Sarkar, Amit Kr. Mandal	ONGOING	-
Software Integrated Framework design for Internet of Things based Applications	Sugyan Kumar Mishra	Anirban Sarkar	ONGOING	-
Functional Specification for User-Centric Service Oriented Enterprise Architecture Framework	Priyanka Chakraborty	Anirban Sarkar	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
A Multi-modal Approach for Detection of Anomaly in Human Action Through Imaging	Soumya Ranjan Mishra	Anirban Sarkar, Goutam Sanyal	DEGREE AWARDED	2021-09-22
Analysis and Specification of an Inter-Cloud Architecture: An Abstraction Model	Gitosree Khan	Anirban Sarkar, Sabnam Sengupta	DEGREE AWARDED	2020-05-06
Ontology Driven Domain Specific Software Design	Shreya Banerjee	Anirban Sarkar	DEGREE AWARDED	2019-08-21
A Study on Design Specification for Component Based Software System	Prasenjit Banerjee	Anirban Sarkar	DEGREE AWARDED	2019-05-22
Functional Specification of Software as a Service for Data Centric Cloud Applications	Amit Kr. Mandal	Anirban Sarkar	DEGREE AWARDED	2018-08-22
Study of Urban Outdoor Air Quality using Multi-modal data sources	Prithviraj Pramanik	Mousumi Saha	ONGOING	-
Air Quality Monitoring using Mobile Crowd Sensing	Pritisha Sarkar	Mousumi Saha	ONGOING	-
Characterization of Cellular Automata for Pattern Classification	Khitish Gadnayak	Mousumi Saha	ONGOING	-
Non-invasive Multiple Human Activity Recognition using Heterogeneous Sensors	Arindam Ghosh	Mousumi Saha Sujoy Saha Subrata Nandi	DEGREE AWARDED	2021-07-23
Theory and Application of Cellular Automata for CMP Cache Design	Sutapa sarkar	Mousumi Saha Biplab Kumar Sikdar	DEGREE AWARDED	2023-03-17
Universal Design for the Web	Hasim Ali	Dr. Abhijit Sharma	ONGOING	-
Linux Memory Forensics: Methods and Techniques	Trushna Parida	Suvrojit Das	DEGREE AWARDED	2022-09-29
NLP based Knowledge Management systems in Bengali language	Kailash Pati Mondal	Baisakhi Chakraborty	ONGOING	-
Software approach to investigate some phenomenon of dyslexia in children	Jaya Banerjee	Baisakhi Chakraborty and Prof Anupam Basu	ONGOING	-
Design and Analysis of Context-aware Middleware for Service Oriented Computing over Internet of Things	Nandan Banerji	S. Choudhury	ONGOING	-
Policy Formulation for Residential Integration based on Agent based Simulation	Sushma	S. Choudhury	ONGOING	-
Cooperative Routing for Heterogeneous WAN	Pratik Sinha	S. Choudhury	ONGOING	-
Capturing the Impact of Embedded Social Networks in Real Social Systems - A Model Agnostic Approach	Pradipta Banerjee	S. Choudhury	ONGOING	-
A Study on Recommendation for Academic and scientific Literature	Avick Kumar Dey	Prasenjit Choudhury	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Deep Learning-based Price Forecasting for Horticulture Produce.	Tumpa Banerjee	Prasenjit Choudhury	ONGOING	-
IoT Enabled Pest and Plant Disease Detection Using Machine Learning and Deep Learning Approaches.	Monalisha Mishra	Prasenjit Choudhury	ONGOING	-
Some Aspects of Community Structures in Real Networks and Its Applications	Dhananjay Kumar Singh	Prasenjit Choudhury	ONGOING	-
Efficient Device-to-Device (D2D) Communication for Fifth Generation (5G) Cellular Network	Poulomi Mukherjee	Tanmay De	ONGOING	-
Studied on the Mobile Edge Computing	Anindita Ghosh	Tanmay De	ONGOING	-
Studies in optical and wireless networks	Deepa Naik	Tanmay De	SUBMITTED	2022-11-18
Study of Evolutionary Algorithms for Neural Architecture Search	Arjun Ghosh	Nanda Dulal Jana	ONGOING	-
Audio- Visual Speech synthesis using Deep Learning Models: Some Advanced Approaches	Subhayu Ghosh	Nanda Dulal Jana	ONGOING	-
Speech Synthesis using Deep Generative Models: Some Advanced Approaches	Sandipan Dhar	Nanda Dulal Jana and Swagatam Das	ONGOING	-
The Impact of Rational Party in Multiparty Computation and the Counteracts	Dhaneshwar Mardi	Jaydeep Howlader	DEGREE AWARDED	2022-09-28
Theory and Applications of Cellular Automata for Detection and Mitigation of Hardware Trojan Attacks Targeting Cache Performance in a Many-core System	Suvadip Hazra	Dr. Mamata Dalui	DEGREE AWARDED	2022-09-12
Analysing the Bibliometric Dataset to understand the Impact of Co-authorship Relations in Scientific Publications	Sovan Bhattacharya	Subrata Nandi, Dinesh Pradhan	SUBMITTED	2023-01-31
Intelligent Pervasive Computing of Biomechanical Attributes With Heterogeneous Sensing	Subhrangshu Adhikary	Subrata Nandi, Arindam Ghosh	ONGOING	-
A Cost-effective Framework for Indoor and Outdoor Air Quality Monitoring and Prediction	Praveen Kumar Sharma	Sujoy Saha and Tanmay De	DEGREE AWARDED	2022-09-27
Traffic Congestion Control and Data Communication in Vehicular Networks	Rangaballav Pradhan	Tanmay De	SUBMITTED	2022-11-30

#### 4.4.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
System for Automatic Evaluation of Handwritten Answer Books in Bengali	Sujan Kumar Saha	SERB	2001190.0	2022





Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Automatic Speech Recognition System in Santali and Nagpuri Languages: Resource Creation and System Development	Sujan Kumar Saha	SERB	2961112.0	2022
Geometric facility optimization problems in Imprecise domain	Ankush Acharyya	SERB-DST	1345300.0	2022
Cognitive load assessment methods for the blind, in adaptation to new assistive technologies	Prof. Anupam Basu, Dr. Dakshina Ranjan Kisku, Prof. Tandra Pal, Dr. Tushar Kanti Bera	TCS Mumbai	2992000.0	2021
Neurocomputing and Cognitive Intelligence- Developing a model for Analysing the Learning Disabilities of Dyslexic Child	Dr. Suvrojit Das, Prof. Suchismita Roy, Prof. Anupam Basu	MeitY, Govt. of India	4948000.0	2020
Neuro Computing and Computational Intelligence: Developing a model for analyzing the reading disability of the Dyslexic child	Dr. Bibhash Sen (PI), Prof Anupam Basu (Co-PI) Dr. S Das (Co-PI), Dr. S Bhattacharjee (Co-PI) Dr. T Pal (Co PI) Dr. S Roy (Co-PI) Dr. P K Guhathakurta (Co-PI) Dr. M Dalui (Co PI)	Meity	4950000.0	2020
QoE Optimized Multimedia Content Delivery through Caching in D2D underlay Network	Suvadip Batabyal	SERB-CRG	2159696.0	2021
Assistive Technology on multimodal disabilities	Dr. Nilanjan Chattaraj, Dr. Sujoy Saha, Dr. Mousumi Saha	TCS	3000000.0	2021
Developing ICT-based kiosks for post disaster situational information management using opportunistic networking framework	Prof. Subrata Nandi, Dr.Sujoy Saha, Dr. Indrajit Bhattacharya, Dr. Atanu Maity	Department of Science & Technology and Biotechnology, Government of West Bengal	1496000.0	2018
IntAirSense: Intelligent Air Pollution Monitoring for Smart Cities using Low-Cost Sensors	Dr. Sujoy Saha, Dr. Mousumi Saha, Dr. Jaydeep Howlader	Department of Science & Technology and Biotechnology, Government of West Bengal	127000.0	2019
Performance Evaluation of Open Source LID, Speaker Diarization and Speech Enhancement Algorithm	Dr. Nilanjan Chattaraj, Dr. Sujoy Saha, Dr. Suman Samui	Dr Suman Samui	3000000.0	2023
Visvesvaraya PhD Scheme for Electronics and IT: Phase-II	Animesh Dutta	MeitY, Govt of India	10892000	2023
Erasmus + ICM (International Credit Mobility)	Animesh Dutta	European Union	1690687.0	2021
Gender Advancement for Transforming Institutions (GATI) Pilot Project	Animesh Dutta	DST, Govt of India	799000.0	2021



Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Cognitive Load Assessment of Visually Impaired Person during Adaptation of New IT Product as well as Assistive Technology	Bibhas Sen, Dakshina Ranjan Kisku, Tushar K. Bera and Tandra Pal	Tata Consultancy Service	2992000.0	2021
STEM accessibility (from web) for the visually impaired	Dr. Abhijit Sharma and Dr. Suvrojit Das	TCS Mumbai	2786300.0	2021
STEM Accessibility (From Web) For the Visually Impaired	Abhijit Sharma and Suvrojit Das	TCS Mumbai	27.863	2021
An Approach towards Conservation of Birds of West Bengal through Creating an Intelligent Bird Identification System	Dr. Suvamoy Changder (PI) and Dr. M. Chakraborty (Co-PI)	Science and Technology and Biotechnology Department, Govt. of West Bengal	690000.0	2019
Connected Smart Health Services for Rural India	Nabendu Chaki (CU, PI), Anirban Sarkar (Co-PI), Sankhayan Choudhury	Interdisciplinary Cyber Physical Systems (ICPS) Programme, Department of Science & Technology (DST), Govt. of India.	1527000.0	2019

#### 4.4.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Development of Basic Natural Language Processing Tools and Resources for Maithili	Sujan Kumar Saha	SERB	2020
Automatic Question Generation and Evaluation Based System for Instant Assessment of Learning in School Level	Sujan Kumar Saha	SERB	2019
Design of lightweight and cost-effective PUF-Enabled secure architecture for authentication	Dr. Bibhash Sen, Prof. Suchismita Roy	Department of Science & Technology, Government of West Bengal	2022
Secure Architecture for FPGA based IoT Applications with enhanced physical unclonable function	Dr. Bibhash Sen, Prof. Suchismita Roy	DST-SERB (Core Research/ EMR scheme), Govt. of India	2023
ADKit: Smartphone Based Artificial Intelligence Enabled Portable Low-cost Anaemia Detection Kit based on Observation of Nail and Palm Pallor	Dr. Mamata Dalui (PI), Dr. Bibhash Sen (Co-PI), Dr. Suchismita Roy (Co-PI), Dr. akshina Ranjan Kisku (Co-PI), Prof. Dr. Anupam Basu (Co-PI)	Ministry of Electronics and Information Technology (MeitY)	2022
Artificial Intelligence (AI) in Education Focus: Children with Learning Disability	Prof. T. Pal (PI), Prof. Anupam Basu (Co-PI), Prof. Chiranjib Koley (Co-PI), Dr. Suman Halder (Co-PI), Dr. Tushar Kanti Bera (Co-PI), Dr. Mamata Dalui (Co-PI), Dr. Parag Kumar Guha Thakurta (Co-PI)	Ministry of Electronics and Information Technology (MeitY)	2023



Title of the Project	Investigator	Sponsor Authority	Complete Year
Artificial Intelligence (AI) in Education Focus: Children with Learning Disability	Prof. T Pal (Chief Investigator), Prof. A Basu, Prof. C Koley, Dr. S Halder, Dr. T K Bera, Dr. M Dalui, Dr. P K Guha Thakurta	Ministry of Electronics & Information Technology (MeitY), GoI	2023
ADKit: Smartphone-Based Artificial Intelligence Enabled Portable Low-cost Anaemia Detection Kit based on Observation of Nail and Palm Pallor	Mamata Dalui, Anupam Basu, Suchismita Roy, Bibhas Sen, Dakshina Ranjan Kisku	MeitY, Govt. of India	2023
Design and Development of Electro-Hydrodynamic Inkjet Printing System	Shibendu Sekhar Roy, Naresh Chandra urmu, Dakshina Ranjan Kisku	DST	2019
Remote Health: A Framework for Healthcare Services using Mobile and Sensor-Cloud Technologies	Anirban Sarkar (PI)	Information Technology Research Academy (ITRA) Ministry of Communications and Information Technology, Govt. of India.	2018

#### 4.4.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Sujan Kumar Saha	IEEE Transactions on Learning Technologies	IEEE	2023-07-18
Sujan Kumar Saha	PLOS ONE	PLOS	2023-07-16
Sujan Kumar Saha	Expert Systems With Applications	Elsevier	2022-11-18
Ankush Acharrya	Theoretical Computer Science	ELSEVIER	2023-07-21
Suchismita Roy	Microelectronics Journal	Elseviers	2023-03-24
Debashis Nandi	Sensors	MDPI	2023-02-22
Debashis Nandi	Applied Sciences	MDPI	2022-08-19
Sanghita Bhattacharjee	Adhoc and Sensor Wireless Networks	Old city publishing	2022-07-22
Parag Kumar Guha Thakurta	EAAI	Elsevier	2022-12-20
Narayan Murmu	Inter Journal of Computing and Digital Systems	University of Bahrain	2022-06-28
Mamata Dalui	TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES	Scientific and Technological Research Council of Turkey (TUBITAK)	2022-09-10
Ankush Acharrya	Journal of Combinatorial Optimization	Springer	2022-10-01
Ankush Acharrya	International Journal of Foundations of Computer Science	World Scientific	2023-03-03
Goutam Sarker	Journal of The Institution of Engineers	IE(I) Springer	2022-09-01
Goutam Sarker	Journal of The Institution of Engineers	IE(I) Springer	2022-06-27



#### 4.4.26 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Suchismita Roy	AICTE Committee for CSE Model Curriculum	Online	2022-07-01	2022-12-31
Dakshina Ranjan Kisku	LITD 32 Biometrics Sectional Committee	Online	2023-01-04	2023-01-04
Dakshina Ranjan Kisku	Electronics and IT Sector for Standards National Action Plan (SNAP)	Online	2022-08-26	2022-08-26

#### 4.4.27 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Mamata Dalui	Department of Computer Science & Engineering (Artificial Intelligence & Machine Learning)	Haldia Institute of Technology, Haldia	2021-10-27	2023-08-06
Tandra Pal	Evaluation of M.Tech. Theses including viva-voce of eight students of final year dual degree, Centre for Excellence in Artificial Intelligence	IIT Kharagpur	2022-04-28	2022-04-28
Tandra Pal	External Member of UG BoS of Computer Science & UG BoS of Computer Application	Kazi Nazrul University, Asansol, West Bengal	2020-04-07	2024-04-06
Tandra Pal	External Member of PG BoS of the Department of Computer Science	University of Gour Banga, Malda, West Bengal	2021-06-06	2025-06-05
Tandra Pal	External Member of BoS of the Department of IT	MCKV Institute of Engineering, Department of IT, Liluah, Howrah, West Bengal	2020-05-29	2024-05-28
Tandra Pal	External Member of UG BoS of Computer Science & UG BoS of Computer Application	Sidho-Kanho-Birsha University, Purulia, West Bengal	2019-07-01	2023-06-30
Subhrabrata Choudhury	PhD Scholar Selection	CMERI, Durgapur	2022-11-03	2022-11-03
Animesh Dutta	Examination of PhD thesis "Schema-aware indexes for JSON document collections"	NITK Surathkal	2023-01-07	2023-01-31
Animesh Dutta	Examination of PhD thesis "Detection and Classification of Fabric Defects for Textile Industry"	NMIIMS Mumbai	2022-05-02	2022-05-31
Sanjib Sadhu	B. E. (Computer Science & Engineering)	Vivekananda College of Engineering for Women (Autonomous), Tiruchengode-637205	2022-07-01	2023-03-30
Subrata Nandi	Project Review and Steering Group (PRSG)	Ministry of Electronics & Information Technology (MeitY)	2022-05-09	2022-05-09
Goutam Sarker	PhD Thesis	CSVTU - Bhilai	2022-07-20	2022-08-17
Tanmay De	Board of Research Studies	Centre of IoT and AI Integration with Education-Industry-Agriculture, Kazi Nazrul University	2022-11-09	2023-09-01



Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Tanmay De	PhD Thesis Evaluation including Defense Viva-Voce	Sathyabama Institute of science And technology	2022-04-19	2022-08-26

#### 4.4.28 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Sajal Mukhopadhyay	Computer Science	DR. B. C. ROY POLYTECHNIC	2023-05-17	2023-05-17
Tanmay De	Computer Science	Kazi Nazrul University	2022-11-24	2022-11-24

#### 4.4.29 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Saravanan Chandran	Special Talk on Information Security	IEEE SMC Society, CHENNAI	ONLINE	2023-03-28	2023-07-28
Saravanan Chandran	Expert Lecture, Introduction to Computer Vision and its Applications	Two-week hybrid Faculty Development Program (FDP) on "Computer Vision and Image Processing using Deep Learning: Research Issues and Applications	ONLINE	2022-12-19	2022-12-30
Saravanan Chandran	Expert talk on Cloud based Reversible Dynamic Secure Steganography Model for Embedding Pathological Report in Medical Images	AICTE FDP	ONLINE	2022-04-09	2022-04-09
Mamata Dalui	AI in health care - past, present and future	National webinar on Artificial Intelligence in Health Care: The aspiration, Hype and Jeopardy	IQ City Institute of Nursing Science, Durgapur	2022-07-30	2022-07-30
Sujoy Saha	Societal Computing with IoT	Online Faculty Development Program in AMITY University	Kolkata	2022-08-04	2022-08-04
Dakshina Ranjan Kisku	Learning and Classification with CNN	One-Day Hands-on Workshop in the area of "Applications of Machine Learning"	The Neotia University	2023-03-25	2023-03-25
Dakshina Ranjan Kisku	Introduction to Biometrics: Face and Palmprint	FDP on "AI and Machine Learning for Biometric Recognition	NIT Warangal	2022-08-16	2022-08-25
Dakshina Ranjan Kisku	Non-invasive Haemoglobin Prediction using Nail Colour Features	Asia Symposium on Image Processing (ASIP'22)	Guangzhou, China	2022-07-08	2022-07-10



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Dakshina Ranjan Kisku	Restricted Boltzmann Machine for Recommender System	FDP on Machine Learning and Deep Learning Approach towards Computer Vision	Dr. B. C. Roy Engineering College, Durgapur	2022-03-28	2022-04-02
Tandra Pal	Clustering: Soft vs. Hard	International Conference on Nonlinear Dynamics and its Applications in Physical and Biological Sciences (NDAPBS-2023)	Durgapur Govt. College, Durgapur	2023-03-16	2023-08-18
Tandra Pal	Generalization and Robustness of Neural Networks	High-End Workshop (Karyashala) on Stochastic Modelling Techniques"	IIT (ISM), Dhanbad	2023-02-20	2023-08-24
Sujan Kumar Saha	NLP and Data Analysis	5-day Training Program on Introduction to data analytics	BIT Lalpur, Ranchi	2022-12-16	2022-12-16
Subhrabrata Choudhury	Computational Social Science - Scopes and Trends	International Conference, ICACCP 2023	SMIT, Sikkim	2023-02-17	2023-02-17
Ankush Acharya	Path towards Theoretical Computer Science from IT	Departmental Induction Programme for UG 1st year students, 2022 (ITP-22)	Jadavpur University	2022-12-05	2022-12-05
Animesh Dutta	Application of AI & ML Techniques in Robotics	SERB KARYASHALA' in "Application of AI & ML Techniques in Robotics"	CSIR-CMERI	2023-01-10	2023-01-10
Animesh Dutta	Global Science for Global Well-being	On the occasion of National Science Day 2023	Sido Kanhu Murmu University, Dumka	2023-02-28	2023-01-28
Animesh Dutta	Distributed AI and Agent Technology	Karyashala (High-End Workshops) entitled "Highend workshop on Internet-of-thing (IoT) and Artificial Intelligence (AI) and its Industrial Applications	CSIR-CMERI	2022-11-29	2023-01-29
Animesh Dutta	Resource person to conduct 2-days training programme on skill development	Skill Development Programme	NGO Agragati, Ramgarh Jharkhand	2023-03-18	2023-03-19
Animesh Dutta	Resource person to conduct 2-days training programme on skill development	Skill Development Programme	Badlao Foundation, Mihijam Jharkhand	2022-09-26	2022-09-27





#### 4.4.30 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Sajal Mukhopadhyay	The 16th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2022)	Kitakyushu Convention Center	IoT and Social Networking (Track Co-chair)	2022-06-29	2022-07-01
Sujoy Saha	24th International Conference On Distributed Computing And Networking	IIT khragpur	Workshop Chair	2023-01-04	2023-01-07
Sujoy Saha	3rd International Conference on Frontiers in Computing and Systems (COMSYS2022)	IIT Ropar	Track Chair	2022-12-19	2022-12-21
Dakshina Ranjan Kisku	Special Session on "Artificial Intelligence in Real World applications" at the 18th International Conference on Intelligent Computing (ICIC' 22)	Xi'an, China	Online	2022-08-07	2022-08-11
Tanmay De	International conference on Advances in Data Science and Computing Technologies (ADSC-2022)	Kolkata	Soft Computing Techniques	2022-06-23	2022-06-23

## 4.5 Department of Chemical Engineering

### 4.5.1 Department at a Glance:

In the academic year 2022-23, the Department of Chemical Engineering at NIT Durgapur excelled in research and teaching, emphasizing innovation, and nurturing skilled chemical engineers. Offering a comprehensive range of programs, including BTech, two MTech, and Dual Degree options, a total of 239 students benefitted from our cutting-edge curriculum and the expertise of our eighteen dedicated faculty members. These accomplished faculty members, recognized for four awards or recognitions, have significantly elevated the department's education quality. Supported by a diligent team of five staff members, the smooth functioning of departmental activities facilitated seamless academic and research operations. Research remained at the forefront of our endeavors, with twelve significant projects addressing critical challenges in chemical engineering. The impact of our research was amplified by securing substantial research grants and forging collaborations with prestigious institutions and industries. This dedication resulted in 67 publications, and our contributions were presented at twenty-one various national and international conferences, garnering recognition for the department's achievements. In addition to academic pursuits, we actively fostered ties with the industry, establishing eight meaningful partnerships with prominent companies. These collaborations provided our students valuable opportunities for joint projects, internships, and industrial training, enriching their learning experiences with practical exposure. Our students' outstanding performance in academics and extracurricular activities further showcased the department's excellence. Acknowledged through one awards and accolades, they demonstrated an unwavering dedication to chemical engineering. Moreover, participation in national and international competitions displayed their passion and talent, enhancing the department's reputation. In pursuing academic excellence, we invested in modernizing our infrastructure by introducing state-of-the-art laboratories and advanced equipment four numbers. These enhancements significantly bolstered our research capabilities and enriched the practical education we provide to our students. Furthermore, our Alumni continued to be



invaluable assets, and we organized one Alumni engagement events during the year, featuring lectures and mentorship programs to inspire and guide current students on their academic and professional paths. Beyond our institute's boundaries, we actively engaged in six community outreach programs and social initiatives, promoting awareness of chemical engineering's societal applications, and positively impacting the broader community. We extend heartfelt gratitude to our faculty, staff, students, Alumni, and industry partners for their unwavering support, solidifying our position as a leading institution in chemical engineering. As we look to the future, we eagerly anticipate building upon this success and continuing to excel in our pursuit of excellence.

#### 4.5.2 Mission & Vision

##### Mission:

- 1) To produce highly qualified, well- rounded and motivated graduates possessing fundamental understanding and knowledge in Chemical Engineering who can provide service and leadership to the nation and the world.
- 2) To pursue creative research and new technologies in Chemical Engineering in order to serve the needs of industry, government & society.
- 3) To achieve visibility by active participation in conferences and technical activities.

##### Vision:

- 1) To impart quality technical education in Chemical Engineering and focus on research and innovation in thrust areas of Chemical and related areas of engineering.

#### 4.5.3 Faculty

Name	Designation	Email-id
Parimal Pal	HAG-Professor	Ppal.che@nitdgp.ac.in
Parthapratim Gupta	Professor	Kcghanta.che@nitdgp.ac.in
Kartik Chandra Ghanta	Professor	Tmandal.che@nitdgp.ac.in
Tamal Mandal	Professor	Aksadhukhan.che@nitdgp.ac.in
AnupkumarSadhukhan	Professor	Ghalder.che@nitdgp.ac.in
GopinathHalder	Professor	Sdutta.che@nitdgp.ac.in
Susmita Dutta	Professor	Jsikder.che@nitdgp.ac.in
Jaya Sikder	Associate Professor	Sklahiri.che@nitdgp.ac.in
Sandip Kumar Lahiri	Associate Professor	Mkmandal.che@nitdgp.ac.in
MrinalKanti Mandal	Associate Professor	Sparuya.che@nitdgp.ac.in
Swapan Paruya	Associate Professor	Bdas.che@nitdgp.ac.in
Bimal Das	Assistant Professor	Ahens.che@nitdgp.ac.in
Abhiram Hens	Assistant Professor	Rgchaudhuri.che@nitdgp.ac.in
Rajib Ghosh Chaudhuri	Assistant Professor	Ddas.che@nitdgp.ac.in
Bikash Kumar Mondal	Assistant Professor	Bkmondal.che@nitdgp.ac.in
Debayan Das	Assistant Professor	Mbal.che@nitdgp.ac.in
Manisha Bal	Assistant Professor	Ppal.che@nitdgp.ac.in

#### 4.5.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount (₹)
1	LCD PROJECTOR [Item installed-03 PC]	GEMC-511687729267028 & 17.08.2022	1,30,217
2	COMPUTER-UG Lab [Item installed- 05 PC]	GEMC-511687773863635 & 22.11.2022	339767
3	COMPUTER-UG Lab [Item installed- 03 PC]	GEMC-5116877992771 & 06.01.2023	266994
4	Printer	GEMC-511687717352174 & 23.09.2022	14,000
5	Datalogger PG-Lab	NITD/CH/OH35 Equipment and Tools - PG LAB/2022-23/01 & 04.11.2022	24,190
6	OVEN	GEMC-511687773419465 & 24.11.2022	47400
7	MUFFLE FURNACE	GEMC-511687725684827 & 11.01.2023	34950



Sl. No.	Name of the equipment	Date of Purchase	Amount (₹)
8	Resistance Tem. Detector (RTD)	GEMC-511687764463135 & 07.12.2022	9,900
9	Digital Temperature Indicator	GEMC-511687759860242 & 07.12.2022	11600
10	S. S. TUBE BENDER	NITD/CH/OH35 Equipment and Tools - PG LAB/2022-23/02 & 24.01.2023	16438
11	Double beam UV-VIS Spectrophotometer	GEMC-511687780027596 & 20.01.2023	498000
12	Centrifuge	GEMC-511687737256087 & 06.02.2023	95934
13	REMI Microprocessor Laboratory Stirrer	GEMC-5116877722018421 & 10.01.2023	12389
14	Multiparameter Meters with GPS and Autonomously Logging Probe	GEMC-511687737256087 & 06.02.2023	314099
15	Link Interactive Flat Panel for class room	GEMC-511687759048166 & 10.02.2023	297738
16	UPS-AKS [Item installed]	GEMC-511687794890780 & 13.11.2022	2125
17	Desktop Computer UG Computing Laboratory & New Faculty Online UPS of Rating 1.0 KVA with Battery of Backup time 15 Minutes	GEMC-51168772556406 & 17.02.2023	4,40,875
18	POURPOINT Instrument	GEMC-51168779440279 & 14.12.2022	64328
19	Multifunction Laser Printer	GEMC-511687728231560 & 14.02.2023	34320
20	Online UPS of Rating 1.0 KVA With Battery Of Backup Time 15 Minutes	GEMC-511687713535013 & 18.02.2023	24,843
21	Centrifuge- Double Rotor, max speed 20,000 RPM or above	GEMC-511687740751062 & 13.02.2023	195000
22	Unsteady State Heat Transfer Set up	GEMC-511687718504792 & 04.01.2023	48,000
23	Composite Wall Setup For Heat Transfer Lab	GEMC-511687732868419 & 04.01.2023	41,760
24	Industrial Oven	GEMC-511687751614951 & 10.02.2023	48,700
25	Autoclave Reactor	GEMC-511687764246335 & 09.02.2023	19,500
26	Water Bath	GEMC-511687791568530 & 13.02.2023	22000
27	Double Effect Evaporator	GEMC-511687764119146 & 24.02.2023	110000
28	Setup for Forced Convection	GEMC-511687756777726 & 07.02.2023	390000
29	Double Distillation Unit	GEMC-511687791240497 & 09.02.2023	61300
30	Setup for natural Convection	GEMC-511687706850214 & 21.01.2023	41760
31	pH Meter	GEMC-511687706172783 & 23.02.2023	11170
32	COD Digester and Measurement	GEMC-511687732221871 & 01.03.2023	2,50,700
33	Water Proof, Dust Proof Interactive Panel Enclosure	NITD/CH/OH35 /2022-23/03 & 02.03.2023	17,450
34	IC Engine Combustion Analysis Kit	GEMC-511687789406695 & 09.03.2023	129790
35	Plate and Frame Filter	GEMC-511687746341904 & 28-Feb-2023	88,500
36	Non-Conventional Energy Lab	GEMC-511687754841650 & 06-Mar-2023	1,16,702
37	Vacuum Dryer	GEMC-511687709626504 & 18-Mar-2023	90,990
38	Batch Crystallizer	GEMC-511687717788123 & 18-Mar-2023	52,000
39	Packed Bed Loading-Flooding	GEMC-511687755747008 & 18-Mar-2023	58,000
40	Experimental Water-Cooling Tower	GEMC-511687763514397 & 18-Mar-2023	58,000
41	York Scheibel's Extraction Column	GEMC-511687767340483 & 18-Mar-2023	67000



4.5.5 Labs

Sl. No	Name of Laboratory	Major Equipment
		<u>Heat Transfer</u> 1. Double Pipe Heat Exchanger 2. Forced convection apparatus 3. Drop wise and Film Wise Condensation 4. Emissivity Measurement Apparatus 5. Thermal Conductivity of Metal Rod 6. Shell and Tube Heat Exchanger 7. Natural Convection Apparatus 8. Composite Wall Apparatus 9. Unsteady State Heat Transfer Unit 10. Double Effect Evaporator <u>Mass Transfer</u> 1. Tray Dryer 2. Open Pan Evaporator 3. Distillation Column 4. Rotary Dryer 5. Diffusion Experiment 6. Cooling Tower Experiment 7. Concentric Pipe Heat Exchanger 8. Bubble cap Distillation column 9. Simple batch distillation column 10. Crystallizer 11. Vacuum Dryer 12. Vacuum Drum Dryer 13. Solid Liquid Extraction Column 14. Liquid-Liquid Extraction in Packed column 15. Vacuum Crystallizer unit
1.	Heat Transfer Laboratory and Mass Transfer Laboratory	
		<u>Fluid Mechanics</u> 1. Packed Bed 2. Hydraulic Bench Apparatus 3. Reynolds Experiment 4. Helical Coil Apparatus 5. Bernoulli Apparatus 6. Pipe Friction Apparatus 7. Pitot Tube Apparatus 8. Parallel Friction Pipe Experiment 9. Pipe Fittings Apparatus 10. Pipes in Parallel 11. Reciprocating Pump 12. Pipe Friction apparatus <u>Mechanical Operations</u> 1. Elutriator Experiment 2. Cyclone Separator Experiment 3. Vibrating Screening Experiment 4. Ball Mill Apparatus 5. Jaw Crusher Apparatus 6. Agitated Vessel Experiment 7. Kneader Mixer 8. Plate & Frame filter Press 9. Roll Crusher 10. Cone Classifier 11. Screening 12. Thickener
2.	Fluid Mechanics Laboratory and Mechanical Operations Laboratory	
		Hardware: 30 number of Desktop Computers with windows OS Software: Matlab, Aspen Plus, Ansys, COMSOL Multiphysics etc.
3.	UG Computing Laboratory	



Sl. No	Name of Laboratory	Major Equipment
4.	Environmental and Membrane Technology Laboratory	<ol style="list-style-type: none"> <li>1. Clean Air Station (Biosafety)</li> <li>2. Electronic balance</li> <li>3. Autoclave</li> <li>4. Air compressor</li> <li>5. Vacuum Pump</li> <li>6. Solar Heater</li> <li>7. Rotameters-3Nos</li> <li>8. Streaming Pot.Device</li> <li>9. Memb-integrated Hybrid Bioreactor</li> <li>10. Thermostatic bath with circulator 2 Nos.</li> <li>11. High Press SS pump</li> <li>12. Commercial Membranes</li> <li>13. Electrodes with stds (Na, Cl)</li> </ol>
5.	Central Research Laboratory -I	<ol style="list-style-type: none"> <li>1.Performance Liquid Chromatography System with computer Accessories (HPLC) Model: Agilent 1200 series , Make: Agilent Technologies</li> <li>2.Gas Chromatograph (GC) Model: GC7700, Make: Techcomp</li> <li>3.Thermo Gravimetric Analyzer Model: DTG-60, Make: Shimazu,</li> <li>4.High speed Refrigerated Ultra Centrifuge with accessories</li> <li>5. Rheometer with Pentium IV computer, colour inkjet printer, oil free compressor (0.5 hp) and driver software.</li> <li>6.Variable band with double beam UV-VIS, Spectrophotometer</li> <li>7.TOC Analyzer Make: O.I. Analytical (USA), Model: TOC 1030W</li> <li>8.HPLC grade de-ionized water purifier Make: Millipore, Model: Direct-Q® 3</li> <li>9.Laboratory Freezer with wheel Brand: Elanpro, Model: ECG 374</li> </ol>
6.	Fuel Laboratory	<ol style="list-style-type: none"> <li>1.ASTM Distillation</li> <li>2.Pensky mortens apparatus</li> <li>3.Aniline point apparatus</li> <li>4. Reid vapour pressure app.</li> <li>5. Able App.</li> <li>6.Solar collector</li> <li>7.Redwood viscometer</li> <li>8.Bomb calorimeter</li> <li>9.Conradson carbon residue</li> <li>10. Shattering index app.</li> <li>11.Dean Stark Apparatus</li> <li>12.Furnace</li> <li>13.Air-oven</li> <li>14.Desicator</li> <li>15.O<sub>2</sub>.cylinder</li> <li>16.Weight Balance</li> <li>17.Muffle Furnace</li> <li>18.Gas cylinder for Oxygen</li> <li>19.Gas cylinder for Nitrogen</li> <li>20.Autoclave</li> </ol>
7.	PG Computing Laboratory	<p>Hardware: 15 No. of Desktop Computers and 04 number of Computing Workstations</p> <p>Software: Matlab, Aspen Plus, Ansys, COMSOL Multiphysics LAMMPS etc.</p> <p>OS: Windows and Linux</p>



Sl. No	Name of Laboratory	Major Equipment
8.	Chemical and Bio-Chemical Reaction Engineering Laboratory	1. Isothermal Batch Reactor 2. Plug-Flow Reactor 3. Continuous Stirrer Tank Reactor 4. RTD Studies CSTR 5. Removal of Methylene Blue Die Using 6. Fenton's Reagent 7. Adiabatic reactor 8. Rtd study with packed bed reactor(old) 9. Rtd study with packed bed reactor(New) 10. Cascade reactor 11. Autoclave 12. Shaker 13. D O meter 14. PH meter 15. Deep Freeze 16. Double distillation Column 17. Bod Incubator 18. Bio safety cabinet 19. Air compressor 20. BOD Incubator Shaker
9.	Process Control & Instrumentation Laboratory	1. Control valve characteristic 2. Intertacting non-interacting System 3. Level control trainer 4. Temp. Control Trainer 5. Damping coefficient of manometer 6. Calibration of thermocouple 7. Pressure control trainer
10.	Central Research Laboratory -II	1. Atomic Absorption Spectroscopy with Graphite furnace Model: iCE 3500 AA Spectrometer (Wide PMT), True dual Atomizer for Flame and Furnace System, (True Double Beam Optics) 2. Fluorescence Spectrophotometer Model: Agilent model Cary Eclipse Fluorescence Spectrophotometer with Polarizer and Accessories Make: Agilent Technologies 3. Gas Chromatography Mass Spectrophotometer (GC-MS) with S/SI Injector Model: Agilent model GC+5977B – High Performance Turbo QUADRUPOLE GC-MS Spectrometer, Make: Agilent Technologies 4. Surface Area Analyzer
11.	Research Laboratory	1. TGA with interconnected with FTIR Model: STA6000 Simultaneous Thermal Analyser (TGA-DTA-DSC) System, Make: PerkinElmer
Research Laboratory inside Fluid Mechanics Laboratory		
12.	Combustion Engineering Laboratory	1. DropTube Furnace with Thermocouple (1400 <sup>0</sup> C) and all other accessories. 2. Cylindrical mass loss furnace with micro balance and all other accessories.
13.	Multi-phase Flow Modelling Laboratory	1. Horizontal and vertical recirculating pipeline for flow study of solid-liquid mixture 2. Horizontal and vertical recirculating pipeline for flow study of gas-liquid/liquid-liquid mixture 3. Rheometer with Pentium IV computer, colour inkjet printer, oil free compressor (0.5 hp) and driver software. 4. Data acquisition system including computer, printer and driver software 5. Pressure Transducer 6. Magnetic flowmeter 7. Magnetic flowmeter





#### 4.5.6 PhD degree awarded till 2022-23

Five.

#### 4.5.7 Any other relevant information

Prof. P. Pal of the Department has been recognized as one among the top 0.5% of the scientist across all streams as per Stanford University report 2022. Department has fetched prestigious awards under the leadership of Prof. P. Pal such as HIYOSHI Environment award 2018 from Hiyoshi Corporation Japan, Best research award on Clean Technology and Environmental Policy by Springer Verlag, Germany, IChE best research award in the millennium Chemical Engineering Congress etc. Prof. Pal also earned 9 copy and patent rights on several green technologies for application in process industries. Three books authored by Prof. P. Pal have been published by the world's largest and most reputed publisher, the Elsevier Science. Prof. Pal has been selected Fellow of the Royal Society Chemistry, London. He is the top most scientist of NIT Durgapur as per AD Scientific Index with around 150 SCI publications.

#### 4.5.8 Specialization

- Application of AI in chemical industry
- Development and deployment of online optimizer for chemical plants
- Heat Transfer
- Fluid Mechanics
- Air Pollution Control, Flue gas treatment, Computational Fluid Dynamics, Waste Water Treatment
- Chemical Engg Thermodynamics, Separation Processes, Biofuel Technology, Polymer grafting, Process optimization
- Interface Engineering, Material Science
- Process modeling and Simulation
- Thermodynamic and Kinetic Modeling of Chemical Absorption process
- Process Development for CO<sub>2</sub> capture and conversion
- Pinch Technology based process integration
- Chemical and Biochemical Engineering
- Chemical Engineering; Environmental Engineering; Petroleum Refining; Mass Transfer; Membrane Technology; Green Technology; Water Treatment Technology; Membrane-based Biofuel
- Pyrolysis, Gasification and Combustion
- Membrane Synthesis, Wastewater Treatment, Biomass Pretreatment for Bioethanol Production
- Multiphase flow, Slurry flow modeling, Wastewater Treatment
- Composite nano-material, Membrane-based separations technologies, Catalytic Membrane Reactor • Biochemical Engineering
- Process Modelling & Simulation, Combustion, Pyrolysis & Gasification
- Multiphase Flow, Waste Treatment, Nano particle Synthesis
- Bubble Dynamics
- Two-phase boiling flow
- Multiphase flow
- Fluid Mechanics

#### 4.5.9 Proposed Plan for Research

- Development and deployment of online optimizer for commercial chemical plants across world
- Biohydrogen production from water splitting employing advanced technological contrivance
- Developing low cost adsorbent for liquid phase application
- Process modeling and scale up of adsorption process
- Activated carbon preparation from RHA and STW and use in industrial wastewater treatment. Integrated treatment system design for Coke oven and leather industrial wastewater treatment. Development of catalyst (iron based) with higher scale from rice mill solid waste and chemically synthesized for different industrial wastewater treatment. Bio-organic fertilizer production from leather and solid waste in combination with their industrial / agricultural waste and efficacy of fertilizer has been successfully tested in plant system.
- Developing more green technologies; Sea water Desalination; Li and potable water extraction from Sea Water; Transfer of already developed and patented technologies
- Phycoremediation of pollutants, Downstream processing of algal biomass for extraction of nutraceuticals



- Extraction of liquid fuel from plastic wastes
- Research and Consultancy on CFD and MD based Process Modelling and Simulations
- 1) Studying the viscous and thermal fingering instabilities in porous media (PhD work) 2) Developing a paper-based heater for point-of-care applications (Btech work) 3) Detection and quantification of heavy metal ions in a distance-based Paper Analytical Devices (M.Tech Work) 4) Flow control on paper membranes with intermittent wax layering (BTech Work)
- Development of sustainable technology for Industrial wastewater treatment and biofuel production
- Multiphase flow, Slurry flow modeling, Wastewater Treatment
- Synthesis of Thin film Nano-composite, Energy Material
- • Characterization and modification of nano-silica obtained from rice husk • Gas-Solid reaction kinetics in converging vertical riser • Novel Technoeconomic Evaluation for Conversion & Re-refining of Used Lubricating Oils to Base Oil • Effect of Waste Plastics on the Physical Structure and Subsequent Anaerobic Digestion of Vegetable Waste Landfill Bed
- To develop and implement cutting-edge flue gas treatment technologies that significantly reduce flue gas emissions from industrial sources, contributing to global efforts to combat climate change
- To develop innovative and scalable methods for efficient and sustainable microplastic removal from aquatic environments, safeguarding the health of ecosystems and human populations

#### 4.5.10 Area of Research Interest

- Advance process control
- Online optimizer for commercial chemical plants
- Application of Machine learning for commercial chemical plants
- Air Pollution Control, Flue gas treatment, Computational Fluid Dynamics, Waste Water Treatment, Microplastic Removal
- Flow through porous media
- Paper-microfluidics
- Coating, Wetting, Super hydrophobic surface, hetero structured nanomaterials, packaging films, photocatalyst
- Wastewater remediation, Advanced techniques of biodiesel generation, Biopolymer composite development, Green hydrogen production • Chemical Absorption process
- Thermodynamic modeling
- Kinetic modeling of Bioprocess and reactor design
- Advanced technologies for wastewater treatment, Biodegradation of industrial wastewater, integrated wastewater treatment system, Kinetics and Reactor design for specific toxic molecules treatment, Waste valorization, Biofertilizer production
- Innovation of Green Technology; Advanced Membrane-based Separation; Process Intensification; Energy-saving Technology innovation
- Biochemical Reaction Engineering. Environmental Engineering. Bioremediation and Phycoremediation
- Reaction kinetics, yield and catalytic effect
- CFD and Heat Transfer , Molecular Dynamics Simulation, Process modelling and Simulation, Microfluidics and Nanotechnology • Holistic development
- Multiphase flow, Slurry flow modeling, Wastewater Treatment
- Membrane separation Processes, Catalytic Membrane Reactor, Nano-Membrane for Energy and Water
- Modelling of thermochemical reactions of carbonaceous materials and waste plastics
- Multiphase Flow, Waste Treatment, Nano particle Synthesis
- Bubble Dynamics
- Two-phase boiling flow
- Multiphase flow

#### 4.5.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Scientific Design Company, USA	Technical consultancy to build various AI based online optimizer for glycol plants	Development of machine learning based applications for commercial petrochemical plant
M/s Matix Fertilizer Company Ltd, West Bengal	Technical consultancy	Root cause analysis of failure of turbine
Sreema Rice mill, Maa Bhabatarini Rice mill, Leder Chemiche Kolkata	Industrial effluent treatment	Collection of wastewater and batch scale treatment of 40L
Matix Fertilizer, Panagarh	Wastewater Treatment	Training to industry people



Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Durgapur Steel Plant, SAIL	Effluent Treatment Plant	Failure Analysis
NIT Durgapur and IOCL Haldia Refinery	Training and Research	Provided training to more than hundred operators of IOCL Haldia Refinery. Some area of collaborative research were identified
Essar Oil & Gas Exploration & Production (EOGEPL)	Treatment of Produced Water	Started with the financial support from DST
IOCL, Haldia; Haldia Petrochemicals Ltd	Wastewater treatment, Employee's training	Employee's training
Eureka Forbes Ltd, (R & D) Centre	RO Based Water Treatment System	Reducing Scaling in RO Based Water Treatment System
Gloster Jute Mills Ltd	Research Work	Project work

#### 4.5.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Cincinnati, Ohio	Paper Microfluidics	Dr. Aashish Priye	Developing the paper-based assays for Biological reaction and studying the effect of moisture and shape on the imbibition dynamics
Sanjay Gandhi Postgraduate Institute of Medical Sciences	Paper Microfluidics	Prof. Amit Goel	Developing Paper-based assays for Hepatitis C virus
Indian Institute of Technology Kharagpur, Kharagpur, India & University of Kwazulu-Natal (UKZN), Durban, South Africa	Research Publication	Caitlyn Chetty, David Lokhat, Manisha Bal, BC Meikap	Publications
National Institute of Technology Silchar	Biofuel synthesis and heterogeneous catalyst development	Dr. Samuel Rokhum	Biodiesel production
Indian Institute of Agricultural	Microalgal fuel synthesis	Dr. O. N. Tiwari	Biodiesel production and
Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Research, New Delhi			biofertilizer design
Thapar Institute of Engineering and Technology, Chandigarh	Wastewater remediation	Dr. Sanghamitra Barman	Endocrine disruptive compounds removal
Indian Institute of Technology Jodhpur	Biohydrogen production	Dr. Angan Sengupta	Photocatalyst development, Instrumental analysis
Indian Institute of Technology Delhi	Pharmaceutical wastewater treatment	Prof. K. K. Pant	Book editing on wastewater management
Cambridge University	Biofuel production	Prof. Andrew E. Wheatley	Process optimisation
American University of the Middle East, Kuwait	Research collaboration	Dr. Eldhose Iype	Joint research publication
Amity University, Noida	Research collaboration	Dr. Sandip Chakraborty	External funding and joint research publication
Brainware university	Research	Dr. Deepshikha Datta	Collaborative research



<b>Collaborating Institute Organization</b>	<b>Areas of collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
IIT Kharagpur, Jadavpur University, IIT Guwahati, CSIR ICT Hyderabad ; Water Treatment Technology for Rice Mill Wastewater in association with Prof. Sirshendu De and Group IIT KGP, NITD Group	Wastewater treatment	Prof. Sirshendu De, Prof. Tamal Mandal	40000L wastewater treatment/Day in Sree MAA Rice Mill, Burdwan.
Hanyang University, Seoul, South Korea	Biofuel production and resource recovery from waste	P.Pal, R.Kumar, B.H.Jeon	Research & Publication
KIIT Bhubaneswar	Carbon capture and conversion to biofuel	P.Pal, S.Chakraborty, S.K.Tripathy	Research & publication
Institute of Environmental Protection, Vilniaus Gedimino technikos universitetas, VILNIUS TECH	Environmental Engineering	Prof. Edita BALTRĖNAITĖGEDIENĖ	Paper Publication, Supervision of students
Izmir Institute of Technology	Environmental Engineering	Abhishek DUTTA	Paper publication
Central Mechanical Research Institute Durgapur	Environmental Engineering	Dr. Biswajit Ruj	Paper publication, Joint supervision of students
Maharshi Dayanand Saraswati University, Ajmer	Phycoremediation technology	Ashish Bhatnagar and Monica Bhatnagar	Writing proposal, Joint research
CSIR-CMERI	Fuel recovery from Plastic wastes	Dr. Biswajit Ruj	Joint research on development pyrolysis model
IIT Kanpur and CMERI Durgapur	Research and publication	Prof. Gautam Biswas (IIT Kanpur), Dr. Nripen Chanda (CSIR-CMERI Durgapur), Dr. Priyabrata Banerjee (CSIR-CMERI Durgapur), Dr. Samik Dutta ( CSIR-CMERI Durgapur)	Joint Publications
Indian Institute of Petroleum & Energy, Visakhapatnam, Andhra Pradesh , 530003	Water Treatment and membrane synthesis	Dr. Dipankar Pal	Joint PhD Supervision
Vilnius Gediminas Technical University (VILNIUS TECH), Vilnius, Lithuania	Waste Treatment	Edita Baltrenaite	Joint PhD supervision
Amity University, Noida	Material and Membrane	Prof Sandip Chakrabarti	Research work
IIT BHU	Bio Energy	Dr. Jyotiprasad Chakrabarti	Research work
JNU, New Delhi	Bio-Membrane for water	Prof Kashyap Kumar Dubey	Research work
<b>Collaborating Institute Organization</b>	<b>Areas of collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
IIT Madras, India (terms to be renewed)	Multiphase flow; Fluid Mechanics	Puspavanam, S.	Academic Research
Texas A&M University, USA (in discussion)	Bubble dynamics; Two-phase boiling flow; Multiphase flow	Yassin Hassan	Academic Research



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
IIT Kanpur, India (in discussion)	Multiphase flow; Bubble dynamics	XYZ (confidential)	Academic Research

#### 4.5.13 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
An Assembly Having Metal-Organic Framework Based Solar Absorber For Effective Photothermal Desalination	Sandip Chakrabarti, Abhyavartin Selvam, Geetika Jain, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Abhiram Hens	TEMP/E-1/36638/2022-DEL, 06/2022	2022-06-08
An assembly having Metal-organic Framework based solar absorber for effective photothermal Desalination	Sandip Chakrabarti, Abhyavartin Selvam, Geetika Jain (AINT), Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Abhiram Hens	Ref No: 2147483647	2022-06-08

#### 4.5.14 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. Kaustubha Mohanty IIT Guwahati, Prof. Rajat Chakraborty Jadavpur University, Prof. Dhanapati Deka Tezpur University, Dr. Samuel Lalthazuala Rokhum NIT Silchar, Dr. Sumit Dhawane, MANIT Bhupal	Challenges and opportunities in Sustainable Biodiesel synthesis and its application towards greener future	2023-03-02
Prof Sadhan Kr. Ghosh	Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications. STUTI program, DST Government of India	2022-08-22
Prof. Sadhan Kumar Ghosh, Jadavpur University	Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications, Under STUTI program, DST Government of India	0028-02-12
Dipankar Chatterjee	ESMOC 2021 (International Congress held in 2022)	2022-12-05
Nirmal K Roy	ESMOC 2021 (International Congress held in 2022)	2022-12-06
Papiya Mukherjee	ESMOC 2021 (International Congress held in 2022)	2022-12-05
Tarkeshwar Kumar	ESMOC 2021 (International Congress held in 2022)	2022-12-06
Swapan Paruya (Program Chair)	ESMOC 2021 (International Congress held in 2022)	0012-06-13

#### 4.5.15 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Paruya, S., Bhati, J., Ghoshal, T., Mankar, B.	A Numerical Investigation on Heat Transfer Dynamics of a Periodically Forced Boiling Channel in Low Amplitudes	Chemical Engineering Science	Volume:181 Issue No:1 Page No:326-340 Year:2016 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
Sayantana Sarkar, Deepshikha Datta, Somnath Chakraborty, Bimal Das,	Comprehensive analysis of reclamation of spent lubricating oil using green solvent: RSM and ANN approach	Chemical and Process Engineering	Volume:43 Issue No:2 Page No:119–135 Year:2022 Month:Oct
Deepshikha Datta, KS Deepak, Bimal Das	Progress in the synthesis, characterisation, property enhancement techniques and application of gold nanoparticles: A review	MRS Communications	Volume:12 Issue No: Page No:700–715 Year:2022 Month:Aug
Deepshikha Datta, , Divakar Pamanji , Bimal Das	Isolation of nanocellulosic fibrils from allium cepal skin biowaste food residues – extraction and characterization	Indian Chemical Engineer	Volume:65 Issue No:2 Page No:1-17 Year:2023 Month:Feb
Deepshikha Datta , D. Tejeswara Rao K S Deepak , Mahima Mutsuddi , Bimal Das	Jute fiber reinforced unsaturated polyesters laminate preparation using egg shells filler	Asia-Pacific Journal of Chemical Engineering	Volume:18 Issue No:3 Page No:1-13 Year:2023 Month:Feb
Joseph VL Ruatpuia; Gopinath Halder; Sakar Mohan; Baskar Gurunathan; Hui Li; Fang Chai; Sanjay Basumatary; Samuel Lalthazuala Rokhum	Microwave-assisted biodiesel production using ZIF-8 MOF-derived nanocatalyst : A process optimization, kinetics, thermodynamics and life cycle cost analysis	Energy Conversion and Management	Volume:292 Issue No: Page No:117418 Year:2023 Month:Mar
Joseph VL Ruatpuia, Bishwajit Changmai, Ayush Pathak, Lana A Alghamdi, Thomas Kress, Gopinath Halder, Andrew EH Wheatley, Samuel Lalthazuala Rokhum	Green biodiesel production from Jatropha curcas oil using a carbon-based solid acid catalyst: A process optimization study	Renewable Energy	Volume:206 Issue No: Page No:597-608 Year:2023 Month:Feb
Indradev Kumar, Abhiram Hens, Sandip K Lahiri, and Gautam Biswas	Study of Cryogenic Film Boiling in the Presence of External Electric Field Using a Variant of Volume of Fluid-Based Interface Tracking Algorithm	Industrial and Engineering Chemistry Research	Volume:61 Issue No:49 Page No:18176-18186 Year:2022 Month:Dec
Kashyap Dubey, Ankush Yadav; Eldon R Rene; Manisha Sharma; Indu Jatain; Mrinal Kanti Mandal	Valorization of wastewater to recover value-added products: A comprehensive insight and perspective on different technologies	Environmental Research	Volume:214 Issue No: Page No:113957 Year:2022 Month:Apr
Manisha Sharma, Mrinal Kanti Mandal, Shailesh Pandey, Ravi Kumar, and Kashyap Kumar Dubey	Visible light-driven photocatalytic degradation of tetracycline using hetero-structured Cu <sub>2</sub> O-TiO <sub>2</sub> nanotubes, kinetics and toxicity evaluation of degraded products on cell lines	ACS Omega	Volume:7 Issue No: Page No:33572 Year:2022 Month:Aug





Author(s) Name	Paper Name	Journal Name	Others Info
Abhyavartin Selvam, Geetika Jain, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Sandip Chakrabarti	Avant-Garde Solar-Thermal Nanostructures: Nascent Strategy into Effective Photothermal Desalination	Sol. RRL	Volume: Issue No: Page No:2200321 Year:2022 Month:Oct
Paruya, S., Roy, K.	Isothermal and non-isothermal growth of a vapor bubble in pool boiling – Effect of translational velocity of bubble	International Journal of Heat and Mass Transfer	Volume:216 Issue No:124570 Page No:14 Year:2023 Month:
Paruya, S., Naik L, J., Bhati, J.	High-Speed Visualization of Trajectory and Shape Change of Vapor Bubble in Subcooled Flow Boiling	Multiphase Science and Technology	Volume:34 Issue No:4 Page No:15–40 Year:2022 Month:
Paruya, S., Bhati, J.	Numerical Simulation of Bubble Growth and Collapse in Pool Boiling: Effect of Bubble Motion	Heat Transfer Research	Volume:52 Issue No:1 Page No:57-76 Year:2021 Month:
Paruya, S., Bhati, J., Akhtar, F.	Numerical Model of Bubble Shape and Departure in Nucleate Pool Boiling	International Journal of Heat and Mass Transfer	Volume:180 Issue No:121756 Page No:14 Year:2021 Month:
Naik L, J., Bhati, J., Paruya, S.	Onset of Flow Oscillation in Natural Circulation Boiling Loop- Role of Bubble Dynamics	Industrial & Engineering Chemistry Research	Volume:60 Issue No:2021 Page No:955-968 Year:2021 Month:
Bhati, J., Paruya, S., Naik L, J.	Numerical simulation of bubble dynamics in subcooled flow boiling in a channel	Nuclear Engineering and Design	Volume:371 Issue No:110945 Page No:14 Year:2020 Month:
Bhati, J., Paruya, S.	Numerical Simulation of Bubble Dynamics in Pool Boiling at Heated Surface	International Journal of Heat and Mass Transfer	Volume:152 Issue No:119645 Page No: Year:2020 Month:
Bhati, J., Paruya, S., Pushpavanam, S.	Numerical Simulation of Vapour-Bubble Collapse – Heat Transfer and nonlinear Dynamics Issues	Journal of Heat Transfer	Volume:142 Issue No:32001 Page No:16 Year:2020 Month:
Bhati, J., Paruya, S.	A Semi-Analytical Method for Computing the Dynamics of Bubble Growth: The Effect of Superheat and Operating Pressure	Industrial & Engineering Chemistry Research	Volume:57 Issue No:44 Page No:15159–15171 Year:2018 Month:
Rithuparna Devasan, Joseph Ruatpuia, Shiva Prasad Gouda, Pravin Kodgire, Sanjay Basumatary, Gopinath Halder, Samuel Lalthazuala Rokhum	Microwave-assisted biodiesel production using bio-waste catalyst and process optimization using response surface methodology and kinetic study	Scientific Reports	Volume:13 Issue No: Page No:2570 Year:2023 Month:Feb
Supongsena Ao, Lana A. Alghamdi, Thomas Kress, Manickam elvaraj, Gopinath Halder, Andrew E.H. Wheatley, Samuel Lalthazuala Rokhum	Microwave-assisted valorization of glycerol to solketal using biomass-derived heterogeneous catalyst	Fuel	Volume:345 Issue No: Page No:128190 Year:2023 Month:Mar



Author(s) Name	Paper Name	Journal Name	Others Info
Subhasish Majee, Kalyan Sarkar, Riddhi Sarkhel, Gopinath Halder, Dalia Dasgupta Mandal, N. K Rathinam, Tamal Mandal	Bio-organic fertilizer production from industrial waste and insightful analysis on release kinetics	Journal of Environmental Management	Volume:325 Issue No: Page No:116378 Year:2022 Month:Sep
Sumona Show, Priyanka Sarkar, Sanghamitra Barman, Gopinath Halder	Microbial remediation of ibuprofen contaminated water using novel isolate Microbacterium araoxydans	Chemical Papers	Volume:77 Issue No:1 Page No:517-531 Year:2022 Month:Sep
Babatunde E. Olubunmi, Saka H. Bamidele, Aderibigbe F. Alade, Yusuff Adeyinka, Bisheswar Karmakar, Samuel Lalthazuala Rokhum, Gopinath Halder	Valorization of restaurant waste oil and cow-bone doped siliceous termite hills towards biodiesel production: Kinetics and thermodynamics, , 30 (2022), .	Sustainable Chemistry and Pharmacy	Volume:30 Issue No: Page No:100895 Year:2022 Month:Nov
Sucharita Samanta, Deepshikha Datta, Onkar Nath Tiwari, Gopinath Halder	Microbial enhancement of biodegradability inoculating Bacillus tropicus and Staphylococcus cohnii onto LDPE/Starch blended films	Biomass Conversion and Biorefinery	Volume:3 Issue No: Page No:272- 287 Year:2022 Month:Oct
Nabanita Ghosh, Gopinath Halder	Current progress and perspective of heterogeneous nanocatalytic transesterification towards biodiesel production from edible and inedible feedstock: A review	Energy Conversion and Management	Volume:270 Issue No: Page No:116292 Year:2022 Month:Sep
Kankana Saikia, Kalyani Rajkumari, N. Shaemningwar Moyon, Sanjay Basumatary, Gopinath Halder, Umer Rashid, Samuel Lalthazuala Rokhum	Sulphonated biomass-based catalyst for solketal synthesis by acetalization of glycerol – A byproduct of biodiesel production	Fuel Processing Technology	Volume:238 Issue No: Page No:107482 Year:2022 Month:Aug
Arpita Das, Da Shi, Gopinath Halder, Samuel Lalthazuala Rokhum	Microwave-assisted synthesis of glycerol carbonate by transesterification of glycerol using Mangifera indica peel calcined ash as catalyst	Fuel	Volume:330 Issue No: Page No:125511 Year:2022 Month:Jul
Shiva Prasad Gouda, Kanokwan Ngaosuwan, Suttichai Assabumrungrat, Manickam Selvaraj, Gopinath Halder, Samuel Lalthazuala Rokhum	Microwave assisted biodiesel production using sulfonic acid-functionalized metalorganic frameworks UiO-66 as a heterogeneous catalyst	Renewable Energy	Volume:197 Issue No: Page No:161-169 Year:2022 Month:Jul
Sumona Show, Somnath Chowdhury, Moumita Maji, Priyanka Sarkar, Monidipa Ghosh, Mika	Sorptive elimination of ibuprofen using activated biochar: modelling, non- linear isotherm and kinetic, cost assessment and	Biomass Conversion and Biorefinery	Volume:11 Issue No: Page No:370-382 Year:2022 Month:Aug



Author(s) Name	Paper Name	Journal Name	Others Info
Sillanpää, Gopinath Halder	toxicity analysis		
Shraboni Mukherjee, Satyajit Panda, Sumona Show, Anoar Ali Khan and Gopinath Halder	Fluoride remediation by <i>Staphylococcus lentus</i> (KX941098) and <i>Providencia vermicola</i> (KX926492) beads in upward low packed bed reactor	Biomass Conversion and Biorefinery	Volume:7 Issue No: Page No:172-183 Year:2022 Month:May
Sumona Show, Riddhi Sarkhel, Gopinath Halder	Elucidating sorptive eradication of ibuprofen using calcium chloride caged bentonite clay and acid activated alginate beads in a fixed bed upward flow column reactor,	Sustainable Chemistry and Pharmacy	Volume:27 Issue No: Page No:100698 Year:2022 Month:Apr
Prasanna Kumar Desu, Bisheswar Karmakar, Vanitha Kondi, Onkar Nath Tiwari, Gopinath Halder	Optimizing formulation of green tea extract-loaded chitosan nanogel	Biomass Conversion and Biorefinery	Volume:8 Issue No: Page No:211-219 Year:2022 Month:Apr
Debayan Das, Manaswini Masetty, and Aashish Priye	Paper-Based Loop Mediated Isothermal Amplification (LAMP) Platforms: Integrating the Versatility of Paper Microfluidics with Accuracy of Nucleic Acid Amplification Tests	Chemosensors	Volume:11 Issue No:3 Page No:163 Year:2023 Month:Feb
D Das, T Singh, I Ahmed, M Masetty, A Priye	Effects of relative humidity and paper geometry on the imbibition dynamics and reactions in lateral flow assays	Langmuir	Volume:38 Issue No:32 Page No:9863-9873 Year:2022 Month:Aug
Indradev Kumar, Abhiram Hens, Sandip K Lahiri, Gautam Biswas	Study of Cryogenic Film Boiling in the Presence of External Electric Field Using a Variant of Volume of Fluid-Based Interface Tracking Algorithm	Industrial & Engineering Chemistry Research	Volume: Issue No: Page No:18176-18186 Year:2022 Month:Dec
Tithli Sadhu, Somanth Chowdhury, Shubham Mondal, Jagannath Roy, Jitanyu Chakrabarty, Sandip Kumar Lahiri	A comparative study of metaheuristics algorithms based on their performance of complex benchmark problems	Decision Making: Applications in Management and Engineering	Volume: Issue No: Page No: Year:2022 Month:Oct
Tithli Sadhu, Sandip K Lahiri, Ashish Bhattacharjee, Jitanyu Chakrabarty	Application of artificial neural network with metaheuristic optimization for improving the nutritive value of fried fish	Journal of Food Processing and Preservation	Volume: Issue No: Page No:17190 Year:2022 Month:Oct



Author(s) Name	Paper Name	Journal Name	Others Info
Sabyasachi Pramanik, Biswajit Sarkar, Sandip Lahiri, Kartik Chandra Ghanta, Susmita Dutta	Application of hybrid artificial neural network (ANN)–particle swarm optimization (PSO) for modelling and optimization of the adsorptive removal of cyanide and phenol from wastewater using agro-waste-derived adsorbent	Applied Water Science	Volume:12 Issue No:8 Page No:184 Year:2022 Month:Aug
Abhyavartin Selvam, Geetika Jain, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Sandip Chakrabarti	Avant-Garde solar–thermal nanostructures: nascent strategy into effective photothermal desalination	Solar RRL	Volume:6 Issue No: Page No:2200321 Year:2022 Month:
S Majee, G Halder, D.D. Mandal, O.N. Tiwari, T. Mandal	Transforming wet blue leather and potato peel into an ecofriendly bioorganic NPK fertilizer for intensifying crop productivity and retrieving value-added recyclable chromium salts.	Hazardous Materials	Volume: Issue No:411 Page No: Year:2022 Month:
S.Majee, K.K. Sarkar, R. Sarkhel, G.Halder, T.Mandal	Bioorganic fertilizer production from industrial waste and insightful analysis on release kinetics	Environmental Management	Volume: Issue No:325 Page No: Year:2023 Month:
Majumdar, S., Mandal, T., Mandal, D. D Mandal	Comparative performance evaluation of chitosan based polymeric microspheres and nanoparticles as delivery system for bacterial $\beta$ -carotene derived from <i>Planococcus</i> sp. TRC1	International Journal of Biological Macromolecules	Volume: Issue No: Page No:384397 Year:2022 Month:
P.Pal, M.Malhotra	Emerging technologies for Selenium Separation and Recovery from aqueous systems: A Review for Sustainable Management Strategy	Canadian Journal of Chemical Engineering, Wiley	Volume:101 Issue No: Page No:2859–2877 Year:2023 Month:Feb
R.Kumar, A.Basu, S.Chakraborty, P.Pal	Management of tannery waste effluents towards the reclamation of clean water using an integrated membrane system: A state-of-the-art review	Environmental Research, Elsevier	Volume:229 Issue No: Page No:115881 Year:2023 Month:Jan
S.Pal, Z.Ahamed, P.Pal	Removal of Antibiotics and Pharmaceutically Active Compounds from Water Environment: Experiments Towards Industrial Scale Up, Separation and Purification Technology	Separation & purification Technology, Elsevier	Volume: 295 Issue No:15 Page No:121249 Year:2022 Month:May
R. Kumar, B. Basak, PP. Pal, S. Chakraborty, Young-Kwon Park et al.	Feasibility assessment of bioethanol production from humic acid-assisted alkaline pretreated Kentucky bluegrass	Bio-resource Technology, Elsevier	Volume:360 Issue No: Page No:127521 Year:2022 Month:Jun



Author(s) Name	Paper Name	Journal Name	Others Info
	( <i>Poa pratensis</i> L.) followed by downstream enrichment using direct contact membrane distillation		
Rai, A., Bishayee, B., Dey A., Kumar, A., Lahiri, S. K., Chakrabarty, J., Dutta, S.	Tertiary Treatment of Coke-oven Wastewater Using Suspended and Immobilized Whole Live Cells of Constructed Bacterial-Microalgal Consortium: Modeling and Optimization Using ANN-GA Hybrid Methodology	Water Science & Technology	Volume:87 Issue No:3 Page No:509 Year:2023 Month:Feb
Useviciute, L., BaltreinaiteGediene, E., Baltrenas, P. and Dutta, S.	Acetone, Xylene and Ammonia removal enhancement in the biofilter packed with steam modified biochar	Journal of Environmental Engineering and Landscape Management	Volume:30 Issue No:3 Page No: Year:2022 Month:Oct
Rai, A, Kamila, B., Dutta, S. and Chakrabarty, J	Macromolecules assessment from spent biomass during phycoremediation of pollutants from coke-oven wastewater: A prospective approach for production of value added products	Journal of the Indian Chemical Society	Volume:99 Issue No:100555 Page No: Year:2022 Month:Jul
Joy, V. M., Feroz, S. and  Dutta, S.	Artificial intelligence-based multiobjective optimization of reverse osmosis desalination pretreatment using a hybrid ZnO-immobilized/photo-Fenton process	Chemometrics	Volume:DOI: 10.1002/cem.3434 Issue No: Page No: Year:2022 Month:Jun
Sarkar, B., Dutta, S. and Lahiri, S. K.	Modeling and optimization of phycoremediation of heavy metals from simulated ash pond water through robust hybrid artificial intelligence approach	Chemometrics	Volume:DOI: 10.1002/cem.3427 Issue No: Page No: Year:2022 Month:May
Pramanik, S., Sarkar, B., Lahiri, S. K., Ghanta, K. C. and Dutta, S.	Application of hybrid artificial neural network (ANN)-particle swarm optimization (PSO) for modelling and optimization of the adsorptive removal of cyanide and phenol from wastewater using agro-waste-derived adsorbent	Applied Water Science	Volume:12 Issue No:184 Page No: Year:2022 Month:May
Mondal P., *Sadhukhan A. K., Gupta P., Ganguly A.	Bioethanol-gasoline blend a promising fuel for motorized two-wheelers: optimization of operating conditions for minimum regulated emissions	International Journal of Environmental Science and Technology	Volume:- Issue No:- Page No: <a href="https://doi.org/10.1007/s13762022-04623-9">https://doi.org/10.1007/s13762022-04623-9</a> Year:2022 Month:November



Author(s) Name	Paper Name	Journal Name	Others Info
Mondal P., *Sadhukhan A. K., Ganguly A., Gupta P.	Production of Blending Quality Bioethanol from Broken Rice: Optimization of Process Parameters and Kinetic Modeling	Applied Biochemistry and Biotechnology	Volume:194 Issue No: Page No:5474-5505 Year:2022 Month:Jul
Prabhakar A., Sadhukhan A. K., Gupta P.	Study of co-pyrolysis kinetics, synergetic effects, and thermodynamics of coal and biomass blends	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Volume:44 Issue No:3 Page No:7095-7108 Year:2022 Month:Jul
Singh R. K., Pannase A. K., Joshi M. P., Ruj B., Sadhukhan A. K., Gupta P.	Pyrolysis of marine waste to pyrolytic oil and its application in Compression Ignition engine: Engine Performance, Combustion and Emission Analysis	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Volume:44 Issue No:3 Page No:6758-6776 Year:2022 Month:Jul
Sandip Mondal, Kaustav Aikat, Gopinath Halder	Sorptive uptake of Ranitidine hydrochloride by Parthenium hysterophorus based chemically treated N-biochar in static bed continuous flow system	Results in Surfaces and Interfaces	Volume:8 Issue No: Page No:100071 Year:2022 Month:Jul
Prabhakar A., Sadhukhan A. K., Gupta P.	Study of Pyrolysis Kinetics of Coal Fines using Model Free Method	Materials Today: Proceedings	Volume:68 Issue No:4 Page No:910-915 Year:2022 Month:Jul
Anjali, K.P., Raghunathan, R., Devi, G. and Dutta, S	Photocatalytic degradation of methyl red using seaweed mediated zinc oxide nanoparticles,	Biocatalysis and Agricultural Biotechnology	Volume:43 Issue No:102384 Page No: Year:2022 Month:Aug
Wasi Ur Rahman, Abu Mustafa Khan, Abdul Hakeem Anwer, Bisheswar Karmakar, Gopinath Halder	Parametric optimization of calcined and Zn-doped waste egg-shell catalyzed biodiesel synthesis from Hevea brasiliensis oil,	Energy Nexus	Volume:6 Issue No: Page No:100073 Year:2022 Month:Apr
Nabanita Ghosh, Rhithuparna D., Rexona Khatoon, Samuel Lalthazuala Rokhum, Gopinath Halder	Sulphonic-acid functionalized novel Limonia acidissima carbonaceous catalyst for biodiesel synthesis from Millettia pinnata oil: Optimization, kinetics, thermodynamics and cost analysis	Journal of Cleaner Production	Volume:394 Issue No: Page No:136362 Year:2023 Month:Feb
Prabhakar A., Gupta A. K., Sadhukhan A. K., Gupta P.	Estimation of Gasification Kinetics of Coal Char Fines in Steam Ambience	Materials Today: Proceedings	Volume:68 Issue No:4 Page No:905-909 Year:2022 Month:Jul
Caitlyn Chetty, David Lokhat, Manisha Bal, BC Meikap	Development of improved correlations for shell side heat transfer co-efficient in multi-tubular reactors network heat exchanger	Thermal Science and Engineering Progress	Volume:39 Issue No: Page No:101733 Year:2023 Month:Mar
Rajneesh Anand, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri, Abhiram Hens	Optimisation of geometry and surface wettability for enhanced efficiency of the solar still-based desalination unit	Int. Journal of Ambient Energy	Volume:1 Issue No: Page No:1-8 Year:2023 Month:





Author(s) Name	Paper Name	Journal Name	Others Info
Raj Kumar Arya, G Meena, D Thapliyal, S Barman, Gopinath Halder, P Shandilya	Low-cost removal of basic red 9 using cow dung ash	Chemical and Process Engineering	Volume:43 Issue No:2 Page No:1-14 Year:2022 Month:Aug
Deepshikha Datta , Aditya Shetty, Bimal Das	Comparative analysis of the quantity and quality of both synthetic and biodegradable films on kitchen waste	Materials Today: Proceeding	Volume:57 Issue No:4 Page No:1798-1804 Year:2022 Month:Apr
Bandyopadhyay, A. , Saha, A. , Ghosh, D. , Dam, B., Samanta, A. K. and Dutta, S.	Microbial repairing of concrete & its role in CO2 sequestration: a critical review	Beni-Suef University Journal of Basic and Applied Science	Volume:12 Issue No:7 Page No: Year:2023 Month:Jan
Rajneesh Anand, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri, Abhiram Hens	Optimisation of geometry and surface wettability for enhanced efficiency of the solar still-based desalination unit	International Journal of Ambient Energy	Volume:44 Issue No:1 Page No:1549-1556 Year:2023 Month:Feb
Biswajit Sarkar, Susmita Dutta, Sandip Kumar Lahiri	Modeling and optimization of phycoremediation of heavy metals from simulated ash pond water through robust hybrid artificial intelligence approach	Journal of Chemometrics	Volume:36 Issue No:7 Page No:3427 Year:2022 Month:Jul

#### 4.5.16 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
S. Sarkar, D. Datta, K. S. Deepak, B. K. Mondal Bimal Das	Comparative assessment efficacy of yield maximization of recovered used lubricating oil by Ca(OH) <sub>2</sub> -Iso-butanol/KOH-1-butanol extractiveflocculative process by Central Composite Design approach	Int. J. of Environment and Waste Management	Volume:DOI: 10.1504/IJEW.2023.10048105, 2023 Issue No: Page No: Year:2023 Month:
Sakhile K, Sarkar J P, Gupta P, Feroz S.	Removal of major pollutants from petroleum wastewater by adsorption with activated carbon derived from date seed in an inverse fluidized bed.	Arabian Journal for Science and Engineering	Volume: Issue No: Page No: Year:2022 Month:Jun

#### 4.5.17 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Anoar Ali Khan, G. N. Halder, K. Sundararaj, A. K. Saha	Capacity utilization of aqueous 2-amino-2methyl-1-propanol (AMP) and methyl diethanolamine (MDEA) for CO capture with piperazine (PZ)	International Conference on Materials Research in Science and Engineering	DOI/ISBN: <a href="https://doi.org/10.1063/5.0108935">https://doi.org/10.1063/5.0108935</a> Volume: Issue No: Page No:100014 Year:2022 Month:Sep Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Kumar R, Das P,*Sadhukhan AK, Singh RK , Ruj B, Gupta P	Experimental Study on catalytic pyrolysis of waste polypropylene at different temperatures.	Eighth International Conference on Advances in Energy Research At IIT Bombay 2022	DOI/ISBN: <a href="https://doi.org/10.1007/978-98199-2279-6-58">https://doi.org/10.1007/978-98199-2279-6-58</a> Volume: Issue No: Page No:6661-668 Year:2022 Month:Jul Presenter:CO-AUTHOR

#### 4.5.18 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Deepshikha Datta; Sampurna Santra; Bimal Das	Role of Extracted Nano silica from Rice Rusk on the structure, property and biodegradability of LDPE/Starch biodegradable film	International Conference on Advanced in Chemical &Material Science (ACMS-2022)	DOI/ISBN: --- Volume: Issue No: Page No: Year:2022 Month:Apr Presenter:CO-AUTHOR
Sayantana Sarkar, Deepshikha Datta, and Bimal Das	Factorial optimisation for maximising the yield of re-refined lubricant from waste lubricating oil through extractive-flocculative approach- a comparative assessment of RSM and Taguchi	Energy System Modeling and Optimization Conference, (ESMOC) 2021	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Dec Presenter:CO-AUTHOR
Deepshikha Datta, Bimal Das, Rakesh Patnaik	Jute Fiber reinforced unsaturated polyesters laminate preparation using egg shells filler	International Conference on Advanced in Chemical &Material Science (ACMS-2022)	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Apr Presenter:CO-AUTHOR
Deepshikha Datta, Shefali Mumtaj, Bimal Das	Synthesis of Gold Nano Particles Using Oldenlandia Corymbose Plant Extract	International Conference on Advanced in Chemical &Material Science (ACMS-2022)	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Apr Presenter:CO-AUTHOR
Deepshikha Datta, Divakar Pamanji, Bimal Das	Production and Optimization of LDPE with Bio & Inorganic Filler Polyblend through Response Surface Methods using Central Composite Design	International Conference on Advanced in Chemical &Material Science (ACMS-2022)	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Apr Presenter:CO-AUTHOR
Sayantana Sarkar, Deepshikha Datta, and Bimal Das	Comprehensive study of method optimization of re-refining spent lubricating oil	International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2022	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Nov Presenter:CO-AUTHOR
Ashiskumar R. Kale, Deepshikha Datta, Bimal Das	E-waste utilization from waste printed circuit board & cable wires	International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2022	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Nov Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Deepshikha Datta, Mahima Mutsuddi, Bimal Das	Enhancement in the structure, properties and application of jute fiber reinforced unsaturated polyesters laminate by the incorporation of egg shell powder as property enhancing filler	International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2022	DOI/ISBN: ---- Volume: Issue No: Page No:---- Year:2022 Month:Nov Presenter:CO-AUTHOR
Shardul Srivastava, Bulti Kandar, Susmita Dutta, Bikash Kumar Mondal	Sequestration of Carbon dioxide through Microbial Route	CUChe Alumni Symposium 2022 On "Circular Economy on Sustainable Basis: The Role of Chemical Engineers"	DOI/ISBN: - Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Sayantana Adak, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal	Synthesis of graphitic carbon nitride (g-C <sub>3</sub> N <sub>4</sub> ) and metal organic framework based heterostructure and its application in dye removal and photocatalytic hydrogen production	3rd Energy System Modeling and Optimization Conference ESMOC 2021	DOI/ISBN: xx Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Kumar R, *Sadhukan AK, Singh RK, Ruj B, Gupta P	Comparative Experimental Study on catalytic pyrolysis of waste polypropylene with zeolite and kaolin catalyst	75th Chemical Engg. congress CHEMCON 2022	DOI/ISBN: OP/RAE/1/203 Volume: Issue No: Page No:OP/RAE/1/203 Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.5.19 Conference: Accepted in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Debayan Das	Effective Heating Solution Strategy for Building up a Paper-based DNA Amplification Detection Device	International Heat Transfer Conference 2023	DOI/ISBN: Will be published after the Presentation Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:SELF

#### 4.5.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Sandip Kumar Iahiri		Seven mental models to regain your happiness for ever		Publisher: Good read publisher, India Publication Date: 2022-06-17
Manisha Bal	Vikas B. Kabburi	Sustainable Nanomaterials for Biomedical Engineering Impacts, Challenges, and Future Prospects	Graphene - Based Nanomaterial Conjugates: Importance, Classification and Applications	Publisher: AAP,CRC PRESS (Taylor & Francis Group) Publication Date: 2023-05-23
Halder Gopinath	Sarkar G. S., Rathi A., Basu S., Arya R.K., Barman S.	Advanced Industrial Wastewater Treatment and Reclamation of Water. Environmental	Removal of Endocrine-Disrupting Compounds by	Publisher: Springer Publication Date: 2022-0621



Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
		Science and Engineering	Wastewater Treatment	
Gopinath Halder	Bisheswar Karmakar	Biodiesel Production: Feedstocks, Catalysts and Technologies	Green Technologies in valorization of waste cooking oil to biodiesel	Publisher: Springer Publication Date: 2022-0712
Gopinath Halder	Dipanwita Deb, Aratrika Roychowdhury, Sumit H Dhawane, Biswajit Kamila	Enzymes in the Valorization of Waste	An Overview of Pretreatment Strategies for the Development of Enzyme-based Biorefinery with Special Emphasis on Pectinases	Publisher: Springer Publication Date: 2023-0205
Gopinath Halder	Sumit H Dhawane, Arka Ghosh, Piyush Dwivedi, Sneha Dey, Biswajit Kamila	Thermochemical and Catalytic Conversion Technologies for Future Biorefineries	Critical Evaluation of the Role of Enzymes in the Integrated Biorefinery	Publisher: Springer Publication Date: 2023-0210
Gopinath Halder	Joyita Mitra, Biswajit Kamila, Praveen Kumar Ghodke, Sumit H Dhawane	Thermochemical and Catalytic Conversion Technologies for Future Biorefineries	Waste Derived Supports for Immobilization of Lipase Towards Enhancing Efficiency and Reusability of Enzymes	Publisher: Springer Publication Date: 2023-0119
Bimal Das	Deepshikha Datta, Krishna Priyadarshini Das, K S Deepak,	Membranes with Functionalized Nanomaterials, Current and Emerging Research Trends in Membrane echnology	Candidates of functionalized nanomaterials based membranes	Publisher: Elsevier Publication Date: 2022-0415
Bimal Das	Deepshikha Datta, K S Deepak, Krishna Priyadarshini Das	Membranes with Functionalized Nanomaterials, Current and Emerging Research Trends in Membrane echnology	Theoretical Concepts of Membrane Nanomaterial Composites	Publisher: Elsevier Publication Date: 2022-0415
Bimal Das	Deepshikha Datta, K S Deepak	Membranes with Functionalized Nanomaterials, Current and Emerging Research Trends in Membrane echnology	Future Prospects of Sustainable Membranes	Publisher: Elsevier Publication Date: 2022-0415
Bimal Das	Deepshikha Datta, K S Deepak	Membranes with Functionalized Nanomaterials, Current and Emerging Research Trends in Membrane echnology	Membranes With FNMS for Sustainable Development	Publisher: Elsevier Publication Date: 2022-0415
Rwiddhi Sarkhel, Uttarini Pathak, Aniruddha Chowdhury, Aishani Ray, Tamal Mandal		Bioreactors for Upstream processes	Selection of Bioreactors	Publisher: Springer Publication Date: 2023-1027



Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Parimal Pal & Ramesh Kumar	R.Kumar	Sustainable Separation Engineering: Materials, Techniques and Process Development , Publication: February 2022	Chapter: Membrane-enabled Sustainable production of Bio-fuels	Publisher: John Wiley & Sons Limited Publication Date: 2022-04-10
ManishaSharma, AnkushYadav, ShaileshPandey, SupriyaPal, HirokChaudhuri, SandipChakrabarti, Kashyap KumarDubey		Environmental Engineering	Chapter 7: Wastewater treatment and sludge management strategies for environmental sustainability in Circular Economy and Sustainability	Publisher: Elsevier Publication Date: 2022-1007
Punit Kumar, Mrinal Kanti Mandal, Supriya Pal, Hirok Chaudhuri, Kashyap Kumar Dubey		circular bioeconomy	Chapter 9: Membrane bioreactor for the treatment of emerging pharmaceutical compounds in a circular bioeconomy	Publisher: Elsevier Publication Date: 2022-0705

#### 4.5.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
IIC regional meet organized by Ministry of Education's Innovation Cell and AICTE	Ministry of Education's Innovation Cell and AICTE	2022-08-02	2022-08-02	India
SERB,DST Karyashala on Artificial Intelligence and data science for industrial applications	CMERI,Durgapur	2023-01-16	2023-01-22	India
ISSUE'22	UPES Dehradun	2022-10-11	2022-10-14	India
Global Congress on Process Safety	AICHE	2023-03-12	2023-03-15	Houston, USA
Word Sustainable Development Summit at TERI, New Delhi	TERI, NEW DELHI	2023-02-22	2023-02-24	India
A Hand-on Workshop on OpenFOAM and LAMMPS	IIT Ropar	2022-07-18	2022-07-20	India
CUCHE Alumni Symposium – 2022 on “Circular Economy on Sustainable Basis: The Role of Chemical Engineers”	Department of Chemical Engg., University of Calcutta	2022-12-22	2022-12-24	India
International Symposium on Circular Economy on Sustainable Basis: The Role of Chemical Engineers	Calcutta University Chemical Engineering Alumni Association	2022-12-22	2022-12-24	India
Advances in Chemical and Material Sciences, (ACMS 2022).	IICHE	2022-04-14	2022-04-16	India
International Conference on Challenges in Environmental Science & Engineering (CESE 2022)	LJS ENVIRONMENT, AUSTRALIA	2022-11-27	2022-12-01	DUBAI, UAE



#### 4.5.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Experimental investigation on catalytic transesterification of natural feedstocks towards biodiesel production	Wasi Ur Rahman	Prof. Gopinath Halder	DEGREE AWARDED	2022-06-30
Microplastic removal from aqueous system	Payal Das	Manisha Bal	ONGOING	-
Comparative Assessment of Ibuprofen Removal through Biosorption and Bioremediation Technique	Sumona Show	Prof. Gopinath Halder	DEGREE AWARDED	2023-02-20
Biodiesel production from non-edible and waste oils through catalyzed and superheated uncatalyzed approaches	Bisheswar Karmakar	Prof. Gopinath Halder	DEGREE AWARDED	2022-07-22
Application of Artificial Intelligence in chemical process industry	Somnath Chowdhury	Sandip Kumar lahiri, Abhiram Hens	ONGOING	-
Process modeling and optimization in chemical process industry	Somasish Saha,	Sandip Kumar lahiri, Abhiram Hens	ONGOING	-
Optimization in industry	Pratush Pal	Sandip Kumar Lahiri, Abhiram Hens	ONGOING	-
Application of machine Learning in chemical industries	Sumona Roy	Sandip Kumar lahiri	ONGOING	-
Study of viscous fingering in paper membranes	Chandra Bhushan	Debayan Das	ONGOING	-
Investigation of cryogenic boiling under the influence of external fields	Indradev Kumar	Abhiram Hens , Sandip Kumar Lahiri	ONGOING	-
Reclamation of spent engine oil using environment-friendly approach	Sayantana Sarkar (18CH1105)	Dr Bimal Das and Dr Bikash Kumar Mondal	ONGOING	-
Solvent development for Post-Combustion CO <sub>2</sub> capture	Sirshendu Banerjee (19CH1104)	Dr Bikash Kumar Mondal and Dr Bimal Das	ONGOING	-
Utilization and assimilation of inorganic carbon using micro algae and production of biomass, extraction of essential value added products and biofuel	Sukhen Das (21CH1109)	Dr Bikash Kumar Mondal and Dr Mukesh Singh (HIT Haldia))	ONGOING	-
Bioreactor Analysis for biomolecule production	Anwesha Mukherjee (22CH1107)	Dr Bikash Kumar Mondal	ONGOING	-
Photo-Catalytic membrane for hospital waste water treatment	Shailesh Pandey	M.K.Mondal, P.Pal	ONGOING	-
Strategy development for sustainable energy use towards net zero economy	Iman Ghosh Dastidar	P.Pal & M.Roy	ONGOING	-
Advance Separation through Ionic Liquids	Asish K.Kale	B.Das, P.Pal	ONGOING	-
Development of Sustainable Membrane-Based Technologies for Selenium Abatement towards Reutilization from Aqueous System	Meenakshi Malhotra	P.Pal	DEGREE AWARDED	2023-06-23
Adsorptive Removal of Cyanide and Phenol from Wastewater	Sabyasachi Pramanik	Prof. Kartik Chandra Ghanta and Prof. Susmita Dutta	ONGOING	-





Topic Name	Scholar	Supervisor	Status	Status Date
Removal of Organic Pollutants from Seawater using Solar Nano Photocatalysts	M. J. Varghese	Prof. Susmita Dutta and Professor S. Feroz, Caledonian College of Engg, Oman	ONGOING	-
Layer-by-layer Fabricated Multi-layered Ultrathin Polyelectrolyte Films from Poly Styrene Sulphonate (PSS) and Poly Allylamine Hydrochloride (PAH) onto Zinc Oxide (ZnO), and Titanium Dioxide (TiO <sub>2</sub> ) for the Photocatalytic Degradation of Refinery and Textile Mill Effluents	B.M. Sangeetha	Prof. Susmita Dutta and Dr. M. Geetha Devi, Caledonian College of Engg, Oman	ONGOING	-
Seaweed mediated synthesis of Nanoparticles: its Characterization and application	Anjali, K. P.	Prof. Susmita Dutta and DR. GEETHA DEVI, National University of Science and Technology, Oman	DEGREE AWARDED	2023-03-29
Study of bubble and droplet dynamics at different length and time scale	Shilpi Chatterjee	A. Hens and K C Ghanta	DEGREE AWARDED	2022-09-14
Study of size-based isolation and detection of circulating tumour cells (cancer cells) using microfluidics and image processing	Puja Mitra	Dr. S Dutta (CMERI) and Dr. A. Hens (NIT Durgapur)	DEGREE AWARDED	2022-06-28
Catalytic pyrolysis of plastic wastes	Ravindra Kumar	Prof. A. K. Sadhukhan Dr. B. Ruj	ONGOING	-
Thermal Treatment of Plastic Wastes and Recovery of Value-Added Products	Ankita Mukherjee	Prof. P. Gupta, Dr. B. Ruj, Prof. A. K. Sadhukhan	ONGOING	-
Modeling and Experimental Investigation on Pyrolysis and Gasification of Biomass	Biswajit Kamila	Prof. A. K. Sadhukhan Prof. P. Gupta	SUBMITTED	2023-02-06
Studies on the Hydrodynamics of two-phase system	Tanushree Ghosh	Prof. A. K. Sadhukhan Prof. J. P. Sarkar	SUBMITTED	2023-02-06
Ethanol Production from Waste Starchy Biomass and its' Utilization	Payel Mondal	Prof. A. K. Sadhukhan Prof. P. Gupta Dr Amit Ganguli	SUBMITTED	2022-12-27
Hydrodynamics and Thermal Study on Two Phase Flow	Prantik Mandal	Prof. K.C.Ghanta & Dr. S.K.Lahiri	ONGOING	-
Treatment of Coke Oven Waste Water Using Hybrid Technology	Sabyasachi Pramanik	Prof. K.C.Ghanta & Prof. Susmita Dutta	DEGREE AWARDED	2023-04-26
Bioremoval of heavy metals from Industrial Effluent using algae and cyanobacteria	Padma Seragadam	Prof. Susmita Dutta, Prof. K.C.Ghanta & Prof. (Dr.) B. Srinivas, Gayathri Vidya Parisad College of Engg, Vishakapatnam	ONGOING	-
Treatment of Industrial Wastewater	Bulti Kandar	Prof. K.C.Ghanta & Prof. Susmita Dutta	ONGOING	-
A sustainable way to treat chicken slaughterhouse wastewater	Arnab Sau	Prof. Susmita Dutta & Prof. K.C.Ghanta	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Application of Artificial Intelligence in insurance industry	Nibedita sarkar	Sandip Kumar Lahiri	ONGOING	-
Application of Artificial intelligence in metal industries	Narottam Behera	Sandip Kumar lahiri, Bimal das	ONGOING	-
An Integrated Membrane System for Destruction of Antineoplastic Drugs in Hospital Waste Water	Shailesh Kumar Pandey	Dr Mrinal Kanti Mandal	ONGOING	-
Study of degradation and ecotoxicity of antineoplastic (parent and degraded) compounds from urine sample of cancer patients/hospital aqueous waste using Fungi	Ankush Yadav	Dr Mrinal Kanti Mandal, Dr K. K. Dubey	DEGREE AWARDED	2022-06-07
H2 Production using Catalytic thin film reactor	Sayantana Adak	Dr Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhary	ONGOING	-
Photo-thermal material synthesis	Geetika Jain	Dr Mrinal Kanti Mandal, Dr. Sandip Chakraborti	ONGOING	-
Nano-composite coating on jeeo-textile	Tapabrata Chakraborty	Dr Mrinal Kanti Mandal, Dr. Supriya Pal	ONGOING	-
Phycoremediation of heavy metals from simulated ash pond water	Biswajit Sarkar	Prof. Susmita Dutta and Dr. S. K. Lahiri	ONGOING	-
Synthesis of Nano Composite Membrane for Removal of Azo Dye Using Micellarenhanced Ultrafiltration Coupled with Membrane Distillation and Photocatalytic Dye Degradation	JOYEETA BOSE	Dr. Jaya Sikder & Dr. Utpal Adhikari, Asst. Prof., Dept. of Chemistry	ONGOING	-
Tannery wastewater treatment by forward osmosis integrated hybrid treatment method	Chhanda Mondal Roy	Dr. Jaya Sikder, Dr. Dipankar Pal Assistant Professor Chemical Engineering Indian Institute of Petroleum and Energy	ONGOING	-
Studies on the Treatment of Industrial Wastewater by Adsorption Technique using Palm seed Charcoal as adsorbent in a Two-Phase Inverse Fluidized Bed	S. Karunya	Parthapratim Gupta, J P Sarkar, S Feroz	SUBMITTED	2023-02-03
Numerical Simulation of Bubble Dynamics in Boiling	Jyoti Bhati	Swapan Paruya	DEGREE AWARDED	2021-12-01

#### 4.5.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Experimental studies and mathematical modelling of paper-based DNA amplification reaction	Dr. Debayan Das	DST-INSPIRE	3500000.0	2018
Microwave-Irradiated Continuous Biodiesel Production under Subcritical Condition towards Fuel Performance Assessment and	Prof. Gopinath Halder	Department of Science and Technology, Govt. of India	4075764.0	2022



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Glycerol Valorization				
Technological frontier towards sustainable treatment of Coal bed Methane Produced Water via Integrated Desalination Contrivance	Dr. Jaya Sikder, Prof. Gopinath Halder, Prof. Dalia Dasgupta Mandal	Department of Science and Technology, Govt. of India	7436678.0	2023
Photo-Therm: Solar Converted Thermal Energy Harvesting Mangrove and Composite Layer Mechanistic Photothermal Material in Interfacial Water Evaporator-Collector Desalination System to Potable Water	PI: Dr. Rajib Ghosh Chaudhuri Co-PI: Dr. Mrinal Kanti Mandal and Dr. Abhiram Hens	DST, GoI	4497378.0	2021
Development of guidelines to adopt the process of height increment of overburden dumps at open cast coal mines in India using jute-geotextile as reinforcing material	PI: Dr. Supriya Pal Co-PI: Dr.Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal and Dr. Hirak Chaudhuri	National Jute Board A Statutory Body, Ministry of Textiles, GoI	7172264.0	2021
Nanotechnological intervention on jutegeotextile to adapt long term sustainability and enhanced durability for its cost-effective and wide application in flexible pavement systems	PI: Dr. Supriya Pal Co-PI: Dr.Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal and Dr. Hirak Chaudhuri	National Jute Board A Statutory Body, Ministry of Textiles, GoI	6952264.0	2021
Scientific and Technological Aspect of Electromagnetic Field (EMF) for Reducing Scaling in RO Based Water Treatment System	PI: Dr. Mrinal Kanti Mandal Co- PI: Dr. Rajib Ghosh Chaudhuri and Dr. Abhiram Hens	Eureka Fobes R & D, Bangalore	100000.0	2022
Upcycling of Agricultural Waste management	Prof Sirshendu De, Prof Tamal Mandal	DST WTI	5844000.0	2019
Solar Converted Thermal Energy Harvesting Mangrove and Composite Layer Mechanistic Photo-thermal Material in Interfacial Water Evaporator-Collector Desalination System to Potable Water	Dr. R. Ghosh Chaudhuri, Dr. A. Hens, Dr. M.K. Mondal	DST (GOI)	4497378.0	2021
Environmental geochemistry and treatment of organic pollutants in aquatic systems in the selected areas of China, India and Russia.	Mrinal Kanti Mandal, Supriya Pal, Hirok Chaudhuri, Kashyap Kumar Dubey	DST- Govt. of India, under BRICS Calls	5000000.0	2019
Solar Converted Thermal Energy Harvesting Mangrove and Composite Layer Mechanistic Photo-thermal Material in Interfacial Water Evaporator-Collector Desalination System to Potable Water	Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Dr Abhiram Hens	DST- Govt. of India under SERD -2019	4500000.0	2021



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Nanotechnological intervention on jutegeotextile to adapt long term sustainability and enhanced durability for its cost-effective and wide application in flexible pavement systems	Supriya Pal, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Hirok Chaudhuri	National Jute Board, Ministry of Textiles, GoI	6952000.0	2021
dumps at open cast coal mines in India using jute-geotextile as reinforcing material	Supriya Pal, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Hirok Chaudhuri	National Jute Board, Ministry of Textiles, GoI	7172000.0	2021
Scientific and Technological Aspect of Electromagnetic Field (EMF) for Reducing Scaling in RO Based Water Treatment System	Mrinal Kanti Mandal , Rajib Ghosh Chaudhuri, Abhiram Hens	Eureka Forbes Ltd, (R & D) Centre	95000.0	2022
Forward-osmosis integrated membrane distillation coupled with solar-photocatalytic reactor for textile wastewater treatment: A sustainable approach for commercial exploitation	Dr. J. Sikder Co-PI- Dr. Utpal Adhikari	Government of West Bengal, Department of Science & Technology and Biotechnology	1465800.0	2019

#### 4.5.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Green Approach for Extraction of Nanocellulose and its Potential Application in Waste Water Treatment	Manisha Bal	IICHe BRC	2021
Scientific and Technological Aspect of Electromagnetic Field for Reducing Scaling in RO Based Water Treatment System	Dr. M. K. Mondal, Dr. R Ghosh Chaudhuri, Dr. A. Hens	Eureka Forbes	2023

#### 4.5.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Scientific Design Company Inc, USA	Soft sensor at drying column overhead	980875.0	Ongoing
Scientific Design Company Inc, USA	Argon Purge optimization module	980875.0	Ongoing
Scientific Design Company Inc, USA	Cost based performance dashboard of ethylene glycol plant	1438618.0	Ongoing
Scientific Design Company Inc, USA	Energy dashboard of ethylene glycol plant	1438618.0	Ongoing
Scientific Design Company Inc, USA	Ethylene glycol reactor optimization module	1569400.0	Ongoing
Scientific Design Company Inc, USA	Ethylene oxide reactor optimization module	1642500.0	Ongoing
Matix Fertilizer Ltd	Root cause analysis of Air turbine failure in fertilizer plant	500000.0	Ongoing



## 4.5.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2023-03-22
Manisha Bal	Materials Today: Proceedings	Elsevier	2023-03-28
Gopinath Halder	Energy Conversion and Management	Elsevier	2022-04-12
Gopinath Halder	Journal of Cleaner Production	Elsevier	2022-04-14
Gopinath Halder	Science of the Total Environment	Elsevier	2022-04-16
Gopinath Halder	Fuel	Elsevier	2022-04-18
Gopinath Halder	Journal of Environmental Chemical Engineering	Elsevier	2022-04-19
Gopinath Halder	Process Safety and Environmental Protection	Elsevier	2022-04-21
Gopinath Halder	Biofuel	Taylor & Francis	2022-04-23
Gopinath Halder	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Taylor & Francis	2022-04-25
Gopinath Halder	Frontiers in Bioengineering	Frontiers	2022-04-27
Gopinath Halder	Alexandria Engineering Journal	Elsevier	2022-04-29
Gopinath Halder	Applied Catalysis A, General	Elsevier	2022-05-03
Gopinath Halder	Asia-Pacific Journal of Chemical Engineering	Wiley-Blackwell	2022-05-04
Gopinath Halder	International Journal of Environmental Analytical Chemistry	Taylor & Francis	2022-05-07
Gopinath Halder	Biocatalysis and Agricultural Biotechnology	Elsevier	2022-05-10
Gopinath Halder	Biomass Conversion and Biorefinery	Springer	2022-05-13
Gopinath Halder	Biochar	Elsevier	2022-05-16
Gopinath Halder	BioEnergy Research	Springer	2022-05-23
Gopinath Halder	Biofuels, Bioproducts & Biorefining	Wiley	2022-05-26
Gopinath Halder	Bioresource Technology Reports	Elsevier	2022-05-30
Gopinath Halder	Catalysis Communications	Elsevier	2022-06-02
Gopinath Halder	Catalysis Letters	Springer	2022-06-10
Gopinath Halder	Chemical Engineering & Technology	John Wiley	2022-06-18
Gopinath Halder	Chemical Engineering Journal	Elsevier	2022-06-23
Gopinath Halder	Chemical Engineering and Processing - Process Intensification	Elsevier	2022-06-29
Gopinath Halder	Chemosphere	Elsevier	2022-07-12
Gopinath Halder	Chemical Engineering Research and Design	Elsevier	2022-07-20
Gopinath Halder	Chemical Papers	Springer	2022-07-29
Gopinath Halder	The Canadian Journal of Chemical Engineering	John Wiley	2022-10-12



Reviewer	Name of the Journal	Publisher	Date of Final Review
Gopinath Halder	Energy & Fuels	American Chemical Society	2022-09-21
Gopinath Halder	Energy Reports	Elsevier	2022-11-23
Gopinath Halder	Environmental Advances	Elsevier	2022-12-22
Gopinath Halder	Environmental Pollution	Elsevier	2022-09-26
Gopinath Halder	Environmental Progress & Sustainable Energy	Wiley	2022-09-06
Gopinath Halder	Environmental Quality Management	Wiley	2023-01-12
Gopinath Halder	Environmental Science and Pollution Research	Springer	2023-01-01
Gopinath Halder	Environmental Technology & Innovation	Elsevier	2022-11-14
Gopinath Halder	International Journal of Coal Preparation and Utilization	Elsevier	2023-02-15
Gopinath Halder	International Journal of Environmental Analytical Chemistry	Taylor & Francis	2023-02-22
Gopinath Halder	Journal of Hazardous Materials Advances	Elsevier	2023-02-27
Gopinath Halder	Heliyon	Elsevier	2022-10-23
Gopinath Halder	International Journal of Green Energy	Taylor & Francis	2023-03-14
Gopinath Halder	Industrial Crops & Products	Elsevier	2023-01-02
Gopinath Halder	Journal of the American Oil Chemists' Society	American Chemical Society	2023-02-15
Gopinath Halder	Journal of Chemical Technology & Biotechnology	Wiley	2022-08-26
Gopinath Halder	Renewable Energy	Elsevier	2022-09-28
Gopinath Halder	Journal of Environmental Management	Elsevier	2022-10-21
Gopinath Halder	Journal of the Indian Chemical Society	Elsevier	2022-12-24
Gopinath Halder	Journal of Science and Technology	Pertanika	2022-10-03
Gopinath Halder	Journal of Water Process Engineering	Elsevier	2023-01-18
Gopinath Halder	Journal of Chemistry	Hindawi	2023-02-07
Gopinath Halder	Materials Today: Proceedings	Elsevier	2022-09-11
Gopinath Halder	Reviews in Environmental Science and Bio/Technology	Springer	2022-11-09
Gopinath Halder	Environmental Science: Advances	Royal Society of Chemistry	2022-12-10
Parimal Pal	Separation and Purification Review	Taylor and Francis	2022-04-05
Parimal Pal	Water Resource Management	Elsevier	2022-04-11
Parimal Pal	Journal of Cleaner Production	Elsevier	2022-04-14
Parimal Pal	1. Journal of Cleaner Production	Elsevier	2022-05-22
Parimal Pal	Chemical Engineering Science	Elsevier	2022-05-23





<b>Reviewer</b>	<b>Name of the Journal</b>	<b>Publisher</b>	<b>Date of Final Review</b>
Parimal Pal	Separation and Purification Technology	Elsevier	2022-06-14
Parimal Pal	Separation and Purification Reviews	Taylor and Francis	2022-07-02
Parimal Pal	Separation and Purification Reviews	Taylor and Francis	2022-06-27
Parimal Pal	Journal of Cleaner Production	Elsevier	2022-07-14
Parimal Pal	Journal of Environmental Management	Elsevier	2022-07-14
Parimal Pal	Separation & Purification Review	Taylor and Francis	2022-08-13
Parimal Pal	Bioresource Technology	Elsevier	2022-07-10
Parimal Pal	Biochemical Engineering Journal	Elsevier	2022-09-03
Parimal Pal	Biochemical Engineering Journal	Elsevier	2022-09-23
Parimal Pal	Journal of Environmental Management	Elsevier	2022-09-23
Parimal Pal	Biochemical Engineering Journal	Elsevier	2022-11-05
Parimal Pal	Biotechnology and Genetic Engineering Reviews	Taylor and Francis	2022-11-22
Parimal Pal	Chemical Engineering and Processing: Process Intensification	Elsevier	2022-12-04
Parimal Pal	Journal of Environmental Management	Elsevier	2022-12-11
Parimal Pal	Chemical Engineering Journal	Elsevier	2023-01-02
Parimal Pal	Chemical Engineering Science	Elsevier	2023-02-13
Parimal Pal	Journal of Cleaner Production	Elsevier	2023-03-19
Susmita Dutta	Chemical Engineering journal	Elsevier	2022-09-26
Susmita Dutta	Critical Reviews in Environmental Science and Technology	Taylor and Francis	2022-04-22
Susmita Dutta	Environmental Modeling & Assessment	Springer	2022-06-06
Susmita Dutta	Environmental Pollution	Elsevier	2022-08-25
Susmita Dutta	South African Journal of Botany	Elsevier	2022-09-28
Anup Kumar Sadhukhan	Heliyon	Elsevier	2022-05-15
Anup Kumar Sadhukhan	International Journal of Green energy	Taylor & Francis	2022-07-17
Debayan Das	International Journal of Numerical Methods for Heat and Fluid Flow	Emerald	2022-05-26
Debayan Das	International Journal of Numerical Methods for Heat and Fluid Flow	Emerald	2022-12-15
Abhiram Hens	Applied Surface Science	Elsevier	2022-06-15
Abhiram Hens	Journal of Colloid and Interface Science	Elsevier	2022-09-03
Abhiram Hens	Journal of Colloid and Interface Science	Elsevier	2023-01-18
Abhiram Hens	Physics of Fluids	AIP	2022-07-01
Abhiram Hens	Materials Today	Elsevier	2023-02-05



Reviewer	Name of the Journal	Publisher	Date of Final Review
Abhiram Hens	Chemical Engineering Transactions	AIDIC	2023-02-22
Kartik Chandra Ghanta	Journal of Water Process Engineering	Science Direct	2022-07-25
Swapan Paruya	International Journal of Thermal Sciences	Elsevier	2023-04-08
Swapan Paruya	International Journal of Heat and Mass Transfer	Elsevier	2023-03-24

#### 4.5.27 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Gopinath Halder	PhD Thesis Examination	Cambridge University	2023-02-16	2023-03-15
Gopinath Halder	PhD Thesis Examination	Calcutta University	2022-05-12	2022-05-12
Parimal Pal	PhD	National Environmental Engineering Research Institute	2023-01-01	2023-08-05
Parimal Pal	PhD	KIIT, Bhubaneswar	2022-10-08	2023-08-09
Susmita Dutta	PhD Open Viva-voce Exam	Jadavpur University	2023-02-16	2023-02-16

#### 4.5.28 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Susmita Dutta	Chemical Engineering	Jadavpur University	2023-02-15	2023-02-15

#### 4.5.29 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Sandip Kumar Lahiri	Innovation : The new Mantra	The young entrepreneurship Orientation session organized by ATL of DAV Model	Durgapur	2022-08-27	2022-08-27
Sandip Kumar Lahiri	Innovation: The New Mantra	Seminar at Brainware university	Kolkata	2022-08-19	2022-08-19
Sandip Kumar Lahiri	Application of Artificial Intelligence in Chemical Process Industries	SERB,DST Karyashala on Artificial Intelligence and data science for industrial applications	CMERI, Durgapur	2023-01-16	2023-01-22
Rajib Ghosh Chaudhuri	Surface Area and Size Analysis	Characterization of Materials	Central Institute of Petrochemicals Engineering & Technology: IPT – Bhubaneswar	2022-02-24	2022-02-25



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Rajib Ghosh Chaudhuri	Nanomaterials: Synthetic Approach and Its Characterization	Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications, STUTI, Department of Science and Technology (DST), GoI.	NIT Durgapur	2022-08-22	2022-08-28
Tamal Mandal	Waste valorization	ISSUE'22	UPES Dehradun	2022-10-11	2022-10-14
Parimal Pal	'Process Intensification through Membrane Technology Adoption: Possibilities and Hurdles in Implementation''	International Workshop and Conference on Membrane Assisted Water Purification Processes (ICMW - 2023) March 9, 10, 11 and 12, 2023	M.G.University, Kerala	2023-03-09	2023-08-12
Susmita Dutta	Treatment of Coke-oven Wastewater through Microbial Route as a Polishing Step	One-week training program on "Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications"	Chemical Engineering Department, NIT Durgapur	2022-08-22	2022-08-28
Susmita Dutta	Abatement of Fluoride from groundwater	One-week training program on "Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications"	Chemical Engineering department, NIT Durgapur	2022-08-22	2022-08-28
Abhiram Hens	Application of Fluid Dynamics	Invited Talk	UEM kolkata	2022-09-09	2022-09-09
Gopinath Halder	Biofuel: A sustainable alternative towards mitigation of energy crisis	e-Faculty / Scholars Development Program on Recent Development in Science and Technology Innovations	Vignan's Foundation for Science, Technology & Research, Guntur, Andhra Pradesh	2022-06-20	2022-06-24
Gopinath Halder	Biowaste to Wealth: A Special Reference to Biofuel Generation	Hands-on-training: Recent Advances in Microbes & Plants: Basic to Applied Aspects	Vignan's Foundation for Science, Technology & Research, Guntur, Andhra Pradesh	2022-08-16	2022-08-18
Gopinath Halder	Waste valorization through biogas generation	Hands-on-training: Recent Advances in Microbes & Plants: Basic to Applied Aspects	Vignan's Foundation for Science, Technology & Research, Guntur, Andhra Pradesh	2022-08-16	2022-08-18
Gopinath Halder	Role of Biofuel: A sustainable waste-to-wealth approach towards alleviation of energy demand	Emerging Technologies in Chemical Engineering: From Theory, Experiments to Industry Applications	National Institute of Technology Durgapur	2022-08-22	2022-08-28



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Gopinath Halder	Utilization of agro-residues for alternative energy synthesis	UGC Refresher Course. in Environment Science	The University of Burdwan	2022-08-20	2022-09-02
Gopinath Halder	Biogenic Waste to Biogas	UGC Refresher Course	The University of Burdwan	2022-08-25	2022-09-23

#### 4.5.30 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Tamal Mandal	Waste treatment, management and valorization	NIT Durgapur	Convenor for the program	2023-07-17	2023-07-21
Parimal Pal	International Conference on 'environment, Water, agriculture, Sustainability and health (ewash-2022): Strategizing a Greener fut Jointly Organized by: Hindu College, University of Delhi, Save The Environment, Delhi	New Delhi	2	2023-01-12	2023-01-13
Parimal Pal	International Workshop and Conference on Membrane Assisted Water Purification Processes (ICMW - 2023)	Kerala	1	2023-03-09	2023-03-13
Susmita Dutta	National Symposium on Recent Trends in Sustainable Technology: Techno-Commercial Development	Heritage Institute of Technology, Kolkata	CB 314	2022-09-09	2022-09-09
Swapan Paruya	ESMOC 2021- 3rd Energy System Modeling and Optimization Conference	NIT Durgapur	Nuclear Science and Engineering	2022-12-05	2022-12-07
Abhiram Hens	International Chemical Engineering Conference 2021	NIT Jalandhar	Technical Session Chair	2021-09-16	2022-09-19

## 4.6 Department of Electronics and Communication Engineering

### 4.6.1 Department at a Glance:

The Department started its journey in the year 1983 with the introduction of an undergraduate course. Apart from the four years B. Tech, course the Department also offers two full-time M. Tech, courses, one in Next Generation Communication & Networks and another in Microelectronics and VLSI. The Department also offers Ph.D. in several areas. The faculties are engaged in diverse research on Telecommunication, Antenna and Microwave, Microelectronics and VLSI, Signal and Image processing, and Computational Systems Biology. It is well equipped with sophisticated laboratories in the areas of VLSI, Signal Processing, Microwave, Antenna, and Wireless Communication. The Department has been supported by large-scale projects such as C2S and SMDP for VLSI, DST-FIST for Wireless Communications, and NPMAS for MEMS Research. Sponsored research from DST and SERB has been initiated over the years. The research strength has been reflected by the quality publications of the Department. Faculties of the Department are involved in outreach activities by organizing several short-term courses, and workshops. Faculty members also have academic collaborations with Universities in and outside India. The Department is committed to imparting quality education at undergraduate and postgraduate levels and promulgating quality research in diverse fields of application of electronics engineering.

### 4.6.2 Mission & Vision

#### Mission:



- To advance and cater knowledge in the areas of Communication, Signal Processing and VLSI.
- To teach state of the art technologies to meet the growing challenges.
- To carry out research in frontier areas.

**Vision:**

- To produce highly competent and resourceful young engineers who can perform well in varied professions.
- To develop a strong fundamental base which enable students to explore academic and collaborative interactions with industry, academia and research organizations.
- To develop excellent research facilities.

**4.6.3 Faculty**

Name	Designation	Email-id
Bhattacharjee Anup Kumar	Professor	anup.bhattacharjee@ece.nitdgp.ac.in
Chandra Aniruddha	Associate Professor	aniruddha.chandra@ece.nitdgp.ac.in
Chattaraj Nilanjan	Assistant Professor	nilanjan.chattaraj@ece.nitdgp.ac.in
Biswas Nilanjan	Assistant Professor	nilanjan.biswas@ece.nitdgp.ac.in
Dhar Roy Sanjay	Associate Professor	sanjay.dharroy@ece.nitdgp.ac.in
Das Rajashree	Assistant Professor	rajashree.das@ece.nitdgp.ac.in
Ghatak Rowdra	Professor	rowdra.ghatak@ece.nitdgp.ac.in
Kar Rajib	Associate Professor	rajib.kar@ece.nitdgp.ac.in
Kundu Sumit	Professor	sumit.kundu@ece.nitdgp.ac.in
Mahanti Gautam Kumar	Professor	gkm@ece.nitdgp.ac.in
Mahapatra Rajat	Professor	rajat.mahapatra@ece.nitdgp.ac.in
Maji Bansibadan	Professor	bansibadan.maji@ece.nitdgp.ac.in
Majumder Aurpan	Assistant Professor	aurpan.majumder@ece.nitdgp.ac.in
Mal Ashis Kumar	Professor	akmal@ece.nitdgp.ac.in
Mandal Durbadal	Associate Professor	durbadal.mondal@ece.nitdgp.ac.in
Mandal Sujit Kumar	Assistant Professor	sujit.mandal@ece.nitdgp.ac.in
Mondal Hemanta Kumar	Assistant Professor	hemanta.mondal@ece.nitdgp.ac.in
Ranwa Sapana	Assistant Professor	sapana.ranwa@ece.nitdgp.ac.in
Samui Suman	Assistant Professor	suman.samui@ece.nitdgp.ac.in
Sadhukhan Tapas	Associate Professor	tapas.sadhukhan@ece.nitdgp.ac.in

**4.6.4 Equipments**

Sl. No.	Name of the equipment	Date of Purchase	Amount (INR)
1	Ka band testbench	21.10.2022	10,82,296
2	Wireless Insite modeling software	11.10.2022	7,08,000
3	Four-channel DSO X1204G	07.11.2022	1,84,670
4	High-end function generator (2 nos)	07.11.2022	1,69,920
5	Benchtop 1000 KHz Multimeter (10 nos)	08.06.2022	3,49,965
6	CST Studio Suite Research Base Pack (01 user)	17.08.2022	4,49,525
7	Spectrum Analyzer, up to 20 GHz (01 no)	30.09.2022	10,99,500

**4.6.5 Labs**

Sl. No.	Name of Laboratory	Major equipment
1	VLSI Design Lab	EDA Tools: Cadence, Synopsys, Siemens, Ansys Multiple FPGA Development Boards Analog Discovery Kits
2	Microwave and Antenna Research Laboratory	Vector Network Analyzer (40 GHz) Spectrum Analyzer (9KHz-1.5GHz) NRP2 Power Meter Power Sensor NVR-Z51 FEKO, ANSYS HF Suite, MWO



Sl. No.	Name of Laboratory	Major equipment
3	Cognitive Radio Networks Research Laboratory	MIMO test bench USRP LAB View Qualnet
4	Nano Device Laboratory	Sputtering system (RF and DC) DC probe station with high temperature system Silvaco TCAD Device Simulator Source measure unit

**4.6.6 PhD degree awarded till 2022-23**

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**4.6.7 Any other relevant information**

NIL

**4.6.8 Specialization**

- Wireless Communications
- Microwave mm Wave and THz Communication Circuits and Systems
- Wireless Communication
- Communication Engineering
- Electromechanical Devices and systems
- Semiconductor device
- VLSI Design
- Wireless Communication
- Analog and Mixed Signal VLSI
- Microstrip Antenna
- Antenna Array Synthesis
- Microprocessors and Microcontrollers
- Microelectronics & VLSI
- Audio Signal Processing and Machine Learning based Applications
- Antenna Optimization, Signal Processing, Soft Computing
- Microelectronics and VLSI
- Signal Processing
- VLSI
- Biological Signal Processing • Antenna, Optimization
- Communication Engineering
- Semiconductor devices
- Signals, Systems, and Transmission

**4.6.9 Proposed Plan for Research**

- To develop mm wave and THz circuit design laboratory
- Vehicular communication, 6G
- Studies on radio resource management and mobility issues in future Heterogenous Wireless Network
- HCI systems using multidisciplinary mechanisms
- 3D On-Chip Interconnection Architecture for next generation 3D SoC
- Hybrid Satellite Terrestrial Network, Spiking Neural Networks
- Circuit Design for Low Power Analog / Mixed Signal Systems
- Investigation of Microwave Antenna for Next Generation Wireless Applications
- Array antenna failure detection and Correction
- Antenna Array Synthesis using Evolutionary Algorithms
- On-Chip Antenna Design and Fabrication
- Development of 2D Transition Metal Dichalcogenides based environmental sensor
- Implementation of quantum optical logic system using photonic crystal
- Meta materials based mm wave based devices





- Design of Advanced Antenna Arrays for 5G and B5G
- 1. Self-Supervised Learning based Noise Reduction for Hearing-Impaired Listeners 2. Development of an AI-powered Voice-enabled Virtual Assistant in the Indian Language for a Smart Remote Healthcare System
- Electronic Materials and Devices
- Signal processing in Medical Domain
- Design of Sub- nm Semiconductor Device for Enhanced Sensitivity in Biosensing Applications
- Understanding the role of protein-protein or gene protein interaction networks in cancer therapy
- Communication Engineering
- Semiconductor devices
- -NA-

#### 4.6.10 Area of Research Interest

- Integrated Circuits for Transceivers, Fractal antenna, metamaterials, application of evolutionary algorithms to electromagnetic optimization problems, RFID and computational electromagnetics and wideband microwave component design
- Cross layer optimization for wireless networks, Statistical signal processing
- Vehicular communication, 6G
- D2D Communication, Het Net, Relay networks, Handoff algorithms, Cognitive Radio Networks etc.
- Multidisciplinary Mechanisms
- Simulation and modeling of sub-nm semiconductor devices
- VLSI Design, High-performance computing, Energy-efficient interconnect architectures for manycore systems, Heterogeneous System Architecture (HSA) and AI-ML.
- IRS-UAV NOMA Networks, Energy Harvesting, Symbiotic Communication, Physical Layer Security, D2D Networks
- Low Power Analog CMOS, ADC/DAC Design
- RF and Microwave
- Antenna Array Synthesis
- On-Chip Antenna
- 2D Materials
- Semiconductor Devices based Sensors
- Nanotechnology
- optical logic gates using Photonic crystals
- mm wave based devices
- Antenna Optimization, Signal Processing, Soft Computing
- Speech Enhancement, Spoken Language Identification, Computational Intelligence, Digital System Design
- Resistive Memory, Sensors, Synaptic Devices
- Bio medical Signal Processing
- Computational Biology and Bioinformatics
- Machine learning and Artificial Intelligence
- Communication Engineering
- Semiconductor devices
- Broadband Communication

#### 4.6.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
TCS	Assistive Technology	Sponsored Project
DRDO	Speech Processing	Sponsored Project
TCS Research	5G mm wave radio design	development of transceivers, radiating systems as well as intelligent surfaces



#### 4.6.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
MUT, Warsaw, Poland	6G channel sounding	A Chandra	Joint experiment
VUT, Brno, Czech Republic	6G channel sounding	A Chandra	Joint experiment
University of Parma, Italy	5G Wireless Communication	Prof. R. Raheli, Prof. G. Ferrari, Prof. S. Kundu, Dr. S. Dhar Roy	Joint publication, Joint research
Vellore Institute of Technology, Vellore	D2D Communication, UAV based Communication, Performance evaluation of wireless communication system	Prof. S. Kundu, Dr. S. Dhar Roy, Dr. A. Bhowmick	Joint research, publication
IIT Patna, NIT Patna, IIIT Allahabad, MNNIT Allahabad	VLSI Chip Design	Hemanta Kumar Mondal, Aniruddha Chandra	C2S Project, MeitY
University of Parma, Italy	Wireless Communication	Prof. Gianluigi Ferrari, Prof. Riccardo Raheli	Writing Joint paper
Kalyani University	RF and Microwave	Prof. P P Sarkar	Research
VIT-AP	RF and Microwave	DR. B Roy	Research
Vignan's University	RF and Microwave	Dr. Arnab De	Research
University of Burdwan	Optical Logic systems using Photonic Band-gap crystal	Prof. Sourangshu Mukhopadhyay	Ongoing PhD student co-supervision
IIT Jodhpur	nano-sensors and 2D Materials based gas sensors	Dr. Mahesh Kumar	Research papers and books chapter
NIT Warangal, India	Design of Advanced Antenna Arrays	Dr. Gopi Ram	PhD program
DRDO-CAIR	Speech Signal Processing - Speech Enhancement, Speaker Diarization, and Language Identification	Dr. Suman Samui, Dr. Nilanjan Chattaraj, and Dr. Sujoy Saha	Project guidance and consultancy
C V Raman Global University, Bhubaneswar	Machine learning	Prof. Ganapati Panda	Ph.D supervision as a co-guide

#### 4.6.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
D Michelson	Special Session, IEEE AP-S/USNC-URSI	2022-07-11
S. Das (IIT ISM Dhanbad))	Synergistic Training Program Utilizing the Scientific & Technological Infrastructure (STUTI)	2022-09-19
Prof. Sudeshna Sarkar, IIT Kharagpur	"Research Scholar Day-22"	2022-09-23



Prof. Sudeshna Sarkar, IIT Kharagpur. 2. Dr. Sudhan Majhi, IISc Bangalore, 3. 11. Dr. Susrut Das, IIT (ISM) Dhanbad, 4. Prof. G. K. Mahanti, 5. Prof. R. Ghatk, 6. Prof. R. Mahapatra, 7. Prof. A. K. Mal	A one-week training workshop on "Design and Characterization of Devices and Circuits for Electronic Systems (DC2ES)" under the aegis of 'Synergistic Training program Utilizing the Scientific & Technological Infrastructure (STUTI)' project of Department of Science and Technology (DST), Government of India partnered with IT (ISM) Dhanbad during September 19, 2022 to September 25, 2022.	0025-03-14
Swami Chidrupananda Saraswati, Prof. Anupam Basu	One Day workshop on Value The Values	2022-08-22
Prof. Sadanand S. Gokhale , Prof. Anupam Basu, Mrs. Beena Gokhale	One Day Workshop on International Day for the Elimination of Violence against Women	2022-11-25

#### 4.6.14 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Multi-port, multi-functional metasurface antenna for beam steering	Rowdra Ghatal and TCS Research	IN202221040497	2022-07-14

#### 4.6.15 Workshops/Seminars Organized

NIL

#### 4.6.16 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Jayanta Pal, Soumen Ghosh, Bansibadan Maji and Dilip Kumar Bhattacharya.	Mathematical Approach to Protein Sequence Comparison Based on Physiochemical Properties.	ACS omega	Volume:7 Issue No:43 Page No:39446-39455 Year:2022 Month:
S. Ghosh, A. Bhowmick, A. Chandra, S. D. Roy, S. Kundu	Performance of a cognitive D2D Network in disaster situation under a collision constraint	International Journal of Communication Systems	Volume:35 Issue No:6 Page No:1-23 Year:2022 Month:Apr
Sharma, Shashibhushan & Dhar Roy, Sanjay & Kundu, Sumit.	Secrecy Outage of an Energy Harvesting Multi-relay Network with Multiple-antenna	Wireless Personal Communications.	Volume:129 Issue No: Page No:1-22 Year:2023 Month:Mar
Ghosh, Sayanti & Dhar Roy, Sanjay & Kundu, Sumit	UAV Assisted SWIPT Enabled NOMA Based D2D Network for Disaster Management.	Wireless Personal Communications.	Volume:128 Issue No: Page No: Year:2022 Month:Sep
Baranwal, Alok & Sharma, Shashibhushan & Dhar Roy, Sanjay & Kundu, Sumit.	Outage Performance of Uplink (UL) NOMA Network.	Wireless Personal Communications	Volume:125 Issue No: Page No: Year:2022 Month:Jul
Mondal, Soumen & Dhar Roy, Sanjay & Kundu, Sumit	Performance of a Hybrid Dual-hop and Multi-hop Network based on NOMA	International Journal of Electronics.	Volume:110 Issue No: Page No: Year:2022 Month:Apr



Author(s) Name	Paper Name	Journal Name	Others Info
Ghosh, Sayanti & Bhowmick, Abhijit & Chandra, Aniruddha & Dhar Roy, Sanjay & Kundu, Sumit.	Performance of a cognitive device-to-device network in disaster situation under a collision constraint.	International Journal of Communication Systems.	Volume:35 Issue No: Page No: Year:2022 Month:Apr
Debabrata Bej, Nilanjan Chattaraj, Rajat Mahapatra, Manas Kumar Mondal, Chiranjib Ghosh	Fabrication of a CO <sub>2</sub> Gas Sensor Based on ZnO Thin Film from the Perspective of Sensing Vehicle Tailpipe-Emitted Pollution	Journal of Electronic Materials, Springer	Volume:52 Issue No: Page No:3983–3990 Year:2023 Month:
Nilanjan Chattaraj, Ranjan Ganguli	Mechatronic Approaches to Synthesize Biomimetic Flappingwing Mechanisms: A Review	International Journal of Aeronautical & Space Sciences (SCI), Springer	Volume:24 Issue No: Page No:105–120 Year:2023 Month:
Amal Thomas K, Soumyajit Poddar, Hemanta Kumar Mondal	A CNN Hardware Accelerator Using Triangle-based Convolution	ACM Journal on Emerging Technologies in Computing Systems	Volume:18 Issue No:4 Page No:1-23 Year:2022 Month:Oct
Nilanjan Biswas, Zijian Wang, Luc Vandendorpe, Hamed Mirghashemi	On joint cooperative relaying, resource allocation, and scheduling for mobile edge computing networks	IEEE Transactions on Communications	Volume:70 Issue No:9 Page No:5882-5897 Year:2022 Month:Sep
Nilanjan Biswas, Goutam Das, Priyadip Ray	On joint cooperative relaying, resource allocation, and scheduling for mobile edge computing networks	IEEE/ACM Transactions on Networking	Volume:30 Issue No:5 Page No:1940-1954 Year:2022 Month:Oct
Hemanta Kumar Mondal, Sarnava Konar, Poulomi Hore, Ramapati Patra, Pradipta Sarkar, Sujay Deb	Interconnect support for energy efficient and high bandwidth memory access in CMPs	Sustainable Computing: Informatics and Systems, Elsevier	Volume:34 Issue No: Page No: Year:2022 Month:Apr
Sayanti Ghosh, Sanjay DharRoy, Sumit Kundu	UAV assisted SWIPT Enabled NOMA based D2D Network for Disaster Management	Wireless Personal Communication (Springer)	Volume:128 Issue No:128 Page No:2341–2362 Year:2022 Month:Sep
Sayanti Ghosh, Abhijit Bhowmick, Aniruddha Chandra, Sanjay Dhar Roy, Sumit Kundu	Performance of a cognitive device-to-device network in disaster situation under a collision constraint	International Journal of Communication systems	Volume:35 Issue No:22 Page No: Year:2022 Month:
Soumen Mondal, Sanjay Dhar Roy, Sumit Kundu	Performance of a hybrid dual-hop and multi-hop network based on NOMA	International Journal of Electronics	Volume:110 Issue No:5 Page No: 898-914 Year:2022 Month:May
A. Mukherjee, P. Chakraborty, S. Prakriya and A. K. Mal,	Cooperative Mode Switching Based Cognitive NOMA with Transmit Antenna and User Selection	IEEE Transactions on Signal and Information Processing over Networks	Volume:vol. 8, Issue No: Page No:pp. 932-945 Year:2022 Month:Aug
A. Mukherjee, P. Chakraborty, S. Prakriya and A. K. Mal,	Performance of Novel Adaptive Schemes for Cognitive Full-Duplex Relaying Based Downlink Cooperative NOMA	IEEE Transactions on Wireless Communications	Volume:vol. 10 Issue No: Page No:pp. 1-18 Year:2022 Month:Oct
S. Mandal, S. K. Mandal, A. K. Mal, and R. Mahapatra	Design of a super-wideband onchip antenna with improved characteristics using bulk micromachining	Microsystem Technologies	Volume:vol. 28 Issue No: Page No:pp. 937-946 Year:2022 Month:Apr



Author(s) Name	Paper Name	Journal Name	Others Info
S. Mandal, S. K. Mandal, A. K. Mal, R. Mahapatra	A UWB Dual Band-Notched on-Chip Antenna and Its Equivalent Circuit Model	Progress In Electromagnetics Research B	Volume:vol. 97 Issue No: Page No:pp. 19-35 Year:2022 Month:Oct
S. Goswami, Sujit K. Mandal and S. Banerjee	A compact quad-band sickleshaped monopole antenna for gsm 900/wimax/wlan applications	Computers, Materials & Continua	Volume:73 Issue No:1 Page No:397-410 Year:2022 Month:Mar
Das, A., Mandal, D., Kar, R.	An optimal radiation pattern synthesis and correction of mutually coupled circular dipole antenna array	Scientia Iranica	Volume:29 Issue No:3 Page No:1455-1474 Year:2022 Month:Aug
A. Das, D. Mandal, R. Kar	Side Lobe Suppression of Concentric Circular Antenna Array Using Social Spide Algorithm	IETE Journal of Research	Volume: Vol. 68 Issue No:issue. 6 Page No:pp. 4198-4207 Year:2022 Month:Jun
Kailash P.Dutta, Bitan Misra and Gautam K.Mahanti	Meta-heuristic optimization algorithms for placement of multiple nulls and minimization of side lobe level in quadrant symmetric sparse array antenna	International Journal of Communication Systems, Wiley	Volume:35 Issue No:10 Page No:1-15 Year:2022 Month:Jul
P. Sarkar, S. Panda, B. Maji, A. K. Mukhopadhyay	Plasmon induced quantified agglomeration of SiO <sub>2</sub> nanoparticles to improve in efficiency in solar cell.	Journal of Ovonic Research, ISSN 1584-9953,	Volume:18 Issue No:6 Page No:723-730 Year:2022 Month:
Jayanta Pal, Sourav Saha, Bansibadan Maji and Dilip Kumar Bhattacharya.	PTGAC Model: A machine learning approach for constructing phylogenetic tree to compare protein sequences.	Journal of Bioinformatics and Computational Biology, 22500282250028. DOI: 10.1142/S0219720022500287	Volume: Issue No: Page No: Year:2023 Month:
Ananya Mukherjee, Sujit K. Mandal, and Rowdra Ghatak	A Fractal-Based Time Modulated Multiband Linear Array for Interband Communication	IEEE Antennas & Wireless Propagation Letters	Volume:21 Issue No:5 Page No:918 - 922 Year:2022 Month:May
Harshavardhan Singh and Sujit K Mandal	Current Trends and Future Perspective of Designing On-chip Antenna	International Journal of Microwave and Wireless Technologies	Volume:15 Issue No:3 Page No:535 - 545 Year:2022 Month:Jun
A Mukherjee, S Mandal, Sujit K Mandal, R Ghatak	Trapezoidal pulse-switching strategy for failure correction of multi-pattern time-modulated linear array	International Journal of Microwave and Wireless Technologies	Volume: <a href="https://doi.org/10.1017/S1759078722001179">https://doi.org/10.1017/S1759078722001179</a> Issue No: Page No:1 - 17 Year:2022 Month:Nov
Sujoy Mandal, Sujit K Mandal	Synthesis of Time-Modulated Array with Reduced Sideband Radiation by Increasing Main-Beam Maximum	IEEE Antennas and Wireless Propagation Letters	Volume:22 Issue No:2 Page No:342 - 346 Year:2023 Month:Feb
Prajit Paul, Bappaditya Roy, Anup Kumar Bhattacharjee	A novel Block Bi-diagonalization based pre-coding scheme for bit error reduction in mutiple input multiple output-orthogonal frequency division multiplexing	International Journal of Communication Systems	Volume:36 Issue No:8 Page No: e5469 Year:2022 Month:Aug
Shashibhushan Sharma, Sanjay Dhar Roy , Sumit Kundu	Secrecy Outage of an Energy Harvesting Multi-relay Network with Multiple-antenna	Wireless Personal Communication ( Springer)	Volume:129 Issue No: Page No:2503-2524 Year:2023 Month:Mar



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Alok Kumar Baranwal, Shashibhushan Sharma, Sanjay Dhar Roy & Sumit Kundu	Outage Performance of Uplink (UL) NOMA Network	Wireless Personal Communication (Springer)	Volume:125 Issue No:2 Page No:1281-1305 Year:2022 Month:Feb
Arnab De, Bappaditya Roy, Ankan Bhattacharya, and A. K. Bhattacharjee	Investigations on a circular UWB antenna with Archimedean spiral slot for WLAN/Wi-MAX and satellite X-band filtering feature	International Journal of Microwave and Wireless Technologies	Volume:14 Issue No:6 Page No:781-789 Year:2022 Month:Aug
Paromita De, Sapana Ranwa, Sourangshu Mukhopadhyay	Intensity and phase encoding for realization of integrated Pauli X, Y and Z gates using 2D photonic crystal	Optics & Laser Technology	Volume:152 Issue No: Page No:108141(1-8) Year:2022 Month:Apr
Anik Biswas, Kishalaya Mandal, Sapana Ranwa, Rowdra Ghatak	Haferman carpet fractal shaped metasurface enabled with graphene as a THz absorber	Optics Communications	Volume:517 Issue No: Page No:128276 Year:2022 Month:Apr
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Improving the Modelling Efficiency of Hammerstein System using Kalman Filter and its Parameters Optimised using Social Mimic Algorithm: Application to Heating and Cascade Water Tanks	Journal of the Franklin Institute, Elsevier	Volume:359 Issue No:3 Page No:1239-1273 Year:2022 Month:Feb
Shubham Saini, Arvind Kumar, Sapana Ranwa, A. K. Tyagi	Highly sensitive NO <sub>2</sub> gas sensor based on Ag decorated ZnO nanorods	Applied Physics A	Volume:128 Issue No:454 Page No:1-9 Year:2022 Month:May
S. Yadav, S.K. Saha, R. Kar, D. Mandal	EEG/ERP signal enhancement through an optimally tuned adaptive filter based on Marine Predators Algorithm	Biomedical Signal Processing and Control, Elsevier	Volume:73, Issue No: 103427 Page No:1-33 Year:2022 Month:Mar
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Optimal Design of Cascaded Wiener-Hammerstein System Using A Heuristically Supervised Discrete Kalman Filter with Application to Real-time Benchmark Problems	Expert Systems With Applications, Elsevier	Volume:200 Issue No: Page No:117065 Year:2022 Month:Aug
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Hammerstein-Wiener Nonlinear System Identification by Using Honey Badger Algorithm Hybridized Sage-Husa Adaptive Kalman Filter with Real-time Applications	AEUE - International Journal of Electronics and Communications, Elsevier	Volume:151 Issue No: Page No:154218 Year:2022 Month:Jul
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Wiener Model-based System Identification Using Moth Flame Optimised Kalman Filter Algorithm	Signal, Image and Video Processing, Springer	Volume:16 Issue No: Page No:1425-1433 Year:2022 Month:
K. B. Maji, B.P. De, R. Kar, D. Mandal, SP Ghoshal	CMOS Analog Amplifier Circuits Design Using Seeker Optimization Algorithm	IETE Journal of Research, Taylor & Francis	Volume:68 Issue No:2 Page No:1376-1385 Year:2022 Month:
Madhab Dhali, A Chakraborty, Gopi Ram, D Mandal	Mutual coupling compensation of linear antenna array using evolutionary optimization technique	International Journal of Communication Systems	Volume:36 Issue No:4 Page No:e5401 Year:2022 Month:Nov





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S. Mallick, R. Kar, D. Mandal	Optimal design of second generation current conveyor using craziness-based particle swarm optimisation	International Journal of Bio-Inspired Computation, Inderscience	Volume:19 Issue No:2 Page No:87-96 Year:2022 Month:
L Janjanam, SK Saha, R Kar, D Mandal	Volterra filter modelling of nonlinear system using Artificial Electric Field algorithm assisted Kalman filter and its experimental evaluation	ISA transactions, Elsevier	Volume:125 Issue No: Page No:614-630 Year:2022 Month:
A. Das, D. Mandal, R. Kar	An Optimal Far Field Radiation Pattern Synthesis of Mutually Coupled Antenna Arrays	International Journal of RF and Microwave Computer-Aided Engineering, Wiley	Volume:32 Issue No:e7 Page No:e23198 Year:2022 Month:
Avishek Chakraborty, Gopi Ram, D Mandal	Power pattern synthesis of a moving phase center time modulated antenna array using symmetrically and asymmetrically positioned time schemes	International Journal of RF and Microwave Computer-Aided Engineering	Volume:32 Issue No:12 Page No:e23442 Year:2022 Month:Oct
A. Das, D. Mandal, R. Kar	An Optimal far field Radiation Pattern Synthesis of Mutually Coupled Antenna Arrays	International Journal of RF and Microwave Computer-Aided Engineering, Wiley	Volume:32 Issue No:7 Page No:e23198 Year:2022 Month:
G. Ram, R. Kar, D. Mandal	Control Parameter Based Comparative Study of Radiation Properties of TMCCAA and TMHSCAA	Scientia Iranica	Volume:29 Issue No:4 Page No:1939–1948 Year:2022 Month:
A. Das, D. Mandal, R. Kar	An optimal radiation pattern synthesis and correction of mutually coupled circular dipole antenna array	Scientia Iranica	Volume:29 Issue No:3 Page No:1455–1474 Year:2022 Month:
A. Das, D. Mandal, R. Kar	Side Lobe Suppression of Concentric Circular Antenna Array Using Social Spider Algorithm	IETE Journal of Research	Volume:68 Issue No:6 Page No:4198-4207 Year:2022 Month:
A Chakraborty, Gopi Ram, D Mandal	Time modulation based unconventional phased antenna arrays for monopulse and multifunction radar systems	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	Volume:36 Issue No:4 Page No:e3074 Year:2022 Month:Oct
Suman Poddar, Prajat Paul, A Chakraborty, Gopi Ram, D Mandal	Design optimization of linear arrays and time-modulated antenna arrays using metaheuristics approach	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	Volume:35 Issue No:5 Page No:e3010 Year:2022 Month:Apr
A Chakraborty, Gopi Ram, D Mandal	Time-modulated linear array synthesis with optimal time schemes for the simultaneous suppression of sidelobe and sidebands	International Journal of Microwave and Wireless Technologies	Volume:14 Issue No:6 Page No:768-780 Year:2022 Month:
A Chakraborty, Gopi Ram, D Mandal	Phase center motion based time modulated arrays with preprocessed time schemes for selective harmonic beamforming in B5G communication systems	Transactions on Emerging Telecommunications Technologies	Volume:34 Issue No:5 Page No:e4754 Year:2023 Month:Mar



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Arun Raj, D C Dhubkarya, D K Srivastava, D Mandal	Design and analysis of square shape slot cut high gain Sierpinski carpet fractal antenna for wireless applications	Microwave and Optical Technology Letters	Volume:65 Issue No:8 Page No:2337-2343 Year:2023 Month:Mar
Sahoo, Jagamohan; Mahapatra, Rajat	The effect of dual dummy gate in the drift region on the on-state performance of SOI-LDMOS transistor for power amplifier application	Silicon	Volume:14 Issue No:5 Page No:2039-2050 Year:2022 Month:
Mandal, Sanjukta; Mandal, Sujit Kumar; Mal, Ashis Kumar; Mahapatra, Rajat;	Design of a super-wideband onchip antenna with improved characteristics using bulk micromachining	Microsystem Technologies	Volume:28 Issue No: Page No:937-946 Year:2022 Month:
Pal, Himangshu; Mahapatra, Rajat; Datta, Subham; Chatterjee, Somenath;	Cellulosic graphene: growth, characterization, and fabrication toward ambient humidity sensing	Materials and Manufacturing Processes	Volume:37 Issue No:16 Page No:1850-1858 Year:2022 Month:
Mandal, Sanjukta; Mandal, Sujit K; Mal, Ashis K; Mahapatra, Rajat;	A UWB Dual Band-Notched On-Chip Antenna and Its Equivalent Circuit Model.	Progress In Electromagnetics Research B	Volume:97 Issue No: Page No:19-35 Year:2022 Month:
Paul, Argha Deep; Barman, Rabindranath; Nunzi, Jean-Michel; Tameev, Alexey; Mahapatra, Rajat; Mondal, Aniruddha	Ion-Sensitive Three-Terminal Device as a Universal Hybrid Platform With TiO <sub>2</sub> Nanowires on the Channel	IEEE Sensors Journal	Volume:23 Issue No:3 Page No:1917 Year:2023 Month:
Choudhury, Ankita; Dey, Arka; Ghosh, Chiranjib; Dalal, Avijit; Mahapatra, Rajat; Biswas, Saikat; Halder, Nilanjan; Mondal, Aniruddha;	Positive temperature coefficient of resistance of Mg-GeO <sub>2</sub> nanowire array film	Journal of Applied Physics	Volume:133 Issue No:4 Page No: 045302 Year:2023 Month:
Anu Samanta, Indranil Hatai, Ashis Kumar Mal,	"An energy-efficient voice activity detector using reconfigurable Gaussian base normalization deep neural network	Multimedia Tools and Applications	Volume:vol. 82, Issue No: Page No:pp. 27861-27882 Year:2023 Month:Feb
Anik Biswas, Kishalaya Mandal, Sapana Ranwa, Rowdra Ghatak	Haferman carpet fractal shaped metasurface enabled with graphene as a THz absorber	Optics Communications	Volume:517 Issue No: August Page No: Year:2022 Month:Aug
Ananya Mukherjee, Sujit K. Mandal, Rowdra Ghatak	A Fractal-Based Time-Modulated Multiband Linear Array for Interband Communication	IEEE Antennas and Wireless Propagation Letters	Volume:21 Issue No:5 Page No:918-922 Year:2022 Month:May
Anjan Bandyopadhyay, Pankaj Sarkar, Rowdra Ghatak	A Bandwidth Reconfigurable Bandpass Filter for Ultrawideband and Wideband Applications	IEEE Transactions on Circuits and Systems II: Express Briefs	Volume:69 Issue No:06 Page No:2747-2751 Year:2022 Month:Jun
Abhik Gorai, Arindam Deb, Jyoti Ranjan Panda, Rowdra Ghatak	Millimeter Wave/5G Multiband SIW Antenna with Metasurface Loading for Circular Polarization and Bandwidth Enhancement	Journal of Infrared, Millimeter, and Terahertz Waves	Volume:43 Issue No:June 22 Page No:366-383 Year:2022 Month:Jun



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Ananya Mukherjee, Sujoy Mandal, Sujit K. Mandal, Rowdra Ghatak	Trapezoidal pulse-switching strategy for failure correction of multi-pattern time-modulated linear array	International Journal of Microwave and Wireless Technologies	Volume:15 Issue No:07 Page No:1188 - 1204 Year:2022 Month:Sep
Shyam Sundar Jash, Rowdra Ghatak	A metasurface enabled dual band antenna exhibiting dual polarizations with reduced beam squint and cross polarization	International Journal of RF And Microwave Computer Aided Engineering	Volume:32 Issue No:12 Page No:e23501 Year:2022 Month:Oct
Jeet Banerjee, Abhik Gorai, Rowdra Ghatak	A novel isolation improvement technique using fractal neutralization line with dual band rejection attributes in a compact UWB MIMO antenna	International Journal of Microwave and Wireless Technologies	Volume:First View Issue No: Page No:1-12 Year:2022 Month:Dec
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Optimal Design of Cascaded Wiener-Hammerstein System Using A Heuristically Supervised Discrete Kalman Filter with Application to Real-time Benchmark Problems	Expert Systems With Applications, , August 2022, 117065, Elsevier.	Volume:Volume 200 Issue No: Page No: Year:2022 Month:Aug
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Hammerstein-Wiener Nonlinear System Identification by Using Honey Badger Algorithm Hybridized Sage-Husa Adaptive Kalman Filter with Real-time Applications	AEUE - International Journal of Electronics and Communications	Volume:Volume 151 Issue No:154218 Page No: Year:2022 Month:Jul
L. Janjanam, S.K. Saha, R. Kar, D. Mandal	Wiener Model-based System Identification Using Moth Flame Optimised Kalman Filter Algorithm	Signal, Image and Video Processing	Volume:16 Issue No: Page No:1425-1433 Year:2022 Month:Sep
K. B. Maji, B.P. De, R Kar, D Mandal, SP Ghoshal	CMOS Analog Amplifier Circuits Design Using Seeker Optimization Algorithm	IETE Journal of Research	Volume:68 Issue No:2 Page No:1376-1385, 2022 Year:2022 Month:Jun
Soumen Mallick, Rajib Kar, Durbadal Mandal	Optimal design of second generation current conveyor using craziness-based particle swarm optimisation	International Journal of BioInspired Computation	Volume:19 Issue No:2 Page No:87-96 Year:2022 Month:May
L Janjanam, SK Saha, R Kar, D Mandal	Volterra filter modelling of nonlinear system using Artificial Electric Field algorithm assisted Kalman filter and its experimental evaluation	ISA transactions	Volume:125 Issue No: Page No:614-630 Year:2022 Month:Aug
A. Das, D. Mandal, R. Kar	An Optimal Far Field Radiation Pattern Synthesis of Mutually Coupled Antenna Arrays	International Journal of RF and Microwave Computer-Aided Engineering	Volume:Volume32 Issue No:Issue7 Page No:e23198 Year:2022 Month:Jul
H. Patidar, R. Kar	Generation of cosecant squared pattern from linear array of active and parasitic dipole antennas	Electromagnetics	Volume:Volume 42 Issue No:Issue 4 Page No:pp. 278-294 Year:2022 Month:Aug
P. K. Bera, R. Kar, D. Mandal	Modelling and Analysis of Dual Material Gate Charge Plasma Based Vertical t-shaped TFET	Silicon	Volume:vol. 14 Issue No: Page No:pp. 7667-7676 Year:2022 Month:Sep



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A. Das, D. Mandal, R. Kar	An Optimal Radiation Pattern Synthesis of Mutually Coupled Concentric Circular Dipole Antenna Array	International Journal of RF and Microwave Computer-Aided Engineering,	Volume:Vol. 32 Issue No:Issue7 Page No:e23198 Year:2022 Month:Oct
G. Ram, R. Kar, D. Mandal	Control Parameter Based Comparative Study of Radiation Properties of TMCCAA and TMHSCAA	Scientia Iranica	Volume:29 Issue No:4 Page No:pp. 1939–1948 Year:2022 Month:Dec
Sanjukta Mandal, Sujit K. Mandal, A. K. Mal, and R. Mahapatra	A UWB Dual Band-notched On-chip Antenna and It's Equivalent Circuit Model	Progress in Electromagnetics Research B	Volume:97 Issue No: Page No:19 - 35 Year:2022 Month:Oct
Pallav Dutta, Ananya Banerjee, Moupali Roy, Arnima Das, Bansibadan Maji and Anilesh Dey.	Detrended Fractal Analysis of Dynamics in Non-Linear Domain for HRV While Performing Graded Cycling Exercise.	Journal of Xi'an Shiyou University, Natural Sciences Edition, ISSN:1673-064X, DOI 10.17605/OSF.IO/6C47 D	Volume:65 Issue No:05 Page No:178-188 Year:2022 Month:
P. K. Bera, R. Kar, D. Mandal	Modelling and Analysis of Dual Material Gate Charge Plasma Based Vertical t-shaped TFET	Silicon, Springer	Volume:14 Issue No: Page No:7667-7676 Year:2022 Month:
B. Ghosh, A. Chandra, A. K. Mal	Fuzzy logic-based energy-optimal collinear DF relay placement in two-hop eta-mu fading channel	International Journal of Wireless Information Networks	Volume:29 Issue No:2 Page No:167–179 Year:2022 Month:Jun
Sujoy Mandal, Sujit K Mandal	Efficient Computation of Sideband Power Losses in Pulse-Shifted Non-Uniform Time-Modulated Array with Arbitrary Element	Progress In Electromagnetics Research B	Volume:98 Issue No: Page No:59 - 75 Year:2023 Month:Jan

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4.6.19 Journal: Accepted in Others in 2022-2023

NIL

4.6.20 Conference: Published in 2022-2023 DOI/ISBN

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D. Chatterjee, A. Dutta, D. Sil, A. Chandra	Deep single shot musical instrument identification using scalograms	International Conference on AI in Information and Communication (ICAIIIC)	DOI/ISBN: 10.1109/ICAIIIC57133.2023.10066992 Volume: Issue No: Page No:386–389 Year:2023 Month:Feb Presenter:SELF
A. Chattopadhyay, A. Chandra	IEEE 802.11ac vs 802.11ad for V2X: How many frames can we aggregate?	IEEE International Symposium on Personal, Indoor and Mobile	DOI/ISBN: 10.1109/PIMRC54779.2022.9977545



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		Radio Communications (PIMRC)	Volume: Issue No: Page No:913–918 Year:2022 Month:Sep Presenter:SELF
A. Chandra, M. Kim, A. Ghosh, J. M. Kelner, A. Prokes, D. G. Michelson	Millimeter wave vehicular communication: From channel sounding to standardization	IEICE Technical Report (AP2022-53)	DOI/ISBN: 2432-6380 Volume: Issue No: Page No:107–112 Year:2022 Month:Jul Presenter:SELF
R. Shukla, A. N. Sarkar, A. Chandra, T. Mikulasek, A. Prokes, J. M. Kelner, C. Ziolkowski	Deep learning based power delay profile trend generation: A 60 GHz intra-vehicle case study	IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (AP-S/URSI)	DOI/ISBN: 10.1109/AP-S/USNC-URSI47032.2022.9887316 Volume: Issue No: Page No:209–210 Year:2022 Month:Jul Presenter:CO-AUTHOR
Baranwal, Alok & Dhar Roy, Sanjay & Kundu, Sumit.	Performance Analysis of Full-Duplex Cooperative NOMA with Power-Time Splitting Based Energy Harvesting.	4th International Conference on Computing and Communication Systems (I3CS)	DOI/ISBN: DOI:10.1109/I3CS58314.2023.10127421 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Das, Amitesh & Ghosh, Sayanti & Bhowmick, Abhijit & Dhar Roy, Sanjay & Kundu, Sumit.	Outage Analysis of a D2D Network for MIMO-NOMA-based Downlink Transmission	5th International Conference on Recent Advances in Information Technology (RAIT)	DOI/ISBN: DOI:10.1109/RAIT57693.2023.10126590 Volume: Issue No: Page No:1-5 Year:2023 Month:Mar Presenter:CO-AUTHOR
Ghosh, Sayanti & Bhowmick, Abhijit & Dhar Roy, Sanjay & Kundu, Sumit.	UAVs-assisted Multi-Hop D2D Communication using Hybrid PTS for disaster management	5th International Conference on Recent Advances in Information Technology (RAIT)	DOI/ISBN: DOI:10.1109/RAIT57693.2023.10127102 Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR
Sanniva Bhattacharjee, Aryan Kanu, Arnab Roy Chowdhury, Soumyadeep Mondal, Nilanjan Chattaraj and Nirmal Baran Hui	Low frequency Vibration Energy Harvester using Compliant Mechanism driven Piezoelectric Transformer	IoP International Conference on Sustainable Energy, Environment, and Green Technologies	DOI/ISBN: DOI 10.1088/1755-1315/1084/1/012017 Volume: Issue No: Page No:1-12 Year:2022 Month: Presenter:CO-AUTHOR
Bodhisattwa Rakshit, Rounak Das, Nilanjan Chattaraj	Detection-Accuracy Enhancement of COVID-19 from Multi-Class Lung Diseases by Instrumenting CLAHE Integrated Deep Learning Technique	IEEE 2nd International Symposium on Sustainable Energy, Signal Processing and Cyber Security (iSSSC)	DOI/ISBN: DOI: 10.1109/iSSSC56467.2022.10051405 Volume: Issue No: Page No:1-6 Year:2022 Month: Presenter:CO-AUTHOR
Baranwal, Alok & Dhar Roy, Sanjay & Kundu, Sumit.	Secrecy Outage Analysis of Energy Harvesting Enabled Two User Cooperative NOMA.	RAIT	DOI/ISBN: 10.1109/RAIT57693.2023.10126578 Volume: Issue No: Page No:1-6 Year:2023 Month:Mar Presenter:CO-AUTHOR
Sahu, Samyat & Ghosh, Sayanti & Nayak, Deepak & Dhar Roy, Sanjay.	Outage Probability and Average Sum Rate of an IoT enabled D2D Communication Network in LTE Environment	2022 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)	DOI/ISBN: DOI:10.1109/SMARTGENCON56628.2022.10084180 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR





Author(s) Name	Paper Name	Conference Name	Others Info
Ghosh, Priyanka & Sharma, Shashibhushan & Dhar Roy, Sanjay & Kundu, Sumit	Energy Harvesting Assisted Cooperative Non Orthogonal Multiple Access (NOMA) using Time Switching Relaying (TSR) Protocol	2022 IEEE Calcutta Conference (CALCON)	DOI/ISBN: DOI:10.1109/CALCON56258.2022.10060403 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Nayak, Deepak & Reddy, S & Dhar Roy, Sanjay.	Performance Evaluation of CV2X Communication.	2022 IEEE North Karnataka Subsection Flagship International Conference (NKCon)	DOI/ISBN: DOI:10.1109/NKCon56289.2022.10126613 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Bal, Ranjeet & Reddy, S & Nayak, Deepak & Dhar Roy, Sanjay.	Seamless Handover Algorithms for Non-Standalone 5G mmW Networks	2022 IEEE 3rd Global Conference for Advancement in Technology (GCAT)	DOI/ISBN: DOI:10.1109/GCAT55367.2022.9971955 Volume: Issue No: Page No: Year:2022 Month:Oct Presenter:CO-AUTHOR
Hritwika Sarkar, Shashibhushan Sharma, Sumit Kundu	Outage Performance of Two Users Cooperative NOMA with Energy Harvesting Relay	IEEE Indicon	DOI/ISBN: 10.1109/INDICON56171.2022.10039919 Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:SELF
Priyanka Ghosh, Shashibhushan Sharma, Sanjay DharRoy, Sumit Kundu	Energy Harvesting Assisted Cooperative Non Orthogonal Multiple Access (NOMA) using Time Switching Relaying (TSR) Protocol	IEEE Calcon 2022	DOI/ISBN: doi: 10.1109/CALCON56258.2022.10060403 Volume: Issue No: Page No: 113-116 Year:2022 Month:Dec Presenter:CO-AUTHOR
Sayanti GhoshAbhijit Bhowmick; Sanjay Dhar Roy; Sumit Kundu	UAVs-assisted Multi-Hop D2D Communication using Hybrid PTS for disaster management	2023 5th International Conference on Recent Advances in Information Technology (RAIT), Dhanbad, India, 2023	DOI/ISBN: 10.1109/RAIT57693.2023.10127102. Volume: Issue No: Page No:1-6 Year:2023 Month:Mar Presenter:CO-AUTHOR
A. Prakash, A. K. Mal, S. S. Sundram and R. Todani	gm/ID Based Noise Optimization For Folded-Cascode Fully Differential Difference Amplifier,	IEEE Calcutta Conference (CALCON), Kolkata, India, 2022	DOI/ISBN: 10.1109/CALCON56258.2022.10060484 Volume: Issue No: Page No:pp. 218-222 Year:2022 Month:Dec Presenter:CO-AUTHOR
Alok Baranwal, Sanjay DharRoy, Sumit Kundu	Performance Analysis of Full-Duplex Cooperative NOMA with Power-Time Splitting Based Energy Harvesting, published in	2023 4th International Conference on Computing and Communication Systems (I3CS), NEHU, Shillong.	DOI/ISBN: 10.1109/I3CS58314.2023.10127421. Volume: Issue No: Page No:1-6 Year:2023 Month:Mar Presenter:CO-AUTHOR
Alok Baranwal, Sanjay DharRoy, Sumit Kundu	Secrecy Outage Analysis of Energy Harvesting Enabled Two User Cooperative NOMA,	5th International Conference on Recent Advances in Information Technology (RAIT), RAIT, Dhanbad.	DOI/ISBN: 10.1109/RAIT57693.2023.10126578. Volume: Issue No: Page No:1-6 Year:2023 Month:Mar Presenter:CO-AUTHOR





Author(s) Name	Paper Name	Conference Name	Others Info
A. Das, S. Ghosh, A. Bhowmick, S. D. Roy and S. Kundu	Outage Analysis of a D2D Network for MIMO-NOMA-based Downlink Transmission	5th International Conference on Recent Advances in Information Technology (RAIT), Dhanbad, India, 2023	DOI/ISBN: 10.1109/RAIT57693.2023.10126590. Volume: Issue No: Page No:1-5 Year:2023 Month:Mar Presenter:CO-AUTHOR
Aparna Panja, Arnab De, Bappaditya Roy, Partha Pratim Sarkar, Anup Kumar Bhattacharjee	A Letter Box shaped UWB monopole antenna for future 5G communication systems	2023 3rd International conference on Artificial Intelligence and Signal Processing (AISP)	DOI/ISBN: <a href="https://doi.org/10.1109/AISP57993.2023.10134995">https://doi.org/10.1109/AISP57993.2023.10134995</a> Volume: Issue No: Page No:1-5 Year:2023 Month:Mar Presenter:CO-AUTHOR
Arijit Bhadra and Suman Samui	Design and Analysis of HighThroughput Two-Cycle Multiply-Accumulate (MAC) Architectures for Fixed-Point Arithmetic	IEEE Calcutta Conference (IEEE CALCON)	DOI/ISBN: 10.1109/CALCON56258.2022.10059958 Volume: Issue No: Page No:267-272 Year:2022 Month:Dec Presenter:SELF
Sujit Goswami, Sujit Kumar Mandal, and Soumen Banerjee	A Compact Symmetrically Inverted Slotted T-Shaped Patch Antenna for Tri-band Communications	International Conference on Intelligent Communication and Computational Techniques (ICCT)	DOI/ISBN: 10.1109/ICCT56969.2023.10075877 Volume: Issue No: Page No:1 - 5 Year:2023 Month:Jan Presenter:CO-AUTHOR
Arghyadip Roy and Nilanjan Biswas	GoPro: a Low Complexity Task Allocation Algorithm for a Mobile Edge Computing System	IEEE National Conference on Communications	DOI/ISBN: 10.1109/NCC55593.2022.9806731 Volume: Issue No: Page No: Year:2022 Month:May Presenter:CO-AUTHOR
S. Chakravarty, A. Kumar, T. Chakravarty, A. Pal and R. Ghatak	A Metasurface-Enabled Lens Antenna Demonstrating Electromechanical Beam-Tilting for 5G Applications	2022 National Conference on Communications (NCC)	DOI/ISBN: 10.1109/NCC55593.2022.9806743 Volume: Issue No: Page No:30-35 Year:2022 Month:May Presenter:CO-AUTHOR
Amartya Banerjee, Tapas Chakravarty, Arpan Pal and Rowdra Ghatak	Planar Tapered Metasurface Unit Cell Shaped Array for Augmenting Multiport Radiating Systems for 5G mm-Wave Beam Forming Applications	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	DOI/ISBN: 10.1109/MAPCON56011.2022.10046842 Volume: Issue No: Page No:525-529 Year:2022 Month:Dec Presenter:CO-AUTHOR
J. Banerjee, A. Gorai and R. Ghatak	A UWB MIMO Antenna using a Y-shaped Extended Ground Structure and Y-shaped Slot for Wideband Isolation	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	DOI/ISBN: 10.1109/MAPCON56011.2022.10047537 Volume: Issue No: Page No:866-871 Year:2022 Month:Dec Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
G.K.Mahanti and Bitan Misra	Concentric Circular Array Antenna for Generation of Flat-Top Beam with Design Constrains in Two Principal Vertical Planes	2nd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME 2022),Maldives National University,Male,Maldives	DOI/ISBN: 10.1109/ICECCME55909.2022.9988078 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:SELF
Ashok Babu Chatla, B. Maji, Habibulla Khan & B.T. P. Madhav.	Intrusion System based node replication detection using trusted energy optimization with dynamic hybrid energy efficient distributed	International Conference on Signal processing, Communication and Electronics Engineering (ICSPCEE), ICSPCEE, Nellore, India on 24th Dec 2022, ISBN: 978-93-90150-31-1	DOI/ISBN: ISBN: 978-93-90150-31-1 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Ashok Babu Chatla, B. Maji, Habibulla Khan & B.T. P. Madhav.	Clustering based secure routing using deep anomaly detection with energy aware system by energy efficient routing protocol.	International Conference on Networking, Communication and Computing Technology (ICNCCT), ICNCCT, Vijayawada, India on 25th Dec 2022, ISBN: 978-93-90150-31-1	DOI/ISBN: ISBN: 978-93-90150-31-1 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.6.21 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Hemanta Kumar Mondal	Prasenjit Maji, Kunal Dhibar	Hardware Acceleration Strategies for Signal and Image Processing Applications	Survey on Recent Trends in Hardware Acceleration for Signal and Image Processing	Publisher: CRC Press (Accepted dated 21/06/2022) Publication Date: 2022-06-21
Ghosh, Sayanti & Dhar Roy, Sanjay & Kundu, Sumit.		Internet of Things and Data Mining for Modern Engineering and Healthcare Applications (pp.129-140)	Downlink Fronthaul Connectivity for IoT Devices in Rural Areas with Scheduling Approach.	Publisher: Chapman and Hall/CRC Publication Date: 2022-07-15
Sumit Kundu	Hritwika Sarkar, Shashibhushan Sharma	5G and Beyond Wireless Networks: Technology, Network Deployments and Materials used for antenna deployments	Two Users Cooperative NOMA with a SWIPT Enabled Relay ( Accepted)	Publisher: Taylor and Francis, CRC Press Publication Date: 2023-04-04
Sumit Kundu	Sayanti Ghosh, Sanjay DharRoy	Advanced Wireless Communication and Sensor Networks	Network Recovery In Dense And Emergency Areas Using A T-BS and A UAV	Publisher: CRC Press Publication Date: 2023-0712
Arnab De	K.M. Vijaylaxmi, Dinesh Yadav, Soufian Lakrit, Raed	Internet of Things and Data Mining for Modern	Body Wearable Antennas and Integration of Internet of Things in Vehicular	Publisher: Chapman and Hall/CRC, Taylor and Francis



Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
	M.Shubair, Bappaditya Roy, Anup Kumar Bhattacharjee	Engineering and Healthcare Applications	Wireless Communication Systems	Publication Date: 2022-08-30
Bipasha Chakrabarti	B. Roy, Priyanka S. Das, Prajit Paul, and A. K. Bhattacharjee	In Advances in Communication, Devices and Networking	Interpretation of Wireless Communication Using OFDM Technology	Publisher: Chapman and Hall/CRC, Taylor and Francis Publication Date: 2022-08-30
Sapana Ranwa	Mahesh Kumar	Encyclopedia of Sensors and Biosensors	Sensing Materials: Ceramics	Publisher: Elsevier Publication Date: 2023-0111
Sapana Ranwa	Mahesh Kumar	Gas Sensors Manufacturing, Materials, and Technologies	ZnO Nanostructures-Based Resistive Gas Sensors: Sensing Mechanism and Sensor Response Enhancement Approaches	Publisher: Elsevier Publication Date: 2022-1128

#### 4.6.22 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
FDP on Blockchain Technology	EICT, NIT Patna	2023-06-19	2023-06-24	India
Webinar on "Introduction to VLSI Synthesis and STA"	Learn VLSI	2022-11-19	2022-11-19	India
IEEE Indicon 2022	IEEE Kerala section	2022-11-24	2022-11-27	India
IEEE MOVE Talk Series:8: Disaster Management: Reflections on Science, Policy, and Societ	IEEE	2022-09-24	2022-09-24	India
Latest Trends in VLSI Devices, Circuits and Tools	NIT Delhi	2022-09-19	2022-09-24	India
International Union of Materials Research Societies (International Conference in Asia 2022 (IUMRS-ICA-2022) IIT Jodhpur 2022	IIT Jodhpur	2022-12-19	2022-12-23	India
Latest Trends in VLSI Devices, Circuits and Tools	IIT Delhi	2022-09-19	2022-09-24	India

#### 4.6.23 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
UAV-assisted Energy-aware Multi-hop D2D Networks for Disaster Management.	S. Ghosh	Dr. S. Dhar Roy	Ongoing	null
Air Pollution from Vehicle-Tailpipe Emissions and Diagnostic Approaches through Cyber-Physical Platform	Debabrata Bej	Nilanjan Chattaraj	Ongoing	-



Topic Name	Scholar	Supervisor	Status	Status Date
Audio Signal and Machine Learning	Al mamun Sheikh	Nilanjan Chattaraj, Suman Samui	Ongoing	-
Analog circuit testing and Machine Learning	Suman Biswas	Gautam Kumar Mahanti, Nilanjan Chattaraj	Ongoing	-
FinFET	Aprajita Kumari	Dr. Rajashree Das	Ongoing	-
FinFET	Subarna Mandal	Dr. Rajashree Das	Ongoing	-
Low complexity scheduler design for cellular IoT networks	Anisha Sengupta	Nilanjan Biswas	Ongoing	-
Performance Aware Network-on-Chip Architectures for High Performance Computing Applications	Ramapati Patra	Hemanta Kumar Mondal	Ongoing	-
Intelligent Medical Device for Automatic Beat Identification for Smart Healthcare	Prasenjit Maji	Hemanta Kumar Mondal	Ongoing	-
Efficient 3D Network-on-Chip Architectures for High Performance Computing	Debabrata Das	Hemanta Kumar Mondal	Ongoing	-
3D Network-on-Chip for Next Generation 3D SoC	Suman Kalyan Porel	Hemanta Kumar Mondal	Ongoing	-
Mobility Management in integrated Heterogeneous Networks	S Reddy Vamshidhar Reddy	Dr. S. Dhar Roy	Submitted	2023-07-13
Mobility and Handoff Issues in NextG Networks	Deepak Nayak	Dr. Sanjay Dhar Roy	Ongoing	-
Structural Health Monitoring using WSNs	P. K. Sahu	Dr. K. Mistry and Dr. Sanjay Dhar Roy	Ongoing	-
D2D Communication with MIMO	Amitesh Das	Dr. Sanjay Dhar Roy	Ongoing	-
IRS Enabled Cooperative CR NOMA with EH Relays	Priyanka Sarkar	Prof. Sumit Kundu	Ongoing	-
Energy Harvesting Enabled NOMA Networks with Half/Full Duplex Cooperative Relaying for Secured Transmission	Alok Kr. Baranwal	Prof. S. Kundu and Dr. Sanjay Dhar Roy	Ongoing	-
Performance Optimization and Security Enhancement in Networks with Co-Channel Interference	Amrita Mukherjee	A. K. Mal and P. Chakraborty	Ongoing	2023-08-04
Design of Low Power Current Mode Circuits In Nano-CMOS	Satyam Shivam Sundram	A. K. Mal	Ongoing	-
Effect of Magnetic Field on the Large-scale-Characteristics of Millimeter wave IMPATT Sources	Partha Banerjee	A.K Bhattacharjee , Arindam Biswas	Ongoing	-
"Energy Harvesting Enabled NOMA Networks with Half/Full Duplex Cooperative Relaying for Secured Transmission	Alok Kumar Baranwal	Prof. Sumit Kundu and Dr. Sanjay DharRoy	Ongoing	-



Topic Name	Scholar	Supervisor	Status	Status Date
Design and Analysis Of Microgrid With A View to Integrate Renewable Sources	Krittika Mukherjea	A. K. Bhattacharjee	Ongoing	-
Investigation of Low Profile Microwave Antenna for Next Generation Wireless Applications	Aparna Panja	A. K. Bhattacharjee	Ongoing	-
Elimination of Harmonics/Higher order modes in Microstrip Antenna using Stub and / or Defected Ground Structure (DGS)	Subhadra Deb Roy	A. K. Bhattacharjee	Ongoing	-
Design of a super-wideband on-chip antenna with improved characteristics using bulk micromachining	Sanjukta Mandal	S. K. Mandal, R. Mahapatra, A. K. Mal	Degree Awarded	2023-06-13
Some Studies on Wearable Multiband Antennas	Surajit Batabyal	A. K. Bhattacharjee	Ongoing	-
Statistical signal processing based reconnaissance to explore the kinematics of Coronal Mass Ejection & its impact on Earth.	Anirban Chattopadhyay	A. K. Bhattacharjee, Arindam Biswas	Degree Awarded	2022-11-14
Design and development of Spectrum Sharing in an overlay Cognitive Radio Network	Sukanta Mondal	A.K Bhattacharjee , Arindam Biswas	Ongoing	-
Estimation of Different Parameters for an ARQ Protocol in a Fading Network through Various Codes	PRAJIT PAUL	A. K. Bhattacharjee	Ongoing	-
High Performance CMOS VLSI Circuit Design using Evolutionary Optimization Techniques	Kanchan Baran Maji	R. Kar, D. Mandal, S.P. Ghoshal	Submitted	2022-08-26
Analysis and Performance Optimization of Innovative Nanowire Tunnel FET for Low Power Sensors Design	Navaneet Kumar Singh	R. Kar, D. Mandal	Submitted	2022-12-21
Deep Learning based Speech Signal Processing	Soumen Garai	Dr. Suman Samui	Ongoing	-
Machine Learning based Audio Signal Processing	Almamun Sheikh	Dr. Suman Samui and Dr. Nilanjan Chattaraj	Ongoing	-
Studies on 2-D Transition Metal Dichalcogenides Nanostructures Synthesized Using Chemical Vapour Deposition with Controlled Morphology for Sensing Applications	Shreerupa Biswas, Reg. No- 21REC084	Dr. Sapana Ranwa	Ongoing	-
Implementation of some Quantum Optical Logic systems using the switches made of Photonic Band-gap crystal	Paromita De, Reg. No21REC042	Dr. Sapana Ranwa (main supervisor), Prof. Sourangshu Mukhopadhyay (University of Burdwan, Cosupervisor)	Ongoing	-
mm Wave Devices and Circuits	Sayani Bindai (21EC1104)	Prof. Rowdra Ghatak and Dr. Sapana Ranwa	Ongoing	-



Topic Name	Scholar	Supervisor	Status	Status Date
Synthesis of Different Antenna Array Geometries Using Evolutionary Algorithms and Time Modulation Strategies	Ananya Mukherjee	Dr. Sujit Kumar Mandal and Prof. Rowdra Ghatak	Degree Awarded	2022-09-20
Studies on Designing On-chip Antennas in Silicon IC for Short Range Communication	Sanjukta Mandal	Dr. Sujit Kumar Mandal, Dr. Rajat Mahapatra. and Dr. Ashis Kumar Mal	Submitted	2022-11-28
Studies on Sideband Radiation Characteristics towards Improving Time-Modulated Antenna Array Performances	Sujoy Mandal	Dr. Sujit Kumar Mandal	Submitted	2023-02-14
Study on Design of Multiband MicrostripPatch Antennas for Wireless Devices	Sujit Goswami	Dr. Sujit Kumar Mandal and Dr. Soumen Banerjee (Budge Budge Institute of Technology)	Ongoing	-
Antenna Array Synthesis for 5G Communication	Shrabani Sarkar	Dr. Sujit Kumar Mandal	Ongoing	-
Studies on Broadband and Multiband Planar Antennas Based on Reactive Impedance Surface and Composite Right/Left-Handed Transmission Line	Shyam sundar Jash	Rowdra Ghatak	Ongoing	-
Some Studies on Compact UWB MIMO Antenna Systems for Wireless Devices	Jeet Banerjee	Rowdra Ghatak	Ongoing	-
Studies on Multi-GNSS Signal Environment from India Towards Test Range Applications	Mrinal Goswami	Rowdra ghatak and Anindya Bose (Univ of Burdwan)	Ongoing	-
Studies on Multi Mode Filters and Filter Integrated Antennas for Wireless Transceivers	Riya Chakraborty	Rowdra Ghatak	Ongoing	-
THz devices	Sayani Bindai	Rowdra Ghatak and Sapana Ranwa	Ongoing	-
Synthesis of Different Antenna Array Geometries using Evolutionary Algorithms and Time Modulation	Ananya Mukherjee	Sujit Kumar Mandal and Rowdra Ghatak	Degree Awarded	2022-09-22
Studies on Reconfigurable Multiband and Wideband Microwave Bandpass Filters	Anjan Bandopadhyay	Rowdra Ghatak and Tapas Mondal (Dr. B C Roy College of Engg)	Degree Awarded	2023-02-20
VLSI Circuit Design optimization using evolutionary optimization techniques	Kanchan Baran Maji	R. Kar, D. Mandal, S P Ghoshal	Submitted	2022-09-30
Simulation Study of Novel Charge-Plasma Based ArcTFET for Sensing the Breast Cancer Biomarker	Navaneet Kumar Singh	R. Kar, D. Mandal	Submitted	2022-12-19
Development of Chemiresistive Ethanol Sensors Using	Punam Tiwary	Rajat Mahapatra & Amit K Chakraborty	Degree Awarded	2022-09-29





Topic Name	Scholar	Supervisor	Status	Status Date
Nanostructured Metal Oxide/Hydroxide Films				
On Use of Signal Processing in Problems of Bioinformatics.	Jayanta Pal	Dr. Bansibadan Maji , Dr. Dilip Kumar Bhattacharya.	Submitted	2023-05-16
Beamforming for Sensing and Communication towards Intelligent Transportation System	Arun Kumar Singh	Dr. Bansibadan Maji , Dr. R.N. Bera	Submitted	2023-06-06
Dielectric Engineering on GaN for High Electron Mobility Transistors	Partha Das	Rajat Mahapatra & Amit K Chakraborty	Degree Awarded	2023-02-15
Resistive Memory Devices based on Al doped HfOx for Flexible Electronics Applications	Argha Deep Paul	Rajat Mahapatra & Amit K Chakraborty	Degree Awarded	2023-02-21
Natural Cellulosic Graphene: Synthesis, Characterization and Electro Chemistry Application	Himangshu Pal	Rajat Mahapatra and Somenath Chatterjee	Degree Awarded	2023-03-01
Switching Characteristics of Transitional Metal Oxide based Multilayer Flexible ReRAM devices	Saikat Biswas	Rajat Mahapatra	Ongoing	-
Flexible Resistive Memory Devices	Sameen Azhar	Rajat Mahapatra	Ongoing	-
Optimization of VLSI Circuits.	Dwip Narayan Mukherjee	Dr. Bansibadan Maji , Dr. S. Panda	Submitted	2023-08-04
Fault detection in circuits using machine learning	Suman Biswas	Gautam Kumar Mahanti and Nilanjan Chattaraj	Ongoing	-
Optimal Synthesis of Elliptical and Hexagonal Antenna Arrays using Metaheuristic Optimization Algorithms	Bitan Misra	Gautam Kumar Mahanti	Degree Awarded	2022-04-08
Thyroid cancer detection using machine learning	Rohit Sharma	Gautam Kumar Mahanti and Ganapati Panda	Ongoing	-
Some Studies on the Design Issues to Improve Efficiency in Plasmonic Based Solar Cells.	Partha Sarkar	Dr. Bansibadan Maji , Dr. S. Panda	Submitted	2023-08-31
Genome and Protein Sequence Comparison Based on Representation on a Finite Dimensional Unit Hypercube.	Soumen Ghosh	Dr. Bansibadan Maji , Dr. Dilip Kumar Bhattacharya.	Ongoing	-
Phased MIMO Radar in Hostile Environment	Subhankar Shome	Dr. Bansibadan Maji , Dr. R.N. Bera	Degree Awarded	2022-04-06
Implementation of Irreversible and Reversible Circuits using Layered Methodology to Design High Performance Digital Logic Circuits based on Quantum Cellular Automata (QCA).	Chiradeep Mukherjee	Dr. Bansibadan Maji , Dr. S. Panda	Degree Awarded	2022-05-30



Topic Name	Scholar	Supervisor	Status	Status Date
To Design Energy aware and fast Authentication scheme using Identity based Encryption In Wireless Ad hoc Network For NGNs.	Ashok Babu Chatla	Dr. Bansibadan Maji , Dr. Habibulla Khan & Dr. B.T. P. Madhav.	Submitted	2023-04-03

#### 4.6.24 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Multi-band prediction of millimeter-wave propagation effects for dynamic and fixed scenarios in rugged time-varying environments	J. M. Kelner, A. Prokes, A. Chandra	NCN Poland	49481850	2023
Assistive Technology on multimodal disabilities	Nilanjan Chattaraj, Sujoy Kumar Saha, Moushumi Saha	TCS	2986500.0	2022
Performance evaluation of open source LID, speaker diarization and speech enhancement algorithms	Nilanjan Chattaraj, Sujoy Dey, Suman Samui	DRDO	2998380.0	2022
Performance evaluation of open-source LID, speaker diarization and speech enhancement algorithms	Dr. Suman Samui, Dr. Nilanjan Chattaraj, Dr. Sujoy Saha	DRDO	3000000.0	2023
Design and Implementation of Advanced Antenna Arrays for 5G and Future Generation Wireless Communication Systems	Durbadal Mandal	SERB-DST	34.63417	2022

#### 4.6.25 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Development of UV activated ZnO nanostructures based hydrogen sensor ”	Dr. Sapana Ranwa	SERB-DST (NPDF)	2018
Development of Flexible Environmental Gas Sensor based on 2D MoS <sub>2</sub> Nanosheets	Dr. Sapana Ranwa	SERB-DST (SRG)	2021

#### 4.6.26 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
TCS Research	Development of radiating systems for mm Wave wireless communication	93875.0	Consultancy fees per month basis (incl of GST)



#### 4.6.27 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Hemanta Kumar Mondal	Sustainable Computing: Informatics and Systems	Elsevier	2022-04-04
Hemanta Kumar Mondal	IEEE Wireless Communications Magazine	IEEE	2022-06-17
Hemanta Kumar Mondal	IET Computers and Digital Techniques	IET	2022-09-29
Hemanta Kumar Mondal	Computer Networks	Elsevier	2022-10-12
Sanjay Dhar Roy	IETE Journal of Research	Wiley	2022-04-04
Sanjay Dhar Roy	IEEE Access	IEEE	2022-04-08
Sanjay Dhar Roy	IEEE Access	IEEE	2022-04-13
Sanjay Dhar Roy	Internet of Things	Elsevier	2022-04-22
Sanjay Dhar Roy	Sustainable Computing: Informatics and Systems	Elsevier	2022-05-02
Sanjay Dhar Roy	Simulation Modelling Practice and Theory	Elsevier	2022-05-06
Sanjay Dhar Roy	IEEE Transactions on Aerospace and Electronic Systems	IEEE	2022-06-07
Sanjay Dhar Roy	IEEE Access	IEEE	2022-06-08
Sanjay Dhar Roy	Ad Hoc Networks	Elsevier	2022-06-15
Sanjay Dhar Roy	IEEE Transactions on Aerospace and Electronic Systems	IEEE	2022-07-11
Sanjay Dhar Roy	IEEE Internet of Things Journal.	IEEE	2022-07-20
Sanjay Dhar Roy	IEEE Transactions on Green Communications and Networking	IEEE	2022-08-16
Sanjay Dhar Roy	IEEE Sensors Journal	IEEE	2022-08-24
Sanjay Dhar Roy	Physical Communication	Elsevier	2022-09-13
Sanjay Dhar Roy	PLOS ONE	the Public Library of Science (PLOS)	2022-10-18
Sanjay Dhar Roy	Digital Communications and Networks	Elsevier	2022-11-25
Sanjay Dhar Roy	Ad Hoc Networks	Elsevier	2022-12-19
Sanjay Dhar Roy	IEEE Transactions on Industrial Informatics	IEEE	2022-12-26
Sanjay Dhar Roy	China Communications	Elsevier	2023-01-23
Sanjay Dhar Roy	AEUE - International Journal of Electronics and Communications	Elsevier	2023-01-31
Sanjay Dhar Roy	Internet of Things	Elsevier	2023-02-13
Sanjay Dhar Roy	Microwave and Optical Technology Letters	Wiley	2023-02-07
Sanjay Dhar Roy	IET Wireless Sensor Systems	Wiley	2023-02-21
Sanjay Dhar Roy	IEEE Transactions on Green Communications and Networking	IEEE	2023-03-15
Sanjay Dhar Roy	Internet of Things	Elsevier	2023-03-22
Sanjay Dhar Roy	IEEE Transactions on Green Communications and Networking	IEEE	2023-03-29
Sanjay Dhar Roy	IEEE Access	IEEE	2022-11-16
Sumit Kundu	Computer Networks	Elsevier	2023-06-16
Sumit Kundu	Computer Networks	Elsevier	2023-07-31
Sumit Kundu	Computer Networks	Elsevier	2022-12-17
Sumit Kundu	AEUE - International Journal of Electronics and Communications	Elsevier	2023-07-08
Nilanjan Biswas	IEEE Transactions On Communications	IEEE	2023-03-24
Nilanjan Biswas	IEEE transactions on wireless communications	IEEE	2023-01-23
Nilanjan Biswas	IEEE sensors journal	IEEE	2023-01-04



Reviewer	Name of the Journal	Publisher	Date of Final Review
Nilanjan Biswas	IEEE transactions on aerospace and electronic system	IEEE	2023-01-18
Sapana Ranwa	Flexible and Printed Electronics	IOP Sciences	2022-06-25
Sapana Ranwa	Flexible and Printed Electronics	IOP Sciences	2022-10-30
Sapana Ranwa	Materials Research Express	IOP Sciences	2022-05-08
Suman Samui	IEEE Transactions on Neural Networks and Learning Systems	IEEE	2022-10-31
Suman Samui	IEEE Transactions on Neural Networks and Learning Systems	IEEE	2022-12-29
Suman Samui	Transactions on Audio, Speech and Language Processing	IEEE/ACM	2023-03-22
Suman Samui	IEEE Transactions on Neural Networks and Learning Systems	IEEE	2023-07-10
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2022-05-29
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2022-07-12
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2022-08-18
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2022-10-25
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2023-01-05
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2023-03-16
Sujit Kumar Mandal	Antennas and Wireless Propagation Letters	IEEE	2022-05-29
Sujit Kumar Mandal	Antennas and Wireless Propagation Letters	IEEE	2022-07-13
Sujit Kumar Mandal	Antennas and Wireless Propagation Letters	IEEE	2023-01-23
Sujit Kumar Mandal	IEEE Access	IEEE	2023-02-06
Sujit Kumar Mandal	Sensors	MDPI	2022-10-02
Sujit Kumar Mandal	Sensors	MDPI	2023-01-05
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2022-04-07
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2022-05-16
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2022-08-03
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2022-09-09
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2022-09-30
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2022-12-08
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-03-20
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2022-05-03
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2022-08-03
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2022-08-31
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2022-12-02
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2022-12-11
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-02-18
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-03-14
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-03-20
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-03-21
Rowdra Ghatak	RF & microwave computer-aided Engineering	Wiley	2022-04-08
Rowdra Ghatak	RF & microwave computer-aided Engineering	Wiley	2022-06-21
Rowdra Ghatak	RF & microwave computer-aided Engineering	Wiley	2022-09-12
Rowdra Ghatak	RF & microwave computer-aided Engineering	Wiley	2022-10-23
Rowdra Ghatak	IEEE transactions on circuits and systems II: express briefs	IEEE	2022-05-23
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2022-04-11
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2022-05-16



Reviewer	Name of the Journal	Publisher	Date of Final Review
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2022-10-06
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2022-11-16
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2022-04-12
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2022-07-11
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2022-10-24
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2022-12-16
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2023-01-02
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2023-02-08
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2023-03-20
Rowdra Ghatak	IEEE transactions on vehicular technology	IEEE	2023-03-25
Rowdra Ghatak	Transactions on microwave Theory & Techniques	IEEE	2022-04-30
Rowdra Ghatak	Transactions on microwave Theory & Techniques	IEEE	2022-08-15
Rowdra Ghatak	Transactions on microwave Theory & Techniques	IEEE	2022-11-10
Rowdra Ghatak	Transactions on microwave Theory & Techniques	IEEE	2022-11-28
Rowdra Ghatak	Transactions on microwave Theory & Techniques	IEEE	2023-01-19
Rajat Mahapatra	Micromachine	MDPI	2022-05-10
Rajat Mahapatra	Sensors and Actuators A	Sciedirect	2022-07-19
Rajat Mahapatra	Journal of Alloys and Compounds	Sciedirect	2023-02-21
Rajat Mahapatra	Micromachine	MDPI	2023-03-13

#### 4.6.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Aniruddha Chandra	PhD Thesis Viva Voce	SRM University	2023-04-03	2023-04-04
Sumit Kundu	M.Tech Thesis	IIT Kharagpur	2023-05-03	2023-05-03
Sumit Kundu	PhD Thesis	IIT Kharagpur	2022-12-20	2022-12-20
Sanjay Dhar Roy	PhD thesis viva of a student of KLE, Belgaum, Karnataka	KLE, Belgaum, Karnataka	2022-11-18	2022-11-18
Sanjay Dhar Roy	PhD thesis viva of a student	Anna University	2022-11-15	2022-11-15
Sanjay Dhar Roy	PhD thesis examination of a student	CHARUSAT University, Gujrat.	2022-09-26	2022-09-26
Sanjay Dhar Roy	PhD thesis examination	Anna University	2022-04-09	2022-08-23
Sanjay Dhar Roy	PhD thesis examination	KLE, Belgaum, Karnataka	2022-06-02	2022-07-15
Sanjay Dhar Roy	Paper Setter for the Semester End (Odd) B. Tech. Examination 2022-23	Integral University	2022-10-18	2022-10-29
Sanjay Dhar Roy	Paper Setter for the Semester End (Odd) B. Tech. Examination 2022-23	Integral University, Lucknow	2022-10-18	2022-10-31
Nilanjan Biswas	Viva-voce for final year M.Tech. Projects	IEST Shibpur	2022-07-02	2022-07-02
Anup Kumar Bhattacharjee	Examiner for PhD Selection	Kazi Nazrul University	2022-04-01	2023-03-31



Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Anup Kumar Bhattacharjee	UG Electronics	Kazi Nazrul University	2022-04-01	2023-03-31
Anup Kumar Bhattacharjee	Paper Setter	Kazi Nazrul University	2022-04-01	2023-03-31
Rowdra Ghatak	Member of board of Studies at Electronics and Communication	University of Burdwan	2021-01-29	2023-08-15
Rajib Kar	M.E question paper setter	Vivekanandha College of Engineering for Women (Autonomous Institution, Affiliated to Anna University, Chennai) Elayampalayam, Tiruchengode – 637 205	2022-05-19	2022-05-30
Rowdra Ghatak	Board of Studies in Electronics and Communication Engineering	North Easter Hill University	2019-07-30	2023-08-15
Rajat Mahapatra	Ph D thesis evaluation and viva-voce	Jadavpur University	2022-06-30	2022-06-30
Rajat Mahapatra	Ph D thesis evaluation and viva-voce	Homi Bhabha National Institute	2023-03-23	2023-03-23

#### 4.6.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Ashish Kumar Mal	ECE	MIET Bandel	2023-06-02	2023-06-02

#### 4.6.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Aniruddha Chandra	Millimeter wave vehicular communication: From channel sounding to standardization	IEEE Smart Cities	Online Webinar	2022-09-06	2022-09-06
Nilanjan Chattaraj	The assistive Robosapiens with human-like emotions: its fundamental and technological challenges	International Symposium on Robotics in Industry, Agriculture, and Healthcare	IIT Kanpur	2022-04-09	2022-04-10
Rajashree Das	Emergence of FinFET	IEI Technical Webinar on the theme VLSI	Kolkata	2023-05-20	2023-05-20
Hemanta Kumar Mondal	VLSI Chip Design: RTL-toGDSII	One month Short Term Training & Internship Program on “VLSI Embedded Systems and IOT (VLeSi 2022)” Organised by Department of Electronics and Communication, NIT Durgapur	NIT Durgapur	2022-07-15	2022-08-14





Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Hemanta Kumar Mondal	VLSI Chip Design: RTL-toGDSII Flow	One-week Hands-on Training on “Design and Characterization of Devices and Circuits for Electronic Systems (DC2ES)” My Topic: VLSI Chip Design: RTL-to-GDSII Flow on 20/09/2022	NIT Durgapur	2022-09-19	2022-09-25
Sanjay Dhar Roy	IoT Enabled Wireless Communication Systems	FDP on "IoT Enabled Wireless Communication" organized by Haldia Institute of Technology, W.B., India.	HIT, Haldia, West Bengal	2022-08-09	2022-08-09
Sapana Ranwa	Lecture on Advancement of 2-D materials Based Devices for IoT	One week Hands on training workshop on “Design and Characterization of Devices and Circuit for Electronic System (DC2ES)” DSTSTUTI program of Indian Institute of Technology (ISM)	NIT Durgapur	2022-09-19	2022-09-25
Suman Samui	Conducted a session on “Speech Signal Processing” at K.G. Engineering Institute (a Govt. of West Bengal, Polytechnic), Bishnupur, bankura, West Bengal	B.Tech and Diploma Course	Bankura, West Bengal	2023-03-11	2023-03-11
Rowdra Ghatak	Manipulative Electromagnetic Surfaces	Webinar at TCS Research	Online	2022-04-21	2022-04-21
Rowdra Ghatak	Circuit Design Challenges in 5G Advanced Systems	e-STC on Recent Innovation and Development in RF and Microwave Engineering for Wireless Communication	Department of electronics and communication engineering, National Institute of Technology, Hamirpur, India	2022-05-12	2022-05-16
Rowdra Ghatak	Circuit Design Challenges in Next Gen Communication Systems	Faculty Development Programme held at Dr. B C Roy College of Engineering on "Recent Trends and Advances in Electronics"	Durgapur	2022-09-19	2022-05-23

#### 4.6.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Aniruddha Chandra	IEEE AP-S/USNC-URSI	Denver, CO, USA	Machine Learning & Advanced Statistical Methods for mm-Wave Measurements and Modeling	2022-07-11	2022-07-11
Sumit Kundu	IEEE Indicon	Kochin	Electronic Systems and Smart Technologies	2022-11-27	2022-11-27
Sanjay Dhar Roy	Session Chair, IEEE CONECCT 2022	online (Bangalore)	Track E, IEEE CONECCT 2022	2022-07-08	2022-07-10



Name of the Faculty	Programme	Place	Session	From Date	To Date
Sujit Kumar Mandal	IEEE International Conference on Range Technology (ICORT 2023)	Integrated Test Range, Chandipur, Odisha	Antenna Design II	2023-02-23	2023-02-25

#### 4.6.32 Patents

NIL

#### 4.6.33 Workshops/Seminars Organized

NIL

### 4.7 Department Of Electrical Engineering

#### 4.7.1 Department at a Glance

The Electrical Engineering department was established in the year 1960. Presently the department offers B. Tech in Electrical Engineering, with intake capacity of 100 students, M. Tech in Power Systems, Power Electronics & Machine Drives and Instrumentation & Control having intake of 20, 20 and 15 students respectively. The Department also has a PhD program. The students from different states of India and also from different countries are presently studying in the department. The department has 25 Nos. of qualified and highly motivated faculty members with various specializations; is equipped with 19 different laboratories, and among these, 8 laboratories have modern state of the art facilities for research and consultancy work. The department also has strong regional and foreign collaboration.

#### 4.7.2 Mission & Vision

##### Mission:

- To impart quality education for producing qualified and motivated Engineers and Researchers who will contribute meaningfully to the growth and development of the country.
- To encourage the faculties and the students for research-oriented teaching-learning environment in the department with a focus on excellence and innovation.
- To pursue creative research and consultancy developing new technologies in Electrical Engineering in order to serve the needs of industry and country as a whole.
- To create congenial atmosphere for collaborative research, consultancy and other technical activities

##### Vision

- To impart quality education and focus on research and innovation in Electrical Sciences to cater to the need of the country.

#### 4.7.3 Faculty

Name	Designation	Email-id
Dr. N. K. Roy	Professor-HAG	nroy.ee@nitdgp.ac.in
Dr. S. S. Thakur	Professor	ssthakur.ee@nitdgp.ac.in
Dr. S. Banerjee	Professor	sbanerjee.ee@nitdgp.ac.in
Dr. P. Acharjee	Professor	pacharjee.ee@nitdgp.ac.in
Dr. Chiranjib Koley	Professor	ckoley.ee@nitdgp.ac.in
Dr. S. N. Mahato	Professor	snmahato.ee@nitdgp.ac.in
Dr. T. K. Saha	Professor	tsaha.ee@nitdgp.ac.in
Dr. P. S. Bhowmik	Associate Professor	psbhowmik@ee.nitdgp.ac.in
Dr. (Smt.) Jayati Dey	Associate Professor	jdey.ee@nitdgp.ac.in
Sri Avinandan Das	Assistant Professor	adas.ee@nitdgp.ac.in
Dr. Supriya Sarkar	Assistant Professor	ssarkar.ee@nitdgp.ac.in
Sri J. C. Barman	Assistant Professor	jcbarman.ee@nitdgp.ac.in
Dr. Suman Halder	Assistant Professor	shalder.ee@nitdgp.ac.in
Dr. Tushar Kanti Bera	Assistant Professor	tkbera.ee@nitdgp.ac.in
Dr. Biman Kumar Saha Roy	Assistant Professor	bksroy.ee@nitdgp.ac.in



Name	Designation	Email-id
Dr. A. Bhattacharya	Assistant Professor	abhattacharya.ee@nitdgp.ac.in
Dr. Aritro Dey	Assistant Professor	adey.ee@nitdgp.ac.in
Dr. Ashis Kumar Dhara	Assistant Professor	akdhara.ee@nitdgp.ac.in
Dr. Irfan Ahmed	Assistant Professor	airfan.ee@nitdgp.ac.in
Dr. Aashish Kumar Bohre	Assistant Professor	akbohre.ee@nitdgp.ac.in
Dr. Manika Saha	Assistant Professor	msaha.ee@nitdgp.ac.in
Dr. Soumya Chatterjee	Assistant Professor	schatterjee.ee@nitdgp.ac.in
Dr. Santanu Paul	Assistant Professor	spaul.ee@nitdgp.ac.in
Dr. Omkar Yadav	Assistant Professor	oyadav.ee@nitdgp.ac.in
Dr. Rajdip Dey	Assistant Professor	rdey.ee@nitdgp.ac.in

#### 4.7.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Single Phase Inductive load	13.04.22	23,925.00
2	Electrical Bridge Trainers	12.05.22	26,460.00
3	Sensor Trainer Kit	28.06.22	53,235.00
4	DSO	20.06.22, 07.03.23, 15.03.23	1,29,456.00
5	Motor Protection Relay	28.06.22	14,850.00
6	Frequency Drive	05.07.22	24,499.00
7	DC Position Control	28.07.22	62,475.00
8	Induction Motor	25.07.22	29,950.00
9	Partial Discharge Test Cell	21.07.22	7,493.00
10	Point Sphere Electrode	21.07.22	7,434.00
11	Voltmeter	11.08.22, 19.09.22, 21.09.22, 23.09.22, 11.11.22, 23.11.22	70,673.00
12	Watt hour Meter	26.08.22	2,199.00
13	Clamp Meter	26.08.22	2,300.00
14	Wattmeter	19.09.22, 21.09.22, 23.09.22	58,513.00
15	Analog Panel Meter	21.09.22, 23.09.22	72,496.00
16	Power Factor Meter	23.11.22	9,660.00
17	Variac	06.01.23	24,780.00
18	DC Power Supply	11.11.22, 09.03.23	83,970.00
19	Insulation Tester	21.02.23	21,000.00
20	Clamp Meter	29.11.22	7,770.00
21	LCR Meter	30.09.22, 25.01.23	35,876.95
22	PLC I/O Card	11.11.22	79,945.00
23	RLC Load	18.11.22	79,900.00
24	Relay & Contractor	10.01.23	58,175.00
25	Digital Panel wattmeter	23.11.22	3360.00
26	Optical Connectors	30.08.22	8968.00
27	MFD Printer	27.01.23	24113.00
28	DC Regulated Power Supply	07.02.23	42480.00
29	Measurement of Temp of RTD	15.03.2023	7800.00
30	LVDT Trainer Kit	15.03.2024	9200.00
31	Measurement of Temp by Thermocouple	15.03.2023	7800.00
32	Strain Gauge	15.03.2023	14500.00
33	Thermistor	15.03.2024	4800.00
34	LCD Monitor	07.02.23	35000.00
35	Laptop	13.02.23	79999.00
36	Desktop Computer	15.03.2023	264900.00
37	Desktop Computer	22.02.2023	971300.00
38	Angular displacement Trainer	15.03.2023	12500.00
39	UPS	27.03.2023	55869.41
40	Accessory 2 for single ph energy meter phantom	21.06.2023	24000.00
41	Accessory for single ph energy meter phantom	21.06.2023	24000.00
42	Measurement of speed by Magnetic Pickup	09.06.2023	21500.00



Sl. No.	Name of the equipment	Date of Purchase	Amount
43	Measurement of speed by Photo Electric Pickup	09.06.2023	21500.00
44	Study of Pizeo Electric Transducer Trainer	09.06.2023	19500.00
45	Digital Storage Oscilloscope	9.03.2023	308200.00
46	Relay Control System	28.06.2023	23836.00
47	Compensating Network Setup	28.06.2023	24662.00
48	Magnetic Levitation System	28.06.2023	42598.00
49	Digital Control System	28.06.2023	42598.00
50	Graphics Card	31.03.2023	66,078.00
51	Measurement of Torque by Torque Transducer	15.03.2023	30,000.00
52	Function Generator	15.03.2023	32200.00
53	HIL Breakout Board with sensors	27.03.2023	249570.00

#### 4.7.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Electrical Technology Laboratory	Setup for Open Circuit and Short Circuit Test of Single Phase Transformer, Three Phase Wattmeter for power measurement in three phase circuit Setup, Test Energy Meter and Standard Energy Meter for Energy Meter Calibration Setup, Setup for RL, RC, RLC analysis, Set up for determining characteristics of Fluorescent Lamp, Set up for determining Characteristics of Incandescent Lamp, Setup ups for verification of Superposition Theorem, Thevenin’s Theorem, Norton Theorem and Maximum Power Transfer Theorem
2	Electrical Networks Laboratory	Setups of RL, RC and RLC transient set Low Pass, High Pass Filter, Frequency response each comprising of Function Generators and Digital Storage Oscilloscopes, Setup for understanding the basics of Magnetic Coupling, Set up for Two port Network
3	Electrical Measurements Laboratory	Setup for Power measurement by three Voltmeter and three ammeter, Setup for DC Crompton Potentiometer, Setup for Power measurement by Instrument Transformer, Setup for Kelvin Double Bridge, Set up for Linear Variable Differential Transformer, Digital Earth Resistance Meter, Setups for Anderson Bridge, Schering Bridge and Wien Bridge, Set up for calibration of Digital Energy Meter
4	Electrical Machines Laboratory	Single-phase transformer, Three-phase transformer, DC shunt machine, DC series machine, DC compound machine, Three-phase induction motor, Single-phase induction motor, Three-phase alternator, Three-phase synchronous motor, Single-phase variac, Three-phase auto-transformer, Resistive load box.
5	Control Systems Laboratory	DC Servo Position Control System, DC Servo Speed Control System, AC Servomotor Speed Control System, Linear System Simulator, Temperature Control System, Lead-Lag Network, DC Machine Set-up for Identification of Transfer Function for DC Motor, Two Phase AC Servomotor Set-up for Determination of Transfer Function, P-I-D Controller Set-up for Control of LTI Systems
6	Embedded System Laboratory	Microcontroller kit, Computer, Function Generator, Interfaces, PCB Prototyping Machine, Kiel C Compiler
7	Power Electronics Laboratory	Single Phase Bridge Inverter (IGBT), Three Phase SCR module, 3-phase 5-level Cascaded H-bridge inverter power module, Speed Control of 3-phase induction motor with IPM and Micro-2407, Four-quadrant operation of DC-DC chopper with IGBT, Speed Control of DC motor with single phase triggering and device module, DC-DC SEPIC Converter, DC-DC FORWARD Converter, DC-DC Flyback Converter Trainer, Single phase step-down cycloconverter.
8	Power Systems Laboratory	IDMT over-current relay experiment setup, Directional over-current relay (inverse) type CDD experiment setup, Numerical Distance Protection Relay MiCOM P442



Sl. No.	Name of Laboratory	Major equipment
		experiment setup, Parallel Feeder Protection experiment setup, Negative sequence protection of three-phase induction motor experiment setup, Study of over-voltage relay experiment setup, Biased Differential Relay experiment setup, Biased Differential Protection of a single phase Transformer experiment setup, Restricted E/F Protection of 3-phase Transformer experiment setup, Over-current and Earth fault protection scheme for three phase system experiment setup, Cable Fault Locator, Power Quality Analyzer
9	Power Systems Laboratory II	IDMT over-current relay experiment setup, Directional over-current relay (inverse) type CDD experiment setup, Numerical Distance Protection Relay MiCOM P442 experiment setup, Parallel Feeder Protection experiment setup, Negative sequence protection of three-phase induction motor experiment setup, Study of over-voltage relay experiment setup, Biased Differential Relay experiment setup, Biased Differential Protection of a single phase Transformer experiment setup, Restricted E/F Protection of 3-phase Transformer experiment setup, Over-current and Earth fault protection scheme for three phase system experiment setup, Cable Fault Locator, Power Quality Analyzer
10	Advanced Power System Laboratory	Relay Test Set, Directional Overcurrent relay, Cable fault locator, Oscilloscope, Function Generator, Power Quality Analyzer, Parallel Feeder Protection Test Kit, Directional overcurrent relay, Non-directional over current relay, Test Bench for ratio, polarity, magnetizing characteristic of CT and PT, Numerical Distance protection kit, Ferranti Effect and Parameter Measurement Kit, Transmission line simulation kit, Solar Photovoltaic Training and Research Kit
11	Power System Simulation Laboratory	Computers, MATLAB, MiPower software.
12	Computational Laboratory	Computers, MATLAB, MiPower software, PSIM software, OrCAD PSPICE software, PSCAD
13	High Voltage and Liquid Insulation Laboratory	AC High Voltage Test System, Impulse Voltage Test System, Partial Discharge Test System, 100 kV oil BDV Tester, C and Tan Delta test set up, 100 kV AC Test set up, Kinematic Viscometer bath, Digital C, tan Delta and resistivity test set, Pen-sky martens closed cup flash point tester
14	Machine Drives Laboratory	TMS 320F2812 DSP Processor, TMS 320F28335 DSP Processor, Multilevel Inverter, Intelligent Power Module, Three phase induction motor, Brushless DC Motor, Permanent Magnet Synchronous Machine with Spring Balance Loading Arrangement
15	Advanced Control System Laboratory	Digital Pendulum Control System with Personal Computer, Magnetic Levitation System with Personal Computer, Twin Rotor MIMO System with Personal Computer, Precision Modular Servo Workshop with Personal Computer
16	Advanced Power Electronics Laboratory	Single Phase Bridge Inverter (IGBT), Three Phase SCR module, 3-phase 5-level Cascaded H-bridge Inverter power module, Speed Control of 3-phase induction motor with IPM and Micro-2407, Four-quadrant operation of DC-DC chopper with IGBT, Speed Control of DC motor with single phase triggering and device module, DC-DC SEPIC Converter, DC-DC FORWARD Converter, DC-DC Flyback Converter Trainer, Single phase step-down cycloconverter
17	Instrumentation Laboratory	SOLAR PANEL SETUP comprising of crystalline solar cell; Liquid Level Measurement Setup comprising of Ultrasonic level sensor, Sump tank, Solenoid valve, Water pump, Overhead tank, DCS (HC900 hardware) DCS (SCADA Software); Flow Measurement Setup comprising of Electrical actuator, control valve, Differential pressure transmitter, Solenoid valve, DCS (HC900 hardware) DCS (SCADA Software); Temperature Measurement Setup comprising of RTD,





Sl. No.	Name of Laboratory	Major equipment
		Thermocouple & Thermistor; Speed Measurement Setup Comprising Of Tachometer & Stroboscope ; 3 Phase Power Measurement Setup
18	Biomedical Instrumentation Laboratory	Two Channel MP45 BIOPAC Signal Acquisition System Comprising of ECG Electrodes, Respiration Sensor, GSR Sensor, SPO2 Sensor, Computers, MATLAB
19	Intelligent System Laboratory	Computers, MATLAB

#### 4.7.6 PhD degree awarded till 2022-23

41.

#### 4.7.7 Any other relevant information:

- IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (IEEE CATCON 2022) was organized by the Department of Electrical Engg., NIT Durgapur and technically, co-sponsored by IEEE Dielectrics and the Electrical Insulation Society (DEIS), Kolkata Chapter during 17th -19th December, 2022 at National Institute of Technology Durgapur. Prof. Chiranjib Koley and Dr. Partha Sarathee Bhowmik of Department of Electrical Engg., NIT Durgapur, were the Conference Chair.
- Prof. Subrata Banerjee awarded prestigious IETE-BIMAL BOSE AWARD-2022 for some pioneer work in Power Electronics in 65th Annual IETE Convention on 26th September, 2022
- Prof. Subrata Banerjee, Prof. P. Acharjee and Dr. Aniruddha Bhattacharya have been placed within top 2% of scientists in the world by a survey conducted by a team of scientists at Stanford University in 2022.
- Prof. Subrata Banerjee organized a special session on ‘Advancement in Power Electronics for E-mobility’ in India Council International Conference 2022 (INDICON 2022) held at Cochin University of Science and Technology (CUSAT), Kochi, Kerala during 24 – 26 November 2022.
- Prof. Subrata Banerjee delivered lecture in NaMPET sponsored Online Short Term Course on "Applications of Power Electronics in Renewable Energy Systems (APERES-2022)", on 20.07.2022 at NIT Jamshedpur.
- Prof. S. N. Mahato delivered a talk on 15th July, 2022 in the one-week Virtual mode FDP on “Recent Advancement and Research Opportunities in Electrical Engineering” organized by Department of Electrical Engineering, Gargi Memorial Institute of Technology, Kolkata during July 11-15, 2022.
- Dr. Tushar Kanti Bera delivered an invited talk on “Recent Trends in The Battery Charging Technology for Electric Vehicles (EVs) and Plugged-In-Hybrid Electric” in the DST-SERB Sponsored High End Workshop “KARYASHALA” on “Present and Future Trends of Electric Vehicle Technologies” organized by the CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur, During September 07-13, 2022.
- Dr. Irfan Ahmed delivered an expert lecture on “Power Electronic Converters in AC and DC Microgrids” at DST-SERB sponsored two-days National Seminar on “AC-DC Microgrid: Configuration, Controls and Applications” organized by the Department of Electrical Engineering, Yeshwantrao Chavan College of Engineering, Nagpur, on November 11, 2022.
- The paper entitled "Static and Dynamic Analysis of IGBT Power Modules for Low and High-Power Range Electric Drives" by Ananthammagari Bharathsimha Reddy, Sankar Narayan Mahato and Nilanjan Tewari has been awarded as a Best Paper in session "PE-3" in 3-rd Electric Power and Renewable Energy Conference (EPREC 2022), May 27-29, 2022 organized by Department of Electrical Engineering, NIT Jamshedpur.
- Prof. Subrata Banerjee chaired a technical session in international conference IEEE-iSSC 2022 in GIET University(online) Odisha on 16th Dec, 2022.

#### 4.7.8 Specialization

- Power Electronics
- Electrical Engineering (Power System)
- Power System
- Power Systems
- Control Systems
- Electrical Engineering
- Power & Energy Systems (Renewable Energy)
- Electrical Engineering
- Image Processing and Machine Learning
- Electrical Engineering (Power System Operation and Control)





- Electrical Engineering / Power System
- Control
- High Voltage Engineering, Power System, ICT and IoT enabled High Voltage Laboratory test facilities, Conditioned and Health monitoring of High Voltage power apparatus, e Governance, rural e Governance
- Power Systems
- Electrical Machines and Drives
- Control System
- High voltage engineering
- Power System
- Electrical Engineering
- Electrical Engineering
- Power electronics application in power system
- Machines Drives
- Power Electronics, Machines, Drives
- Power Systems
- Electrical Measurement & Instrumentation

#### 4.7.9 Proposed Plan for Research

- Space vector modulation techniques for cascaded H-bridge multilevel inverters
- Pulse-width modulation techniques for modular multilevel converters
- Circulating current suppression in modular multilevel converters with embedded energy sources
- Supervision of Research Scholars, B.Tech and M.Tech students, Learning new research area on Renewable Energy, Electric Vehicle, Sponsored Project Works, Paper Publications, Review of papers ,
- PMU placement considering communication and uncertainty issues in Distribution network
- To carry out research in the Area of Power System Planning, stability using Machine Learning Algorithm
- To develop necessary hardware set up to detect Electrical Corona in Insulators
- Bayesian Filtering, Nonlinear Control for Aerospace Applications
- Development of a non-contact method for condition assesment of high voltage assets.
- Offshore Wind Plant Design, Operation & Control
- Multi-carrier Energy Storage Application to Power System
- Modern Power System Operation & Control with Very High Share of Renewable Energy
- Instrumentation and Measurement
- Affordable AI for Computer-aided Diagnosis of Retinopathy of Prematurity (ROP) using Retinal Fundus Images
- The proposed plan for research includes the analysis of the dynamic interactions of offshore wind farms with on-shore AC grids connected via MTDC grid, which would be further equipped with adaptive droop control. The impact of different control modes (e.g. droop control mode, constant power control mode) within the MTDC grid towards power sharing will be analysed. The performance of control modes at VSC terminal against set of low voltage ride through (LVRT) mode in some of the DFIGs in the entire windfarm will be investigated.
- Apply for sponsored project in my research area in SERB, DST CSIR etc. Try to get patent in my area. Also submit the paper for publication in journals and conferences.
- More Collaboration with industries related to the innovation and creativity for development of new equipment and materials
- Signal Processing, Soft Computing, Power Systems stability, FACTS Devices, Smart Grid / Micro Grid, Renewable Energy, Measurement & Instrumentation
- (i) Energy management and Control of Unmanned Ground Vehicle for Combat Use, (ii) Control of Converters, (iii) Control, Guidance, Navigation of Unmanned Aerial Vehicle, (iv) Periodic Control, (v) Fractional Order Control, (vi) Control of Multi Input Multi Output Systems
- development of Condition monitoring system for high voltage power apparatus
- Operation, Control and Protection of Distribution Systems
- Completing R&D Project and Guding PhD, M.Tech, B. Tech students
- Converter modeling and control, Multilevel Inverter
- Converter design of Multifrequency microgrid, hardware realization of multifrequency microgrid
- Application of Multi phase Machines
- Biomedical Instrumentation

#### 4.7.10 Area of Research Interest

- Pulse-width modulation techniques for multilevel converters
- Circulating current model and its suppression in modular multilevel converters
- Soft-Computing Techniques such as GA, PSO, DE, Fuzzy, ANN and its application in Power System • Power system dynamics & stability. • FACTS Devices • Smart Grid and Micro Grid • Economic Load Dispatch and Optimal Power Flow • Renewable Energy • Electric Vehicle
- Power system monitoring, PMU applications



- Power System Planning
- Power System Stability and Security
- State Estimation, Nonlinear Control
- Condition monitoring of high voltage equipment, Insulation diagnosis, Graph theory and complex networks, signal processing applications in condition monitoring.
- Offshore Wind Plants
- Collection System Design of Offshore Hybrid Power Plants
- Multi-carrier Energy Storage
- Grid Level Battery Storage Application
- Distribution System Operation with high share of PHEV
- Instrumentation and Measurement
- Electrical Impedance Tomography (EIT)
- Electrical Impedance Spectroscopy (EIS)
- Structural Health Monitoring (SHM)
- Medical Imaging
- Computed Tomography (CT)
- Image Reconstruction
- Inverse Problems
- Biomedical Image Analysis and Machine Learning
- Electric Vehicles (EVs)
- Sensor Development
- Operation and Control of Multi-terminal HVDC System with Offshore Wind Farm
- Power System Stability, Renewable Energy, Power System Optimization, Distribution System Planning, Microgrid Planning, Electric Vehicle, Planning of FACTS Devices, Power System Deregulation & Restructuring, Distributed Generation, Optimization Techniques, Application of Soft Computing Techniques in power system dynamics and control.
- Target Tracking, Nonlinear Control & Estimation
- High Voltage Engineering, Power System, ICT and IoT enabled High Voltage Laboratory test facilities, Conditioned and Health monitoring of High Voltage power apparatus, e Governance, rural e Governance
- Signal Processing, Soft Computing, Power Systems stability, FACTS Devices, Smart Grid / Micro Grid, Renewable Energy, Measurement & Instrumentation
- Analysis and Control of Induction Generators
- Condition monitoring and high voltage engineering
- Distributed Generations, Microgrid
- Power Electronics and Machine Drives, Non Conventional Energy Resources
- Modeling & Control of Switch-mode converters and Inverters, Multilevel Inverters & Different Modulation techniques, Electromagnetic Levitation, Active Magnetic Bearing, controller design, Intelligent control, Power Electronics & Machine Drives.
- Power electronics applications in Microgrid system, Microgrid architecture and control, Power balancing techniques of microgrids, Multifrequency microgrid, DC and induction Machine Drives
- Multi phase machines
- Power Electronics, Machines, Drives
- Power systems estimations, line outage detection, load forecasting etc.
- Feature Extraction from Biopotential

#### 4.7.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
National Thermal Power Institute, DURGAPUR	Training and consultation of engineers from different utilities like State Electricity Board Engineers and professionals	Training and Consultation of engineers from different utilities like State Electricity Board Engineers and professionals
RED(E) Pune, DRDO	Energy Management and Control of Unmanned Ground Vehicle for Combat Use	Control topolog Development, Prototype Development of Electric Vehicle with Hybrid energy sources
National Hydroelectric Power Corporation	Condition Monitoring	Device development
National Hydro Power Cooperation (NHPC) , Haryana	Development of PD SENORS and its analyser	Development of PD SENORS and its analyser



#### 4.7.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
KIIT Bhubaneswar	Electrical Engineering	Dr. Sriparna Roy Chowdhury	Joint PhD Supervision
School of Energy Studies, Jadavpur University	Power quality and monitoring in grid-connected renewable energy systems.	Prof. Ratan Mandal	Research and Ph.D. supervision
IIT Bombay	Renewable Energy	Prof. Zakir Hussain Rather	Research
CSIR - Institute of Minerals and Materials Technology (CSIRIMMT), Bhubaneswar, Odisha	Electrical Impedance Tomography (EIT)	Dr. Tushar Kanti Bera	Electrical Impedance Tomography (EIT) Based Slurry Pipe Line Monitoring
Uppsala University, Sweden	Diagnostic Neuroradiology	Dr. Robin Strand	Diagnostic neuroradiology screening tool
Sankara Nethralaya, Chennai, India	Diabetic retinopathy	Dr. Rajiv Raman	Diabetic retinopathy screening tool
Madras Diabetic Research Foundation, Chennai, India	Diabetic retinopathy	Dr. R. Rajalakshmi	Diabetic retinopathy screening tool
PGIMER Chandigarh, Chandigarh, India	Diagnostic Neuroradiology	Dr. Chirag K Ahuja	Diagnostic neuroradiology screening tool
Uppsala University Hospital, Sweden	Diagnostic Neuroradiology	Dr. Johan Wikstrom	Diagnostic neuroradiology screening tool
Calcutta National Medical College, Kolkata, India	Diabetic retinopathy	Dr. Sambudda Ghosh	Diabetic retinopathy screening tool
University of Iowa, USA	BMD estimation	Dr. Punam K Saha	BMD estimation from X-Ray
University College of London, London, UK	Microscopy image analysis	Dr. HIRAK PATRA	Microscopy image analysis
NIT Silchar	State and Health Estimation of Supercapacitor	Dr. Munmun Khanra	ph.D guidance
1. National Thermal Power Institute, DURGAPUR, 2. National Hydro Power Corporation, Faridabad, Haryana	Training and consultation of engineers from different utilities like State Electricity Board Engineers and professionals, Innovative Projects like Development of a PD detection system for High Voltage Power Apparatus	Prof N K Roy, Prof C Koley, Dr A Bhattacharya, Dr P S Bhowmik	Training and consultation of engineers from different utilities like State Electricity Board Engineers and professionals, Innovative Projects like Development of a PD detection system for High Voltage Power Apparatus
IIT Kanpur, IIT Bombay, IIT Madras, IISc Bangalore, CDAC Patna, IIIT Kurnool	Human Resource Development for UAV and Related Technology	Dr. Jayati Dey, Dr. Nilanjan Chattaraj (EC), Dr. Aritro Dey (EE), Dr. Deepak Kumar (ME)	(i) Workshop organization, (ii) Training on UAV related technology, (iii) Project Development and Execution, (iv) Laboratory Development, (v) IPR generation
Jadavpur University	High Voltage	Prof. Sivaji Chakravorti	Research
IIT Kharagpur	Authored book from IET as co author	Prof. D. Kastha	Published two books from IET
National Institute of Technology Silchar	Condition monitoring of High voltage Equipment	Dr. Asish Paramane	Joint research work



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
National Institute of Technology Calicut	Condition monitoring of High voltage Equipment	Dr. Nasirul Haque	Joint research work
National Institute of Technology Warangal	Condition monitoring of high voltage equipment	Dr. Palash Mishra	Joint research work
Birla Institute of Technology Mesra	Power quality monitoring	Dr. Pankaj Mishra	Joint research work
Jadavpur University	Condition monitoring of High voltage equipment	Prof. Sivaji Chakravorti, Prof. Biswendu Chatterjee and Prof. Sovan Dalai	Joint research work
IIT Kharagpur	Power system monitoring and protection	Prof. A.K.Pradhan	Submitted joint project to DST, Govt. of India and WBDST
CSIR-CMERI	Power Electronics	Prof. Subrata Banerjee	Joint Research & Guidance
IIT Kharagpur	Power Electronics	Prof. Subrata Banerjee	Joint Research & Guidance
Ontario-Institute of Technology	Power Electronics	Prof. Subrata Banerjee	Joint Research
MNNIT Allahabad	Applications of Control Systems in Power Systems	Prof. Subrata Banerjee	Joint Research, Book writing
National Thermal Power Institute, DURGAPUR	Training and consultation of engineers from different utilities like State Electricity Board Engineers and professionals	Prof N K Roy, Prof C Koley	Training and Consultation of engineers from different utilities like State Electricity Board Engineers and professionals

#### 4.7.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. N. Chakraborty	Gian Programme on Computational Modelling of Turbulent Flow and Scalar Transport	2023-03-31

#### 4.7.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Dibyendu Sen, Sunil Kumar, Tapas Kumar Saha, Jayati Dey	Active Power Control of DPC Based Operation of Three Phase Inverter Under Stand-alone Mode	Electric Power Components and Systems	Volume:https://doi.org/10.1080/15325008.2022.2148776 Issue No: Page No: Year:December Month:2022
S. Sonar, S. Mondal , J. Ghommam, & S. Banerjee	An Optimized Space Vector Based Switching Algorithm With Reduced Switching Transitions for Impedance Source Inverter	IEEE Access	Volume:10 Issue No: Page No:28965-28974 Year:2022 Month:
S. Sonar, N. Rana, & S. Banerjee	Improved Space vector based PWM technique for three Phase Z-Source Inverter	IEEE Journal of Emerging and Selected Topics in	Volume:4 Issue No:1 Page No:266-275 Year:2023 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
		Industrial Electronics	
D. Guha, P.K. Roy, and S. Banerjee	Improved Fractional-order Sliding Mode Controller for Frequency Regulation of a Hybrid Power System with Nonlinear Disturbance Observer	IEEE Transactions on Industry Applications	Volume:59 Issue No:4 Page No: Year:2023 Month:
S. Kundu, S. Panda & S. Banerjee	Fulfillment of Some Important Voltage Harmonic Standards in a FPGA Controlled CHB Multilevel Inverter Utilizing Improved SHM-PAM Technique	IEEE Transactions on Industry Applications	Volume:Early Access Issue No: Page No: Year:2023 Month:
. D. Guha, P.K. Roy, and S. Banerjee	Adaptive fractional-order slidingmode disturbance observer-based robust theoretical frequency controller applied to hybrid winddiesel power system	ISA Transactions	Volume: Issue No: Page No: Year:2023 Month:Jul
S. Dey, S. Banerjee, J. Dey	Design of an improved robust fractional order PID controller for magnetic levitation system based on atom search optimization	Sadhana	Volume: Issue No: Page No: Year:2022 Month:Sep
S. K. Pandey, J. Dey, S. Banerjee	Modified Kharitonov Theorem Based Optimal PID Controller Design for MIMO Systems	Journal of Electrical Engineering & Technology	Volume: Issue No: Page No: Year:2022 Month:Dec
D. Guha, P. K. Roy, S. Banerjee	Frequency Control of a Winddiesel-generator Hybrid System with Squirrel Search Algorithm Tuned Robust Cascade Fractional Order Controller Having Disturbance Observer Integrated	Electric Power Components and Systems	Volume: Issue No: Page No: Year:2022 Month:Dec
D. Sen, S. Kumar, T. K. Saha, and J. Dey	Active Power Control of DPC Based Operation of Three Phase Inverter Under Stand-Alone Mode	Electrical Power Components Syst.	Volume:51 Issue No:3 Page No:307–318 Year:2022 Month:Dec
S. Mitra and C. Koley	Early and Intelligent Bearing Fault Detection using Adaptive Superlets	IEEE Sensor	Volume:23 Issue No:7 Page No:7992 - 8000 Year:2023 Month:Feb



Author(s) Name	Paper Name	Journal Name	Others Info
S. Dhara, C. Koley and S. Chakravorti	UHF Sensors Based Localization of Partial Discharge Sources in Air-insulated Electrical Substation using TDOA and Relative RSS Information	IEEE Transactions on Instrumentation and Measurement	Volume:72 Issue No: Page No:1-9 Year:2023 Month:Mar
A. Bhukya and C. Koley	Bi-Long Short-Term Memory Networks for Radio Frequency Based Arrival Time Detection of Partial Discharge Signals	IEEE Transactions on Power Delivery	Volume:37 Issue No:3 Page No:2024-2031 Year:2022 Month:Jun
Rajdip Dey, Shabari Nath	Cooperative Active Power Management in Multifrequency Microgrid With an Energy Storage System Based on Distance of Source to Load	IEEE Access	Volume:10 Issue No: Page No:120398 - 120411 Year:2022 Month:May
Kumar P, Das A, Halder S	Statistical heart rate variability analysis for healthy person: Influence of gender and body posture	Journal of Electrocardiology	Volume:79 Issue No: Page No:81-88 Year:2023 Month:Jun
Karmakar, Subashis, Kamilya, Supreeti, Guhathakurta, Parag K., Bera, Tushar Kanti, Halder, Suman, Koley, Chiranjib, Pal, Tandra, Basu, Anupam	Real time detection of cognitive load using fNIRS: A deep learning approach	Biomedical Signal Processing and Control	Volume:80 Issue No: Page No: Year:2023 Month:Feb
Sannistha Banerjee & Partha Sarathee Bhowmik	A machine learning approach based on decision tree algorithm for classification of transient events in microgrid	Journal of Electrical Engineering, Springer	Volume:105 Issue No:02 Page No:2083–2093 Year:2023 Month:Mar
D. Sen, P. Acharjee	Optimal allocation of UPFC based on healthy and stressed zones for critical power systems	Engineering Science and Technology, an International Journal	Volume:40 Issue No:1 Page No:1-8 Year:2023 Month:Mar
Mukherjee, M., Roy, B.K.S.	Cost-Effective Operation Risk Driven $\mu$ PMU Placement in Active Distribution Network Considering Channel Cost and Node Reliability	Arabian Journal for Science and Engineering	Volume:48 Issue No: Page No:6541–6575 Year:2022 Month:Nov
Shubhrajyoti Kundu, Mehebab Alam, Biman Kumar Saha Roy, Siddhartha Sankar Thakur	Power Systems State Estimation Using Complex Synchronized PMU Measurements: Two Novel Non-Iterative Approaches	Arabian Journal for Science and Engineering	Volume:48 Issue No: Page No:5935–5951 Year:2022 Month:Aug





Author(s) Name	Paper Name	Journal Name	Others Info
Samima Akter, Sandeep Biswal, Ahmed R. Adly, Abanishwar Chakraborti, Biman K.S. Roy, Priyanath Das, A. Y. Abdelaziz	Impedance based directional relaying for smart power networks integrating with converter interfaced photovoltaic plants	Electric Power Systems Research	Volume:213 Issue No: Page No: Year:2022 Month:Dec
A. Pal, A. Bhattacharya and A. K. Chakraborty	Planning of EV Charging Station with Distribution Network Expansion Considering Traffic Congestion and Uncertainties	IEEE Transactions on Industry Applications	Volume:59 Issue No:3 Page No:3810- 3825 Year:2023 Month:Jan
Poluri Sri Mannarayana, Aritro Dey	Adaptive Gaussian filters for nonlinear state estimation with one-step randomly delayed measurements	Asian Journal of Control	Volume:25 Issue No:2 Page No:867- 885 Year:2023 Month:
Bishwajit Dey, Fausto Pedro García Márquez and Aniruddha Bhattacharya	Demand side management as a mandatory inclusion for economic operation of rural and residential microgrid systems	Sustainable Energy Technologies and Assessments	Volume:54 Issue No:1 Page No:1-7 Year:2022 Month:Dec
Poluri Sri Mannarayana, Aritro Dey	Adaptive Kalman Filter based on Variational Bayesian Approach for One-step Randomly Delayed Measurements	Scientia Iranica	Volume: Issue No: Page No: Year:2022 Month:Aug
Kuntal Bhattacharjee, Aniruddha Bhattacharya, Kathan Shah and Nitish Patel	A Novel Oppositional Approach for Solving Different Economic Emission Dispatch Problems	Electric Power Components and Systems	Volume:50 Issue No:9-10 Page No:480-497 Year:2022 Month:Nov
S. S. Roy, A. Paramane, J. Singh, X. Chen, F. Meng, C. Dai, A. K. Das, S. Chatterjee and Y. Tanaka	Remote Condition Monitoring of HVDC Cable Insulation Using Deep Learning-Aided Space Charge Classification	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:30 Issue No:1 Page No:377- 384 Year:2023 Month:Feb
S. Das, A. Paramane, S. Chatterjee and U. M. Rao	Accurate Identification of Transformer Faults from Dissolved Gas Data Using Recursive Feature Elimination Method	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:30 Issue No:1 Page No:466- 473 Year:2023 Month:Feb
S. S. Roy, A. Paramane, J. Singh, S. Chatterjee and A. K. Das	Accurate Sensing of Insulator Surface Contamination Using Customized Convolutional Neural Network	IEEE Sensors Letters	Volume:7 Issue No:1 Page No:1-4 Year:2023 Month:Jan
S. Das, A. Paramane, S. Chatterjee and U. M. Rao	Sensing Incipient Faults in Power Transformers Using Bidirectional Long Short- term Memory Network	IEEE Sensors Letters	Volume:7 Issue No:1 Page No:1-4 Year:2023 Month:Jan



Author(s) Name	Paper Name	Journal Name	Others Info
S. Paul & Z. H. Rather	A novel approach for optimal cabling and determination of suitable topology of MTDC connected offshore wind farm cluster	Electric Power Systems Research	Volume:208 Issue No: Page No:1- 12 Year:2022 Month:Jul
Subashis Karmakar, Supreeti Kamilya, Prasenjit Dey, Parag K Guhathakurta, Mamata Dalui, Tushar Kanti Bera, Suman Halder, Chiranjib Koley, Tandra Pal, Anupam Basu	Real time detection of cognitive load using fNIRS: A deep learning approach	Biomedical Signal Processing and Control	Volume:80 Issue No:1 Page No:104227 Year:2023 Month:Feb
Geyunjian H Zhu, Mohammad Azharuddin, Bapan Pramanik, Karin Roberg, Sujoy Kumar Biswas, Pdraig D'arcy, Meng Lu, Apanpreet Kaur, Alexander Chen, Ashis Kumar Dhara, Alexandru Chivu, Yunhui Zhuang, Andrew Baker, Xiewen Liu, David Fairen-Jimenez, Bismoy Mazumder, Rongjun Chen, Clemens F Kaminski, Gabriele S Kaminski Schierle, Jorma Hinkula, Nigel KH Slater, Hirak K Patra	Feasibility of Coacervate-Like Nanostructure for Instant Drug Nanoformulation	ACS applied materials & interfaces	Volume:15 Issue No:14 Page No:17485–17494 Year:2023 Month:Mar
Swagata Kundu, Vikrant Karale, Goutam Ghorai, Gautam Sarkar, Sambuddha Ghosh, Ashis Kumar Dhara	Nested U-Net for segmentation of red lesions in retinal fundus images and sub-image classification for removal of false positives	Journal of Digital Imaging, Springer	Volume:35 Issue No:5 Page No:1111-1119 Year:2022 Month:Oct
Debasis Maji, Souvik Maiti, Ashis Kumar Dhara, Gautam Sarkar	Automatic grading of retinal blood vessel tortuosity using Modified CNN in deep retinal image diagnosis	Biomedical Signal Processing and Control, Elsevier	Volume:74 Issue No: Page No:103514 Year:2022 Month:Apr
Souvik Maiti, Debasis Maji, Ashis Kumar Dhara, Gautam Sarkar	Automatic detection and segmentation of optic disc using a modified convolution network	Biomedical Signal Processing and Control	Volume:76 Issue No: Page No:103633 Year:2022 Month:Jul
Prince Kumar, Kunal Kumar, Aashish Kumar Bohre & Nabanita Adhikary	Intelligent priority based generation control for multi area system	Springer Smart Science	Volume:2023 Issue No:2023 Page No:1-10 Year:2023 Month:Mar
Bikash Kumar Saw, Aashish Kumar Bohre, Jalpa H. Jobanputra, and Mohan Lal Kolhe	Solar-DG and DSTATCOM Concurrent Planning in Reconfigured Distribution System Using APSO and GWO-PSO Based on Novel Objective Function	Energies	Volume:16 Issue No:1 Page No:1-34 Year:2022 Month:Dec



Author(s) Name	Paper Name	Journal Name	Others Info
Sumit Kumar Pandey, Jayati Dey & Subrata Banerjee	Modified Kharitonov Theorem Based Optimal PID Controller Design for MIMO Systems	Journal of Electrical Engineering & Technology	Volume: <a href="https://doi.org/10.1007/s42835-022-01329-3">https://doi.org/10.1007/s42835-022-01329-3</a> Issue No: Page No: Year:2022 Month:December
Soham Dey, Subrata Banerjee & Jayati Dey	Design of an improved robust fractional order PID controller for magnetic levitation system based on atom search optimization	Sādhanā, Indian Academy of Sciences	Volume: <a href="https://doi.org/10.1007/s12046-022-01962-8">https://doi.org/10.1007/s12046-022-01962-8</a> Issue No:47:188 Page No: Year:2022 Month:September
Nayan Kumar, Tapas Kumar Saha, Jayati Dey	Multilevel hysteresis modulation (AMHM) for sliding mode controlled dual inverter PV systems	ISA TRANSACT IONS	Volume: <a href="https://doi.org/10.1016/j.isatra.2022.07.001">https://doi.org/10.1016/j.isatra.2022.07.001</a> Issue No:133 (2023) Page No:435–449 Year:2022 Month:July
Reetam Mondal, Jayati Dey	A novel design methodology on cascaded fractional order (FO) PI- PD control and its real time implementation to Cart- Inverted Pendulum System	ISA TRANSACT IONS	Volume: <a href="https://doi.org/10.1016/j.isatra.2022.04.015">https://doi.org/10.1016/j.isatra.2022.04.015</a> . Issue No: Page No: Year:2022 Month:
N.Rana, S. Sonar & S.Banerjee	Performance Investigation of Closed-Loop Dual Phase Interleaved Buck-Boost Converter with Dragonfly Optimized Type-III Controller	IEEE Transactions on Circuits and Systems II: Express Briefs	Volume:69 Issue No:3 Page No:1472- 1476 Year:2022 Month:May
Reetam Mondal and Jayati Dey	An Extended Experimental Study on Control of Unstable and NonMinimum Phase Plants with the Cascaded Form of a Fractional Order Compensator	IEEE Transactions On Industrial Applications	Volume:DOI 10.1109/TIA.2023.3 250607 Issue No: Page No: Year:2023 Month:March
Sandeep Kumar Das, Supriya Sarkar, Debapriya Das	Performance Enhancement of Grid-Connected Distribution Networks with Maximum Penetration of Optimally Allocated Distributed Generation Under Annual Load Variation	Arabian Journal for Science and Engineering	Volume:47 Issue No:11 Page No:14809–14839 Year:2022 Month:Jul
K Majumdar, P.K. Roy, and S. Banerjee	Framework of Hybrid Renewable Energy with Conventional Power Generation Scheduling: using Novel Meta Heuristic Optimization Algorithm	The International Journal of Power and Energy Systems, ACTA Press	Volume:42 Issue No:10 Page No: Year:2022 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
K Majumdar, P.K. Roy, and S. Banerjee	Multi-Objective Chaotic Mayfly Optimization for Solar-Wind-Hydro-Thermal Scheduling Based on ATC Problem	The International Journal of Power and Energy Systems, ACTA Press	Volume:42 Issue No:10 Page No: Year:2022 Month:
A. Ghosh, J. Meher, S. Sonar, S. Banerjee	Modelling, Analysis & Control of Bidirectional SEPIC Converter for Energy Storage Applications	International Journal of Power Electronics	Volume: Issue No:2 Page No:299-332 Year:2023 Month:Feb
Biswajit Mandal & Partha Sarathee Bhowmik	Application of Soft Computing Techniques for Porosity Optimization of Dye Sensitized Solar Cell	Smart Science (Taylor & Francis),	Volume:11 Issue No:02 Page No:241-250 Year:2022 Month:Apr
Dibyendu Sen, Ruman Kalyan Mahapatra, Tapas Kumar Saha, Jayati Dey	Bifurcation of Double Input DC-DC Buck Buck-boost Fused Converter	Journal of Control, Automation and Electrical Systems	Volume:https://doi.org/10.1007/s40313-023-00987-6 Issue No: Page No: Year:February Month:2023
S. Ray, H. S. Chatterjee, D. Samajpati, S. N. Mahato, and N. K. Roy	BSA Based Analysis of Three-Phase Standalone Asynchronous Generator Using Two-Port Network	International Journal of Power Electronics	Volume:16 Issue No:3 Page No:385-398 Year:2022 Month:Aug
Kundu Shubhrajyoti, Alam Mehebbub, Saha Roy Biman Kumar and Thakur Sankar Siddhartha	M-estimation based robust approach for hybrid dynamic state estimation in power systems	Micro and Nanosystems	Volume:14 Issue No:4 Page No:358-368 Year:2022 Month:Dec
Bikash Kumar Saw, Aashish Kumar Bohre, Jalpa H. Jobanputra, and Mohan Lal Kolhe	Techno-Economic and Environmental based Approach for Planning of SDG and DSTATCOM with Impact of Network Reconfiguration using APSO and TLBO	Distributed Generation & Alternative Energy Journal	Volume: Issue No:05 Page No:pp. 1585-1608 Year:2023 Month:Feb

#### 4.7.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Sumit Kumar Pandey, Jayati Dey & Subrata Banerjee	Control of Generalized decoupled MIMO Systems based on Linear Programming Method	IETE Journal of Research	Volume:DOI: 10.1080/03772063.2023.2215211 Issue No: Page No: Year:February Month:2023
S. Panda, S. Kundu, S. Banerjee	An Improved SHM-PAM Method to Meet EN 50160 and CIGRE WG 36-05 Voltage Harmonic Standards Using Asymmetrical Cascaded H-bridge Natural Sequence Multi-level Inverter Structure	International Journal of Power Electronics	Volume: Issue No: Page No: Year:2023 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
Mukherjee, M., Roy, B.K.S.	Optimal $\mu$ PMU Placement in Radial Distribution Networks Using Novel Zero Injection Bus Modelling	SN Computer Science	Volume: Issue No: Page No: Year:2023 Month:Feb

4.7.16 Journal: Published in Others in 2022-2023

NIL

4.7.17 Journal: Accepted in Others in 2022-2023

NIL

4.7.18 Conference: Published in 2021-2022 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Rana Das, Irfan Ahmed	Comparison of Different Types of Sinusoidal PWM Techniques for Double-Star Chopper Cell with Embedded Energy Sources	2022 Second International Conference on Power, Control and Computing Technologies	DOI/ISBN: <a href="https://doi.org/10.1109/ICPC2T5388.5.2022.9776998">https://doi.org/10.1109/ICPC2T5388.5.2022.9776998</a> Volume: Issue No: Page No: Year:2022 Month:Mar Presenter:CO-AUTHOR
Tushar Kanti Bera, Aashish Kumar Bohre, Irfan Ahmed, Aniruddha Bhattacharya, Ankur Yadav	Smart Charging for Electric Vehicles (EVs): A Short Review	2022 IEEE Global Conference on Computing, Power and Communication Technologies	DOI/ISBN: <a href="https://doi.org/10.1109/GlobConPT57482.2022.9938183">https://doi.org/10.1109/GlobConPT57482.2022.9938183</a> Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
S. Nandi, S. R. Ghatak, and P. Acharjee	Placement of EV Fast Charging Station in Distribution System Based on Voltage Stability Index Strategy	International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077648 Volume: Issue No: Page No:46–51 Year:2022 Month:Dec Presenter:
Sourav Das, A. Pal, A. Chakraborty, P. Acharjee, and A. Bhattacharya	Cost Benefit Analysis of EV Charging Scheduling under Stochastic Framework Considering PV and Battery Energy Storage	IEEE International conference on “Power Electronics, Smart Grid and Renewable Energy (PESGRE 2022)	DOI/ISBN: 10.1109/STPEC52385.2021.9718674 Volume: Issue No: Page No:1-6 Year:2022 Month:Apr Presenter:
V. Bharadwaj, S. Panda, S. Kundu, S. Banerjee	Seven Level CHB Multilevel Inverter based STATCOM using Decoupled Control & DC Voltage Balancing	IEEE, 2023 International Conference on Computer, Electrical & Communication Engineering (ICCECE)	DOI/ISBN: 10.1109/ICCECE51049.2023.10085627 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Mukherjee, M., Roy, B.K.S.	Optimal PDC & Communication Link Placement in Distribution Network for An Optimal $\mu$ PMUSet	6th International Conference on Condition Assessment Techniques in Electrical System (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077624 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Poluri Sri Mannarayana, Aritro Dey	Transformed Cubature Quadrature Kalman Filter for Harmonic Estimation	CATCON 2022	DOI/ISBN: 10.1109/CATCON56237.2022.10077679





Author(s) Name	Paper Name	Conference Name	Others Info
	with onestep Randomly Delayed Measurements		Volume: Issue No: Page No:359–363 Year:2022 Month:Dec Presenter:CO-AUTHOR
A. Chakraborty, S. Chatterjee and R. Mandal	Autocorrelation Aided Islanding Detection Using Bi-directional Long-short Type Memory Network	2nd International Conference on Power Electronics and Energy (ICPEE)	DOI/ISBN: 978-1-6654-7058-2 Volume: Issue No: Page No:1-6 Year:2023 Month:Jan Presenter:CO-AUTHOR
P. Soni, D. Mondal, S. Chatterjee and P. Mishra	Deep Learning Technique for Recurrence Plot-Based Classification of Power Quality Disturbances	3rd IEEE International Power and Renewable Energy Conference (IPRECON)	DOI/ISBN: 978-1-6654-9175-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR
S. Modak, S. Chatterjee and S. Roy	Deep Learning-Based Discrimination of Focal Electroencephalogram Signals Employing Cross Stockwell Transform	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR
R. Das, A. K. Das, S. Chatterjee, S. Biswas, S. Dalai, B. Chatterjee and K. Bhattacharyya	Time-frequency Representation aided Deep Transfer Learning Approach for Localization and Identification of Single and Multiple Partial Discharge Events	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR
S. S. Roy, A. Paramane, J. Singh, S. Chatterjee and A. K. Das	Hydrophobicity Grade Detection of Polymeric Insulator Using Image Visibility Graph	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR
S. Das, A. Paramane, S. Chatterjee and U.M. Rao	Recursive Feature Elimination Aided Accurate Fault Classification in Power Transformers Using Dissolved Gas Data	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-4 Year:2022 Month:Dec Presenter:CO-AUTHOR
N. Modal, S. Chatterjee, N. Haque, S. Dalai, B. Chatterjee and S. Chakravorti	Estimation of Epoxy-Mica Insulation Ageing Through Havriliak-Negami Relaxation Model on Dielectric Modulus Spectrum	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:SELF
S. Maur, B. Chakraborty, A. K. Pradhan, S. Chatterjee, S. Dalai and B. Chatterjee	Estimation of Thermal Aging of Epoxy-Alumina Nano-Composites for Dry-Type High Voltage Insulation Using Dielectric Modulus	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR
B. Chakraborty, S. Maur, A. K. Pradhan, S. Chatterjee, S. Dalai and B. Chatterjee,	Estimation of Paper Moisture within Vegetable Oil based Hybrid Nanofluid Impregnated Paper Using Capacitance Ratio	6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 978-1-6654-7380-4 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:CO-AUTHOR





Author(s) Name	Paper Name	Conference Name	Others Info
N. Ahire; S. Paul & Z. H. Rather	Enhancement of Transmission Systems Operational Condition in a Large Scale Wind Integrated Power Systems Against Extreme Weather Events	2022 10th International Conference on Smart Grid (icSmartGrid)	DOI/ISBN: 10.1109/icSmartGrid55722.2022.9848779 Volume: Issue No: Page No:78- 83 Year:2022 Month:Jun Presenter:CO-AUTHOR
Sourav Chakraborty, Aashish Kumar Bohre, Shilpa Kalambe, Bikash Kumar Saw, Mohan Lal Kolhe, Jalpa Thakkar, and Prince Kumar.	Allocation of Renewable DG Considering Impact of ZIP Load Models in Distribution Network	In 2022 IEEE International Conference for Women in Innovation, Technology & Entrepreneurship (ICWITE), pp. 1-6. IEEE, 2022	DOI/ISBN: 10.1109/ICWITE57052.2022.10176250 Volume: Issue No: Page No:1-6 Year:2022 Month:Dec Presenter:SELF
Karmakar, Shukla, Tushar Kanti Bera,	Review on Cell Balancing Technologies of Battery	In 2023 IEEE IAS Global Conference on Renewable Energy	DOI/ISBN: 10.1109/GlobConHT56829.2023.10087455 Volume: Issue No: Page No:1-5 Year:2023 Month:Mar Presenter:CO-AUTHOR
Aashish Kumar Bohre	Management Systems in Electric Vehicles	and Hydrogen Technologies (GlobConHT), pp. 1-5. IEEE, 2023.	Presenter:CO-AUTHOR
Chakraborty, Ishan, Aashish Kumar Bohre	Effect of thermal load on HRES for a rural area using different types of loads and sources	In 2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), pp. 313-317. IEEE, 2022	DOI/ISBN: 10.1109/CATCON56237.2022.10077701 Volume: Issue No: Page No:1-6 Year:2022 Month:Dec Presenter:SELF
Banerjee, Sannistha, Partha Sarathee Bhowmik, Aashish Kumar Bohre	Detection and Location of Fault in Microgrid using Discrete Wavelet Transform based Technique	In 2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), pp. 417-421. IEEE, 2022	DOI/ISBN: 10.1109/CATCON56237.2022.10077697 Volume: Issue No: Page No:1-6 Year:2022 Month:Dec Presenter:CO-AUTHOR
Nayak, Suchismita, Aashish Kumar Bohre, Prince Kumar, and Mohan Lal Kolhe	Modeling and Performance Analysis of an Electric Vehicle	In 2022 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON), pp. 1-5. IEEE, 2022.	DOI/ISBN: 10.1109/SMARTGENCON56628.2022.10084234 Volume: Issue No: Page No:1-6 Year:2022 Month:Dec Presenter:CO-AUTHOR
R. Sarkar, Aashish Kumar Bohre, T. K. Bera, P. S. Bhowmik, M. L. Kolhe and A. H.Hassanabad	Effect of Shading on System Parameters and CO2 Emission of grid-connected PV System	2022 IEEE 10th Power India International Conference (PIICON), New Delhi, India, 2022, pp. 1-5,	DOI/ISBN: 10.1109/PIICON56320.2022.10045311 Volume: Issue No: Page No:1-5 Year:2022 Month:Dec Presenter:SELF
Karmakar, Shukla, Tushar Kanti Bera, and Aashish Kumar Bohre	A Novel Proportional Integral Controller Based Passive Cell Balancing for Battery Management System	In 2022 IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT), pp. 1-5. IEEE, 2022.	DOI/ISBN: 10.1109/GlobConPT57482.2022.9938330 Volume: Issue No: Page No:1-5 Year:2022 Month:Sep Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Bera, Tushar Kanti, Aashish Kumar Bohre, Irfan Ahmed, Aniruddha Bhattacharya, and Ankur Yadav	Smart Charging for Electric Vehicles (EVs): A Short Review	In 2022 IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT), pp. 1-6. IEEE, 2022.	DOI/ISBN: 10.1109/GlobConPT57482.2022.9938183 Volume: Issue No: Page No:1-5 Year:2022 Month:Sep Presenter:CO-AUTHOR
Mandal, Souvik, and Aashish Kumar Bohre	Fault Classification in Electrical Systems Using Machine Learning Algorithm	In 2022 Third International Conference on Intelligent Computing Instrumentation and Control Technologies (ICICT), pp. 1412-1416. IEEE, 2022.	DOI/ISBN: 10.1109/ICICT54557.2022.9917976 Volume: Issue No: Page No:pp. 1412-1416. Year:2022 Month:Aug Presenter:CO-AUTHOR
Ari, Arnab, and Aashish Kumar Bohre	Harmonic and TIF Analysis in Distribution System with Integration of PV and Wind Systems	In 2022 International Conference on Intelligent Controller and Computing for Smart Power (ICICSP), pp. 01-06. IEEE, 2022.	DOI/ISBN: 10.1109/ICICSP53532.2022.9862320 Volume: Issue No: Page No:1-6 Year:2022 Month:Jul Presenter:CO-AUTHOR
K. Majumdar, N. Kumar, P. K. Roy, S. Banerjee	PI Controlled Synchronization Converter using SHO in Grid-Interactive Three-Phase Solar PV System	IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE)	DOI/ISBN: 10.1109/PESGRE52268.2022.9715932 Volume: Issue No: Page No: 32 Year:2022 Month: Presenter:CO-AUTHOR
S. Sen, P. Das and C. Koley	Design of a Notch Filter to Improve the Specificity in Detection of Partial Discharge Sources	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077620 Volume: Issue No: Page No:293-297 Year:2022 Month:Dec Presenter:CO-AUTHOR
S. Dhara, C. Koley and S. Chakravorti	An Ultra-Wide Band MultiLayered Hatch-Mounted UHF Partial Discharge Sensor for High-Voltage Power Transformers	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077688 Volume: Issue No: Page No:258-262 Year:2022 Month:Dec Presenter:CO-AUTHOR
K. Adhikari, C. Koley and N. K. Roy	A Proposed Intensity Modulated Optical Fiber Based Sensor for Partial Discharge Detection in High Voltage Power Transformer	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077698 Volume: Issue No: Page No:379-383 Year:2022 Month:Dec Presenter:CO-AUTHOR
S. Saha, A. Bhattacharya, C. Koley, B. Bhattacharya and A. Gouraha	Design of an Optimized Printed Log Periodic Dipole Antenna for Partial Discharge Monitoring	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077683 Volume: Issue No: Page No:412-416 Year:2022 Month:Dec Presenter:CO-AUTHOR
A. Bhukya and C. Koley	Wavelet Aided Deep Neural Network for Classification of Partial Discharge Sources in Air Insulated Substations	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077643 Volume: Issue No: Page No:151-155 Year:2022 Month:Dec Presenter:SELF



Author(s) Name	Paper Name	Conference Name	Others Info
K. Adhikari, N. K. Roy and C. Koley	Proposed Intensity Modulated Optical Fiber Based Sensor for Partial Discharge Detection in High Voltage Power Transformer	2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), Durgapur,	DOI/ISBN: 10.1109/CATCON56237.2022.10077698. Volume: Issue No: Page No:379-383 Year:2022 Month:Dec Presenter:
S. Khandai, S. Biswas, R. T. Arun Ram Prasath, P. Kumbhakar and N. K. Roy	Experimental Study of Dielectric and Physical Properties of Blended Coconut Oil and Mineral Oil with Graphene Oxide Nanomaterial	2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON), Durgapur,	DOI/ISBN: 10.1109/CATCON56237.2022.10077629. Volume: Issue No: Page No:408-411 Year:2022 Month:Dec Presenter:
Sujit Khandai, D Jasper, Krishanlal Adhikari, Partha Kumbhakar, Pathik Kumbhakar, Nirmal Kumar Roy	Investigation of dielectric properties of blended ester oils and dielectric fluids used in transformer at different temperatures	AIP Conference Proceedings	DOI/ISBN: <a href="https://doi.org/10.1063/5.0117874">https://doi.org/10.1063/5.0117874</a> Volume: Issue No: Page No:22-26 Year:2022 Month:Sep Presenter:
Lal, A. Kumar, P. , Halder, S.	Heartbeat Classification Based on Deep Convolutional Neural Network	Proceedings of the 1st IEEE International Conference on Networking and Communications	DOI/ISBN: 979-835033600-9 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Das, A.K. , Kumar, P. , Halder, S.	Complexity Analysis of Ocular Signal for Detection of Human Fatigue Using Small Datasets	Procedia Computer Science	DOI/ISBN: 10.1016/j.procs.2023.01.066 Volume: Issue No: Page No:858-866 Year:2022 Month:Sep Presenter:CO-AUTHOR
Biswajit Mandal, Partha Sarathee Bhowmik	Dye-sensitized solar cell testing by an improved resistive load method topology with Raspberry Pi: A cost-effective novel approach	2022 IEEE Calcutta Conference (CALCON)	DOI/ISBN: 10.1109/CALCON56258.2022.10060648 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Sannistha Banerjee, Partha Sarathee Bhowmik	Detection and Location of Fault in Microgrid using Discrete Wavelet Transform based Technique	2022 IEEE 6TH International Conference on Conditional Assessment Techniques in Electrical Systems (IEEE CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077697 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Rishiraj Sarkar, Aashish Kumar Bohre, Tushar Kanti Bera, Partha Sarathee Bhowmik, Mohan Lal Kolhe, Armin Hassanzadeh Hassanabad	Effect of Shading on System Parameters and CO2 Emission of grid-connected PV System	2022 IEEE 10th Power India International Conference (PIICON)	DOI/ISBN: 978-1-6654-5930-3 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR



#### 4.7.19 Conference: Published in Others

Author(s) Name	Paper Name	Conference Name	Others Info
S. Sonar, S. Mandal and S. Banerjee	Maximum boost control technique to remove 6th frequency component from three phase Impedance Source Inverter	IEEE 5th International Conference on Computing, Power and Communication Technologies	DOI/ISBN: 10.1109/GlobConPT57482.2022.9938250 Volume: Issue No: Page No: Year:2022 Month:Sep Presenter:CO-AUTHOR
S. Panda, V. Bharadwaj, S. Kundu, S. Banerjee	Power Quality Improvement Using Pulse Amplitude Modulation (PAM) Strategy Applied to Cascaded H-Bridge Multilevel Inverter	5th Regional Science and Technology Congress	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
S. Panda, S. Kundu, V. Bharadwaj, S. Banerjee	Different Applications of Multilevel Inverter in Modern Electrical Systems	5th Regional Science and Technology Congress	DOI/ISBN: 0 Volume: Issue No: Page No: Year:23 Month:Jan Presenter:CO-AUTHOR
V. Bharadwaj, S. Panda, S. Kundu, S. Banerjee	Power Factor Correction of the Grid Using CHB MLI Based STATCOM'	5th Regional Science and Technology Congress	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
V. Bharadwaj, S. Panda, S. Kundu, S. Banerjee	Application of MAGLEV Train in Transportation System	5th Regional Science and Technology Congress	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR

#### 4.7.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Tushar Kanti Bera	Aashish Kumar Bohre, Irfan Ahmed, Aniruddha Bhattacharya, Partha Sarathee Bhowmik	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid: Modeling, Control and Optimization	Magnetohydrodynamic (MHD) Power Generation Systems	Publisher: Springer Nature, Singapore Publication Date: 2022-05-22
Irfan Ahmed	Aashish Kumar Bohre, Tushar Kanti Bera, Aniruddha Bhattacharya	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid: Modeling, Control and Optimization	Energy Sources for Electric Vehicles	Publisher: Springer Nature, Singapore Publication Date: 2022-05-22
Aashish Kumar Bohre	Partha Sarathee Bhowmik, Baseem Khan, Tushar Kanti Bera, Irfan Ahmad, Aniruddha Bhattacharya	Power Electronics and High Voltage in Smart Grid: Select Proceedings of SGESC 2021	Planning and Analysis of EV Charging Station with Solar-PV in Grid-Connected System of Durgapur	Publisher: Springer Nature, Singapore Publication Date: 2022-02-16
Parimal Acharjee	Sourav Das, Arnab Pal, Ajoy Kumar Chakraborty, Aniruddha Bhattacharya	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Multilevel Planning for Smart Charging Scheduling for On Road Electric Vehicles Considering Seasonal Uncertainties	Publisher: Springer Publication Date: 2022-0822



Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Aniruddha Bhattacharya	Sourav Das, Arnab Pal, Parimal Acharjee, Ajoy Kumar Chakraborty	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Multilevel Planning for Smart Charging Scheduling for On Road Electric Vehicles Considering Seasonal Uncertainties	Publisher: Springer Publication Date: 2022-0522
Aniruddha Bhattacharya	Arnab Pal, Ajoy Kumar Chakraborty	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Planning of Electric Vehicle Charging Station with Integration of Renewables in Distribution Network	Publisher: Springer Singapore Publication Date: 2022-05-22
S. Paul	S. R. Ara & Z. H. Rather	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Layout Optimization Planning of Hybrid Offshore Wind-Solar PV Power Plants	Publisher: Springer Publication Date: 2022-05-22
Partha Sarathee Bhowmik	R. Reddy, S Ahmad	Circuit Analysis		Publisher: Scientific International House Publication Date: 2022-0727
Partha Sarathee Bhowmik	Ritambhara, Y. Sharma. P. Malarkodi	Microprocessor and Microcontroller		Publisher: Alpha International Publishing Publication Date: 2022-0906
S. Banerjee	S Maiti, S. Sonar	Renewable Resources and Energy Management	Design and Analysis of Z-Source Inverter Using Simple Boost Control Method	Publisher: Springer Publication Date: 2023-0125
Tapas Kumar Saha	Nayan Kumar, Josep M. Guerrero, Debaprasad Kastha	Power Electronics for NextGeneration Drives and Energy Systems, Volume 1		Publisher: IET Publication Date: 2023-04-21
Partha Sarathee Bhowmik	T. K. Bera, A. K. Bohre, I. Ahmed, A. Bhattacharya,	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Magnetohydrodynamic (MHD) Power Generation Systems (Book Name: Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid: Modeling, Control and Optimization	Publisher: Springer Nature, Singapore Publication Date: 2022-05-31
Partha Sarathee Bhowmik	T. Rana	Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid	Modeling and Control of PV Systems for Maximum Power Point Tracking and Its Performance Analysis using Advanced Techniques (Book Name: Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid: Modeling, Control and Optimization	Publisher: Springer Nature, Singapore Publication Date: 2022-05-31





Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Partha Sarathee Bhowmik	Biswajit Mandal,	Handbook of Research on Evolving Designs and Innovation in ICT and Intelligent Systems for RealWorld Applications	Recent Advancement on Dye Sensitized Solar Cell (DSSC): A Review	Publisher: Springer Nature, Singapore Publication Date: 2022-06-30
Partha Sarathee Bhowmik	Arati,M. Buradkar, R Das	Digital Electronics		Publisher: Scientific International House Publication Date: 2022-0405

#### 4.7.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	NIT Durgapur	2022-12-17	2022-12-19	India
Outcome based Accreditation: Challenges and Opportunities	NIT Durgapur	2022-06-23	2022-06-24	India
Faculty Updation Program on “Introduction to Navigation, Guidance and Control of Unmanned Systems”	IIT Bombay	2023-07-17	2023-07-22	India
6th IEEE International Conference on Condition Assessment Techniques in Insulation Systems	NIT Durgapur	2022-12-17	2022-12-19	India
ISNR 2023	Indian Society of Neuroradiology	2023-02-24	2023-02-26	India
A two days’ workshop on outcome based accreditation: Challenges and Opportunities,	NIT Durgapur	2022-06-23	2022-06-24	India
IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT 2022)	IEEE Industry Applications Society, USA	2022-09-23	2022-09-25	India
IEEE 6th Int. Conf. on Condition Assessment Techniques in Electrical Systems 2022 (IEEE CATCON 2022)	National Institute of Technology Durgapur and IEEE Dielectrics and Electrical Insulation Society and IEEE	2022-12-17	2022-12-19	India
IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems	Department of Electrical Engineering & IEEE DEIS Society, Kolkata Chapter	2022-12-17	2022-12-19	India
Innovative Teaching Strategies and Tools in the Digital Age	MoE's Institution Innovation Council Gulzar Group Of Institutes, Ludhiana, Punjab	2023-03-24	2023-03-30	India
2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	IEEE DEIS Chapter Kolkata	2022-12-17	2023-08-20	India
IEEE CATCON	NIT Durgapur	2022-12-17	2022-12-19	India
Organized a special session on ‘Advancement in Power Electronics for ...’	Cochin University of Science and Technology (CUSAT),	2022-11-24	2022-11-26	India





Name of the Programme	Organized By	From Date	To Date	Organizing Country
FDP Programme titled “Recent Advancement and Research Opportunities in Electrical Engineering”.	IEEE-SPS & IEEE-PES, Kolkata Section	2022-07-11	2022-07-15	India

#### 4.7.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Some studies on battery management system for electric vehicle applications using embedded source modular multilevel converter	Rana Das	Dr. Irfan Ahmed	ONGOING	-
Simplification of Space Vector Modulation Techniques for Multilevel Inverters	Anuj Kumar Pandey	Dr. Irfan Ahmed	ONGOING	-
Grid connected PV systems	Sumit Kumar	Prof. S. Banerjee & Dr. S.K. Giri (CSIR-CMERI)	ONGOING	-
Charging Scheduling and Allocation of Suitable Charging Station for On-Road Electric Vehicles In Probabilistic Scenario Considering Renewable Power Source	Sourav Das	Dr. Parimal Acharjee, Dr. Aniruddha Bhattacharya	ONGOING	-
Application of soft computing techniques in constrained compensated power systems	Deepro Sen	Dr. Parimal Acharjee	ONGOING	-
Enhancement of available transfer capability incorporating FACTS devices for large scale power systems by using meta-heuristic algorithms.	Kingshuk Mazumder	Prof. S. Banerjee (NIT) & Prof. P.K. Roy (KGEC)	DEGREE AWARDED	2023-03-31
Application of Advanced Controllers in Maglev System	Soham Dey	Prof. S. Banerjee & Dr. J. Dey	ONGOING	-
Low frequency based modulation schemes for CHB Multilevel Inverters	Samudra Panda	Prof. S. Banerjee	ONGOING	-
Multiport DC-DC converters for EV applications	Siddheswar Sen	Dr. S.K. Giri (CSIR-CMERI) & Prof. S. Banerjee	ONGOING	-
Multiport Converter for Hybridization of PEM Fuel Cell with Battery/Ultracapacitor in Electric Vehicle Applications	Hanumath Prasad Ikkurti	Dr. S.K. Giri (CSIR-CMERI) & Prof. S. Banerjee	ONGOING	-
State Estimation of Dynamics Systems using Adaptive Nonlinear Filters	Poluri Sri Mannarayana	Dr. Aritro Dey	ONGOING	-
Few Aspects of Discrete Sliding Mode Control	Biswapratim Roy	Dr. Aritro Dey, Dr. Jayati Dey	ONGOING	-
Detection and Classification of Transient Disturbances in Power System using Advanced Signal processing and Machine Learning Techniques	Mrs. Ananya Chakraborty	Dr. Ratan Mandal and Dr. Soumya Chatterjee	ONGOING	-
Detection of Cyber-Attack in Power System	Sayak Mondal	Parimal Acharjee, Bhattacharya Aniruddha	ONGOING	-
PMU application in Distribution network	Manas Mukherjee	Biman Kumar Saha Roy	ONGOING	-
Optimal Placement of Phasor Measurement Unit for State Estimation of Power Systems	Shubhrajyoti Kundu	Siddhartha Sankar Thakur and Biman Kumar Saha Roy	ONGOING	-
PMU assisted Smart Grid Operation and Protection against cyber insecurity	Koushik Mandal	Biman Kumar Saha Roy	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Application Of Synchro-Phasor Measurement In Power System	Soumesh Chatterjee	Dr. Sumita Deb (NIT Agartala) and Biman Kumar Saha Roy	DEGREE AWARDED	2023-03-31
Deep Neural Networks and Interactive deep learning	Swagata Kundu	Dr. Ashis Kumar Dhara and Dr. Robin Strand	ONGOING	-
Machine Learning for BMD Estimation from X-Ray Images	Amandeep Minhas	Dr. Ashis Kumar Dhara and Dr. Arunava Naha	ONGOING	-
Deep Learning Methods for Aneurysm Quantification from MRA Images	Subhash Chandra Pal	Dr. Ashis Kumar Dhara and Dr. Robin Strand	ONGOING	-
Handling Severe Class Imbalance in Diabetic Retinopathy Screening	Raka Goswami	Dr. Ashis Kumar Dhara	ONGOING	-
Implementation of Federated Learning Framework	Sudupta Mal	Dr. Ashis Kumar Dhara and Dr. Tushar Kanti Bera	ONGOING	-
Optimal Planning of Distributed Generation and Distributed Network	Mr. Bikash Kumar Shaw	Dr. Aashish Kumar Bohre	ONGOING	-
VO2 based Multi-Functional ultra-wideband Terahertz Meta-absorber for EMI Shielding application	Niti Rani	Dr. Aashish Kumar Bohre	ONGOING	-
Fractional Order Modelling and Estimation of Supercapacitor	Ms. Suparna Maity	Dr. Munmun Khanra, Dr. Manika Saha	ONGOING	-
Designing and Development of An Efficient Wireless Power Transfer (WPT) System for Electric Vehicles (EVs)	Ankur Yadav	Dr. Tushar Kanti Bera	ONGOING	-
Design and Development of An EEG Acquisition and Analyzing System for Epileptic Seizure Detection	Sunil Chowdhary	Dr. Tushar Kanti Bera	ONGOING	-
Development of A Machine Learning Based AI Tool for Early Detection of Alzheimer's Disease (Biomedical Engineering)	Pranab Hazra	Dr. Tushar Kanti Bera and Dr. Ashis Kumar Dhara	ONGOING	-
Drone Based Expert System for Smart Pesticide Spraying Systems for Agricultural Applications	Sudipta Mal	Dr. Ashis Kumar Dhara and Dr. Tushar Kanti Bera	ONGOING	-
Performance Analysis and Assessment of Capacitance Requirement of Self-Excited Induction Generator	Sambaran Ray	Prof. S. N. Mahato and Prof. N. K. Roy	SUBMITTED	2022-06-20
Some Studies on Analysis and Control of Self-Excited Induction Generator	Himadri Sekhar Chatterjee	Prof. S. N. Mahato	ONGOING	-
Some Studies on Analysis and Control of Six-Phase Self-Excited Induction Generator	Saikat Ghosh	Prof. S. N. Mahato	ONGOING	-
Investigation and Development of Power Converters for DC Microgrid Applications	A. Bharathsimha Reddy	Prof. S. N. Mahato	ONGOING	-
Design Optimization and Analysis of AC Electrical Machines	Pratyush Prasanna Das	Prof. S. N. Mahato	ONGOING	-
Smart Electrical Energy Audit and Management	Subir Bhattacharyya	Dr. Partha Sarathee Bhowmik	ONGOING	-
Advanced Signal and Data Processing Techniques for Detection and Classification of Transient Events in Microgrid	Sannistha Banerjee	Dr. Partha Sarathee Bhowmik	ONGOING	-
Porosity optimization of Dye-Sensitized Solar Cell using Soft Computing Technique	Biswajit Mondal	Dr. Partha Sarathee Bhowmik	ONGOING	-
Cyber attack Detection for electric vehicles using machine learning	Anshu Choudhary	Dr. Partha Sarathee Bhowmik	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Study of SIW components for Microwave and mm wave applications	Jhuma Kundu Paul	Dr. Partha Sarathee Bhowmik	ONGOING	-
Control of multi Input Converter for Hybrid wind Solar battery based system	Dibyendu sen	Tapas Kumar Saha, Jayati Dey	SUBMITTED	2023-06-01
Design and Real Time Implementation of Controllers for Magnetic Levitation System using Optimal Control Theory	Soham Dey	Subrata Banerjee, Jayati Dey	ONGOING	-
Performance Study, Stability Analysis and Control of Multi-Machine System with Fractional Order Compensation	Poulomi Chatterjee	Jayati Dey	ONGOING	-
Control and Analysis of Multi-Input Converter for Hybrid Renewable Energy Generation Scheme	Dibyendu Sen	Prof. Tapas Kumar Saha & Dr. Jayati Dey	SUBMITTED	2023-06-02
Integrated intelligent system for recognition and location of power quality problems in an interconnected power systems	Pullabhatla Srikanth	Chiranjib Koley	DEGREE AWARDED	2023-01-17
Time Delay Estimation Technique for Localization of Partial Discharge Sources Using Radiated UHF Signal	Anitha Bhukya	Chiranjib Koley	SUBMITTED	2023-02-14
Study the Characteristics of Diffrent Nanofluids for Transformer.	Sujit Khandai	PROF. N.K.ROY	ONGOING	-
Development of Partial Discharge Sensors for Conditioned monitoring of High Voltage Power Apparatus	Sri Krishanlal Adhikari	Prof N K Roy and Prof C Koley	ONGOING	-
Development of IoT enabled High Voltage Laboratory Facilities	Sri D Jasper	Prof N K Roy	ONGOING	-
Assessment of fatigue derived from biosignal utilizing advanced measurement techniques	Ashis Kumar Das	Dr. Suman Halder	SUBMITTED	2023-03-23
Study of SOC and SOH of Li-ion Battery in Battery management System	Abhishek Kumar	Prof N K Roy	ONGOING	-

#### 4.7.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Cost Minimization-Based Multi-Stage PMU Installation Strategy Considering Energy Industries' Perspective	Parimal Acharjee	CSIR EMR-II	1821000.0	2021
Development of Online Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus	Chiranjib Koley, N.K.Roy, P.S. Bhowmik, Aniruddha Bhattacharya	NHPC Ltd.	21998000	2022
Computer-aided Glioblastoma and Intracranial Aneurysms Treatment Response Quantification in Neuroradiology	Dr. Ashis Kumar Dhara and Dr. Chirag Kamal Ahuja, Dr. Robin Strand and Dr. Johan Wikstrom	DBT, Govt of India	3969480.0	2021
Artificial Intelligence for Affordable Screening and Prediction of Diabetic Retinopathy in the Framework of Big Data	PI and coordinator: Dr. Ashis Kumar Dhara, Dr. Rajiv Raman, Dr. S. Mathavan, Dr. R. Rajalakshmi, Dr. Sambuddha Ghosh, Dr. Anita Chatterjee, Dr. Sushmita Mitra, Co-PI: Dr. V. Mohan, Dr. R.M. Anjana, Ms. S. Jebarani, Dr. B. Uma Shankar, Dr. Tushar Kanti Bera	DBT, Govt of India	27223224	2021



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Design and Development of An AI-Based Portable Electrical Impedance Tomography (EIT) System for Respiratory Function Studies Using Machine Learning Technique	Dr. Tushar Kanti Bera (PI), Prof. Sushmita Mitra, Dr. Ashis Kumar Dhara, Dr. Samir Kumar Biswas, Prof. Chiranjib Koley	DST, Govt. of India	9714862.0	2021
Artificial Intelligence for affordable Screening and prediction of Diabetic Retinopathy in the framework of in Big Data Consortium Project with Work Phase I + Work Phase II (Work Phase I: Screening of Diabetic Retinopathy with Affordable AI in Big Data; Work Phase II: Artificial Intelligence integrating Big Data in developing an affordable diagnostic prediction model for Diabetic Retinopathy in India)	Dr. Ashsi Kumar Dhara, Dr. S. Mathavan, Dr. Rajiv Raman, Dr. R Rajalakshmi, Dr. Sambuddha Ghosh, Dr. Sushmita Mitra, Dr. M Suchetha, Dr. V Mohan, Dr. Tushar Kanti Bera (Co-PI), Dr. B Uma Shankar, Dr. Anita Chatterjee	DBT, Govt. of India	27223224	2021
Artificial intelligence for affordable screening and prediction of diabetic retinopathy in the framework of big data	Dr. Charudutta Jadav (TCS), Dr. Bibhash Sen (NIT Durgapur), Dr. Tushar K Bera (Co-PI, NIT Durgapur), Professor Tandra Pal (NIT Durgapur)	Tata Consultancy Services (TCS)	2900000.0	2021
Development of nanocomposite jutegeotextile for high-speed railway embankment system to enhance the durability and its remotely health monitoring using Internet of Things (IoT)	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Tushar Kanti Bera (Co-PI), Dr. Rajib Ghosh Choudhuri	National Technical Textiles Mission(NTTM), Ministry of Textiles, Government of India	9970000.0	2023
Development of electrical impedance tomographybased system for monitoring of solids inside pipeline used in ocean mining application.	Dr. Debi Prasad Das, Dr. Tushar Kanti Bera (PI), Dr. Santosh Kumar Behera	National Institute of Ocean Technology (NIOT), Ministry of Earth Sciences, Govt. of India.	2500000.0	2023
Development of PD Detection System for High Voltage power Apparatus	Prof N K Roy, Prof C Koley, Dr A Bhattarchaya, Dr P S Bhowmik	National Hydro Power Corporation Faridabad, Haryana	21900000	2022
Improved Energy Management and Control of a Hybrid UGV for Combat Use	Jayati Dey and Tapas Kumar Saha	DRDO, Govt. of India	7250000.0	2020
Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology)	Nilanjan Chattaraj, Jayati Dey, Aritro Dey, Deepak Kumar	Ministry of Electronics and Information Technology (MeitY), Government of India	15091000	2022



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Development of Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus	PI Chiranjib Koley, Co-PI : Dr. Partha Sarathee Bhowmik, Dr. Airuddha Bhattacharya, Co-Ordinator: Prof. Nirmal Kumar Roy	NHPC Ltd.	21998000	2022
Multilayer Fractal Ultra High-Frequency Sensor for Partial Discharge Monitoring of High Voltage Power Transformers	PI Chiranjib Koley, CO-PI Sivaji Chakravorti	SERB CRG DST	4566000.0	2022
Ultra-High Frequency Multisensor based Partial Discharge Detection System for Electrical Substations	PI Chiranjib Koley, CO-PI N K Roy	DST TDP	3985000.0	2023
Testing and calibration of UHF flange mounted Partial Discharge sensor.	Chiranjib Koley, N K Roy, A Bhattacharya, P S Bhowmik	Sensorzoid Pvt. Ltd Consultancy	35400.0	2023

#### 4.7.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Electrical Impedance Spectroscopy (EIS) Assisted Electrical Impedance Tomography (EIT) System: Biological Tissue Imaging with Optimum Frequency Scanning	Dr. Tushar Kanti Bera	NIT Durgapur (Research Initiation Grant)	2022
Artificial Intelligence in Education Focus Children with learning Disability	Prof. Tandra Pal, Dr. Parag K Guhathakurta, Dr. Mamata Dalui, Dr. Tushar Kanti Bera, Dr. Suman Halder, Dr. Chiranjib Koley, Prof. Anupam Basu	Ministry of Electronics and Information Technology (MeitY), Govt. of India	2023
Modelling and Control of Electromagnetic Levitation Devices	S. Janardhanan (PI) & S. Banerjee (CO-PI)	DST, SERB	2022
“Development of Personalised and Performance based E- Learning tool for existing E-resources	Prof N K Roy, Dr A Dutta	Department of Electronics and Information Technology (DieTY), Govt of India	2012
Developed one course and coordinated seven courses under National ICT Mission, MHRD Govt. of India, titled “Developing Suitable Pedagogical Methods for Various Classes, Intellectual Calibres and Research in e-Learning”	Prof N K Roy, Prof P Kumbhakar.. et al	MHRD, GOVERNMENT OF INDIA	2010
Setting up of a new Centrally funded Institute, Gani Khan Choudhuri Institute of Technology (GKCIET), Malda	Prof N K Roy	MHRD , Govt of India	2012
Artificial Intelligence (AI) In Educationfocus: Children With Learning Disability	Pal, Tandra, Dolui Mamata, Guhathakurta, Parag K.,Bera, Tushar Kanti, Halder, Suman, Koley, Chiranjib, ,Basu, Anupam	MeitY	2023



#### 4.7.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Karmakar Electric Enterprises	BDV test of Transformer Oil	4500.0	Successfully completed
National Thermal Power Institute Durgapur	Training and consultancy to the Engineers from West Bengal State Electricity Transmission Corporation Limited (WBSETCL), West Bengal	940000.0	Approximately, four hundred Engineers from WBSETCL are taken hands on training at High Voltage Laboratory, NIT Durgapur, all are posted to different substation in West Bengal for operation and maintenance.

#### 4.7.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Parimal Acharjee	ISA Transactions	Elsevier	2023-02-03
Parimal Acharjee	Applied Soft Computing Journal	Elsevier	2023-01-09
Parimal Acharjee	Applied Mathematics and Computation	Elsevier	2023-12-12
Parimal Acharjee	Electrical Engineering Journal	Springer	2023-09-18
Parimal Acharjee	Applied Energy	Elsevier	2023-07-27
Parimal Acharjee	IEEE systems Journal	IEEE	2023-05-11
Aniruddha Bhattacharya	Journal of Energy Storage	Elsevier	2023-02-22
Santanu Paul	IEEE Transactions on Sustainable Energy	IEEE	2023-03-22
Santanu Paul	IEEE Transactions on Power Systems	IEEE	2022-08-22
Santanu Paul	IEEE Transactions on Industrial Informatics	IEEE	2022-07-12
Santanu Paul	IEEE Systems Journal	IEEE	2022-08-15
Santanu Paul	Renewable & sustainable energy reviews	Elsevier	2023-08-05
Santanu Paul	Electric Power Systems Research	Elsevier	2023-03-20
Ashis Kumar Dhara	SN Computer Science	Springer	2022-08-17
Omkar Yadav	Engineering Applications of Artificial Intelligence	Science Direct	2023-05-19
Aashish Kumar Bohre	Technology and economics of smart grids and sustainable energy	Springer Nature	2022-05-15
Aashish Kumar Bohre	International Journal of Green Energy	Clarivate	2022-07-27
Soumya Chatterjee	IEEE Sensors Journal	IEEE	2023-01-14
Soumya Chatterjee	IEEE Sensors Journal	IEEE	2023-01-17
Soumya Chatterjee	IEEE Transactions on Dielectrics and Electrical Insulation	IEEE	2023-02-14
Soumya Chatterjee	IEEE Transactions on Dielectrics and Electrical Insulation	IEEE	2022-09-02
Soumya Chatterjee	IEEE Transactions on Industry Applications	IEEE	2022-09-09
Soumya Chatterjee	IEEE Transactions on Industry Applications	IEEE	2023-03-20
Subrata Banerjee	IEEE Transaction on Industry Applications	IEEE	2022-10-29





#### 4.7.27 Review of Books

NIL

#### 4.7.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Irfan Ahmed Mohd. Fazlul	M. Tech. Final Project Exam (June, 2022)	Visvesvaraya National Institute of Technology Nagpur	2022-06-22	2022-06-22
Irfan Ahmed Mohd. Fazlul	Semester End (Odd) Examination 2022-23	Integral University, Lucknow	2022-12-01	2022-06-01
Parimal Acharjee	Electrical Engineering (Diploma Level)	Assam Science and Technology University	2023-02-27	2023-03-01
Subrata Banerjee	PhD Thesis Examination	Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar	2022-05-21	2022-05-21
Subrata Banerjee	PhD Thesis Examination	NIT Jamshedpur	2022-08-14	2022-08-14
Subrata Banerjee	PhD Thesis Examination	Utkal University	2022-12-19	2022-12-19
Sankar Narayan Mahato	M.Tech. 4-th semester viva-voce examination and thesis evaluation in the Department of Electrical Engineering	NIT Jamshedpur	2022-06-13	2022-06-13
Partha Sarathree Bhowmik	Semester End Examination ODD Semester, 2022-23.	JIS College of Engineering (An Autonomous Institute)	2022-11-16	2022-11-16
Partha Sarathree Bhowmik	Semester End Examination Even Semester, 2022-23.	JIS College of Engineering (An Autonomous Institute)	2022-06-09	2022-06-09
Nirmal Kumar Roy	Thesis evaluation titled " Effects Of Non Standard Lightning Transients In Power Cable" Name: Sri Mudang Taro	NERIST, Arunachal	2023-04-05	2023-04-05

#### 4.7.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Parimal Acharjee	Electrical Engineering	Bihar Public Service Commission	2022-11-02	2022-11-05
Parimal Acharjee	Project-JRF/ Project Associate	in CSIR-Central Mechanical Engineering Research Institute, Durgapur	2022-06-16	2022-06-16
Sankar Narayan Mahato	Electrical Engineering	Institute of Engineering & Industrial Technology, Sanaka Educational Trust's Group of Institutions, Malandighi.	2022-05-29	2022-05-29

#### 4.7.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Irfan Ahmed Mohd. Fazlul	Power Electronic Converters in AC and DC Microgrids	AC-DC Microgrid: Configuration, Controls and Applications	YCCE Nagpur	2022-11-10	2022-11-11



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Parimal Acharjee	Application of PMU in Power Systems	Recent Advancement and Research Opportunities in Electrical Engineering	Bardhaman	2022-07-11	2022-07-15
Parimal Acharjee	Recent Advancement in Smart Grid	Recent Advancement in Smart Grid and Renewable Energy Post Graduate Diploma	Dr. B. C. Roy Engineering College, Durgapur	2022-12-19	2022-12-23
Aniruddha Bhattacharya	Power System Modelling	Course in Transmission and Distribution Systems with Automation SCADA/DMS organized by Centre Board of Irrigation & Power (CBIP)	Online	2022-08-29	2023-09-02
Santanu Paul	Frequency Stability of Power Systems Integrated with Large Scale Renewable Energy Resources	Faculty Development Program on "Recent Advancements in Smart Grid & Renewable Energy"	Durgapur	2022-12-19	2022-12-23
Tushar Kanti Bera	Biomedical Applications of Electrical Impedance Tomography (EIT): Looking into the Human Anatomy with Electrical Currents	Technical Webinar for The Departmental Students (B.Tech.)	Gargi Memorial Institute of Technology, Kolkata – 700144	2022-04-23	2022-04-23
Tushar Kanti Bera	Recent Trends in The Battery Charging Technology for Electric Vehicles (EVs) and Plugged-In-Hybrid Electric Vehicles (PHEVs)	DST-SERB Sponsored High End Workshop “KARYASHALA” on “Present and Future Trends of Electric Vehicle Technologies, September 07-13, 2022	CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur M G Avenue, City Center, Durgapur, West Bengal 713209, INDIA	2022-09-07	2022-09-07
Tushar Kanti Bera	Multi-Disciplinary Research for Health, Environment and Energy	Re-Union and Symposium 2023, Asansol Polytechnic, Dakshin, South Dhadka, Dhadka, Asansol, West Bengal 713302	Asansol Polytechnic, Asansol	2023-01-08	2023-01-08
Tushar Kanti Bera	Approaches and Methods for Successful Scientific Research	Online Seminar 2023, Babu Banarasi Das Northern India Institute of Technology (BBDNIIT), BBD University, Y Block, Faizabad Rd, Lucknow, Uttar Pradesh 226028	BBD University, Y Block, Faizabad Rd, Lucknow, Uttar Pradesh 226028	2023-02-24	2023-02-24
Tushar Kanti Bera	Battery Electric Vehicles (BEVs) and Hybrid Electric Vehicles (HEVs): The Needs, Applications and Impacts on The Environment and Electrical Power System	IEI Student Chapter Seminar 2023, Department of Electrical Engineering, Academy of Technology (AOT)	Department of Electrical Engineering, Academy of Technology (AOT)	2023-02-28	2023-02-28



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Tushar Kanti Bera	The Opportunities and Responsibilities in Research and Development in Academia and Industry: A Road-Map for Students, Scholars and Young Faculties	IEI Student Chapter Seminar 2023, Department of Electrical and Electronics Engineering, Academy of Technology (AOT)	Department of Electrical and Electronics Engineering, Academy of Technology (AOT)	2023-02-28	2023-02-28
Tushar Kanti Bera	Electrical Impedance Based Noninvasive Medical Diagnosis of Human Diseases: Technology, Instrumentation and Applications	Departmental eminar 2023, Department of Electronics and Communication Engineering, Narula Institute of Technology (An Autonomous Institution Under JIS Group), Agarpara, Kolkata	Department of Electronics and Communication Engineering, Narula Institute of Technology (An Autonomous Institution Under JIS Group), Agarpara, Kolkata	2023-03-01	2023-03-01
Tushar Kanti Bera	Recent Trends in Charging Methodologies for Electric Vehicles (EVs): The Technology, Applications and Limitations	Online Short Term Training Program (STTP) on “Recent Advancements in Electrical grid, Renewable Energy, and its applications in EVs”	Department of Electrical Engineering, Budge Budge Institute of Technology (BBIT), Nishchintapur, Budge Budge, Kolkata, West Bengal 700137	2023-03-15	2023-03-15
Aashish Kumar Bohre	Distributed Systems Planning And Optimization with New Era”,	Invited Expert lecture delivered in FDP on “Distributed Systems Planning And Optimization with New Era”, in Faculty Development Programme on “Enhancement And Utilization Of Green Energy In Power Systems Using Power Electronics And Control” jointly organized by the Department of Electrical & Electronics Engineering, GMR Institute of Technology, Rajam and AU College of Engineering, Visakhapatnam, Andhra Pradesh, India held between 12th -17th December 2022	Visakhapatnam, Andhra Pradesh	2022-12-12	2022-12-17
Subrata Banerjee	Power Electronics Converters of of Power Electronics in Renewable Energy Systems	Applications of Power Electronics in Renewable Energy Systems (APERES2022)	NIT Jamshedpur (Virtual Mode)	2022-07-20	2023-07-20



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Sankar Narayan Mahato	Analysis And Control Of Induction Generator For Micro Hydro Applications	One Week Virtual mode FDP, jointly collaborating with IEEE-SPS & IEEE-PES, Kolkata Section, organized by Department of Electrical Engineering, Gargi Memorial Institute of Technology, Kolkata	Kolkata	2022-07-15	2022-07-15
Jayati Dey	On Decoupling Control of MIMO Systems	Online Faculty Development Programme (FDP) on “Emerging Trends In Different Fields Of Electrical Engineering”	DR. B. C. Roy Engineering College, Durgapur, West Bengal	2022-06-13	2022-06-17
Jayati Dey	Fractional Order Compensation of Continuous-time Plants	Faculty Development Programme on “Modern Technologies in Electrical Engineering”	Dr. B. C. Roy Polytechnic	2023-02-14	2023-02-18
Nirmal Kumar Roy	ICT & IoT Enabled Monitoring of Electrical System & High Voltage Test Facilities	FDP programme on “Recent Advancement and Research Opportunities in Electrical Engineering”.	Baruipur	2022-07-11	2022-07-15
Nirmal Kumar Roy	Problems In Indian Power Sector And Its Remedies Through Implementation Of ICT & IoT	ESMOC 2021-3rd Energy System Modeling and Optimization Conference, December 5-7, 2022	NIT Durgapur	2022-12-05	2022-12-07

#### 4.7.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Subrata Banerjee	2020 IEEE International Symposium on Sustainable Energy, Signal Processing and Cyber Security	GIET University Gunupur Odisha, India (online)	Power Electronics	2022-12-15	2022-12-17
Santanu Paul	2022 6th IEEE International Conference on Condition Assessment Techniques in Electrical Systems (IEEE CATCON 2022)	EE Department, NIT Durgapur	Technical Session-7	2022-12-17	2022-12-19
Omkar Yadav	International Conference on Condition Assessment Techniques in Electrical Systems (IEEE CATCON 2022)	NIT Durgapur, Durgapur	Technical Session	2022-12-17	2022-12-19
Tushar Kanti Bera	Session Chair, IEEE 6th Int. Conf. on Condition Assessment Techniques in Electrical Sys. 2022 (CATCON2022), Dec. 17-19, 2022, NIT Durgapur	NIT Durgapur	Instrumentation	2022-12-17	2022-12-19



Name of the Faculty	Programme	Place	Session	From Date	To Date
Manika Saha	2022 6th International Conference on Condition Assessment Techniques in Electrical Systems	NIT Durgapur	Hybrid Session 6: Power system operation and Planning	2022-12-17	2022-12-19
Partha Sarathee Bhowmik	2022 IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT)	New Delhi	Track: TD 08	2022-09-23	2022-09-25
Partha Sarathee Bhowmik	IEEE 6th International Conference on Condition Assessment in Electrical Systems (IEEE CATCON 2022)	NIT Durgapur, West Bengal	Track: FD 08	2022-12-17	2022-12-19
Soumya Chatterjee	6th IEEE International Conference on Condition Assessment Techniques in Electrical systems	Durgapur	Technical Session 9: Solid Dielectrics	2022-12-17	2022-12-19
Nirmal Kumar Roy	2022 IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DURGAPUR	Technical Session: 2: Condition Monitoring of HV Power Apparatus	2022-12-17	2022-12-17

#### 4.7.32 Patents

Title	Inventors	Application Nos	Date of Filing
Automated Solar Panel Cleaning System with IOT For Small Scale and Large-Scale Solar Power Plant	Dr. Aashish Kumar Bohre, Dr. Biman Kumar Saha Roy, Dr. Aniruddha Bhattacharyya, Dr. Partha Sarathee Bhowmik	2022/10599	2022-09-26
Automated Solar Panel Cleaning System with IoT for Small Scale and Large Scale Solar Power Plant	Dr. A. K. Bohre, Dr. B. K Saha Roy, Dr. A Bhattacharyya, Dr. P. S. Bhowmik	21/01/2022/10599	2022-09-26

### 4.8 Department of Earth and Environmental Studies

#### 4.8.1 Department at a Glance:

The Department was started in early 1960's as Department of Geology and later renamed as Department of Earth and Environmental Studies in 2012 because of spread of activities of the department on environment issues, mainly in research and teaching.

The Department is the coordinating department for multidisciplinary M.Tech. Programme in "Environmental Science and Technology" from the academic session 2009-2010, presently involving four departments of the Institute.

The Department is supporting the UG courses of the Institute offering a compulsory subject to all First year students on environment. It also caters specifically to Metallurgical and Materials Engineering and Civil Engineering students by offering compulsory theory and laboratory subjects. The Departmental laboratories are well equipped to serve the needs of the students. The Department is equipped with various equipments, required for Earth and Environmental Studies courses, including Research Model Polarizing Microscopes (for both transmitted light and incident light), Student Model Microscopes, Polarizing Micro projector and rich collection of models, charts, rocks and mineral specimens. A well-equipped environmental laboratory has also been set up in the department to serve the post graduate students of Environmental Science and Technology and to augment research and consultancy facilities in this emerging field.



The Department offers facilities for research activities to faculties and research scholars of the Institute. Present fields of research include various problems related to environment, application of RS & GIS in resource management, etc. Presently, ten research scholars are carrying out their research in the department. The Department also undertakes consultancy jobs on environmental and geological issues with particular expertise on groundwater study.

### 4.8.2 Mission & Vision

**Mission:**

- To impart quality technical and scientific education and produce engineers, technologists, scientists and citizens who will contribute meaningfully to the growth and development of the country and excel in various disciplines of knowledge
- To create a research-oriented teaching-learning environment in the Institute with a focus on excellence and innovation.
- To embark upon an inclusive growth path committed to the uplift of the community.

**Vision:**

- To impart quality technical education and focus on research and innovation to cater to the need of the country

### 4.8.3 Faculty

Name	Designation	Email-id
Prof. Kalyan Adhikari	Professor	kalyan.adhikari@ees.nitdgp.ac.in
Dr. Sandip Mondal	Assistant Professor	sandip.mondal@ees.nitdgp.ac.in
Dr. Manoj Ozha	Assistant Professor	manoj.ozha@ees.nitdgp.ac.in
Dr. Shreya Karmakar	Assistant Professor	Shreya.karmakar@ees.nitdgp.ac.in

### 4.8.4 Equipments:

Sl. No.	Name of the equipment	Date of Purchase	Amount
01	Trinocular Petrological Microscope (Make: Dewinter)	11.04.2022	2,48,850/-
02	Desktop Computer (Make: Acer )	25.08.2022	63,988/-
03	Peristaltic Pump (Make:Virtual Instrumentation)	04.01.2023	2,18,772/-
04	Trinocular Student Grade Microscope(02 no.) (Make:Euromex)	01.03.2023	10,38,000/-
05	Trinocular Research Grade Microscope (Make: CarlZeiss, Germany)	16.03.2023	13,67,397/-

### 4.8.5 Laboratories Available

Sl. No.	Name of Laboratory	Major equipment
1	Environmental Lab 1	COD Reactor, Fume Hood, Balance, Hot Plate, Water Distillation Unit, Magnetic Stirrer, etc.
2	Environmental Lab 2	Hot Air Oven, Muffle Furnace, Vacuum Oven, Vacuum Furnace, Incubator Shaker, Tube Furnace, Centrifuge, Laminar, kjeldahl nitrogen distillation apparatus, Autoclave, Stack Monitoring Kit, P.M 2.5 Sampler, High Volume Sampler, Ozone Analyser, Rock Cutting, Polishing and Grinding Machine etc., Vacuum Oven etc.
3	Research Laboratory	Centrifuge, Peristaltic Pump, Ion Meter, pH meter, TDS meter
4	Instrument Laboratory	AAS, GC, Balance, pH meter, UV-Visible Spectrometer
5	Contaminant transport Lab	Permeability Meter, Mechanical Shaker etc.
6	Geology Lab	Petrological Microscope (Monocular, Binocular and Trinocular), Geological Samples and Models
7	Computer Lab	Computers and ERDAS, Nitro Pro, TNT MIPS, GEOMEDIA, HYDRUS, MODFLOW software facilities

### 4.8.6 PhD degree awarded till 2022-23

17 (Seventeen).





#### 4.8.7 Any other relevant information

Department has four Adjunct Faculty members

#### 4.8.8 Specialization

- Environmental Engineering
- Groundwater, Subsurface transport of contaminants
- Metamorphic Petrology, Geochronology
- Ore Geology, Metamorphic petrology, and Geochemistry

#### 4.8.9 Proposed Plan for Research

- Lithium Recovery from aqueous medium, Groundwater contaminants transport and mitigation, Water and Wastewater Treatment Technology, Saline water treatment, Recovery of the critical elements from aqueous media, Development of nanotechnology for separation of emerging contaminants
- Mechanism of As contamination of groundwater and its removal, Subsurface transport of Pesticide and groundwater contamination, Optimising artificial recharge in hardrock terrain with a bearing to agriculture, Optimisation of priority indicators of sustainability in Coal mining sectors, MCDM study of MSWM regarding centralised / decentralised system, Removal of As through Electrokinetic technique
- My recent research has provided new insights about the mechanism of mineral reactions in open system. In extension to this, I now wish to further explore open system mineral reactions particularly with respect to the mobility of nominally soluble elements like Ti and Al, during conditions of crustal metamorphism, as I have encountered a few natural evidences of mobility of Ti and Al during regional metamorphism. This is important because, Ti and Al are essentially considered immobile in regional metamorphic systems due to low solubility of TiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> in common metamorphic fluids. As a consequence, the constant-Ti or Al frame of reference is widely used in most mass-flux calculations in fluid transport and to evaluate open-system behavior during metasomatism. This study will also include the effect of element mobility, i.e. “X” (composition) on the stability of minerals and assemblages, as opposed to only pressure and temperature. Such problems help to not only broaden our understanding of the subject, often finding applications in other related branches of geoscience, but in combination with petrological and geochronological studies from different mobile belts of India, they will also help to solve regional geological problems related to the tectonometamorphic evolution of the orogenic belts (CITZ, EGMB, GTSI) and the evolution and formation of the Indian subcontinent in its present configuration.
- Detailed petrological, mineralogical, microtexture, and geochemical studies integrated with geochronology to understand mineralization related to Uranium, Rare Earth Elements, Gold, and Sulphides. Additional emphasis will be given to understanding the genesis and their association with critical metals, as they encompass the heart of Modern Technology. Accordingly, in the coming years, more importance will be given to augment the domain related to critical minerals (or metals). Moreover, studies related to radiation damage will also given emphasis as it can play as a critical parameter in assessing the durability of ceramics that are used in nuclear disposal sites.

#### 4.8.10 Area of Research Interest

- Lithium Recovery from aqueous medium, Groundwater contaminants transport and mitigation, Water and Wastewater Treatment Technology, Saline water treatment, Recovery of the critical elements from aqueous media, Development of nanotechnology for separation of emerging contaminants
- Subsurface transport of contaminants, Augmentation of groundwater resource through different techniques, particularly in water stressed region, Use of RS and GIS in delineation of saline water intrusion and coastal aquifer management coastal
- Understanding the genesis related to Uranium, Rare Earth Elements, Gold, and Sulphide deposits and associated element mobilization using Mineral Geochemistry, associated Fluid-Rock Interaction and various in-situ Dating Techniques.
- Metamorphic petrology - Geochronology: Decoding temporal and tectono-metamorphic history of metamorphic rocks associated with mineral deposits.
- Phase equilibria modeling to understand phase stability and element mobility in open and closed systems.
- Geodynamics: Understanding Crustal evolution and origin of Plate tectonics from a petrological viewpoint.

#### 4.8.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
EOGEPL Durgapur	Land subsidence study	Field survey, data analysis and preparation of report



#### 4.8.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
IIRS Dehradun	Application of Remote sensing and GIS in Earth Science	Dr. R.S. Chatterjee	Joint guidance of 3 no. of PG dissertations
IIT-ISM Dhanbad	Metamorphic Petrology,	Dr. Upama Dutta	Joint research publications
Geological Studies Unit, ISI Kolkata	Structural Geology	Dr. Tridib Mondal	Joint field based research work
Wadia Institute of Himalayan Geology; Dehradun, India	Understanding Gold mineralization from Dharwar Craton, India	Dr. Kunda Badhe	Research paper Publications (one paper got accepted on 26/07/2023 in Geological journal)

#### 4.8.13 Workshops/Seminars Organized

NIL

#### 4.8.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
D. Dutta, S. Misra * S. Karmakar	Deformation mechanisms and characteristics of the meta-BIFs from an early Proterozoic shear system of the Southern Granulite Terrane (SGT), India	Journal of Structural Geology	Volume:156 Issue No:N.A. Page No:104534: 1-15 Year:2022 Month:Jan
Manash Gope, Anibrata Das, Sandip Mondal, Apurba Ratan Ghosh, Rajnarayan Saha	Immobilization of Cr (III) and Cr (VI) from contaminated aqueous solution by using sewage produced biochar: Affecting factors and mechanisms	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Volume:44 Issue No:3 Page No:5812-5828 Year:2022 Month:Sep
Tuhin Kamilya, Rajneesh Kumar Gautam, Shobha Muthukumaran, Dimuth Navaratna, Sandip Mondal	Technical advances on current research trends and explore the future scope on nutrient recovery from waste-streams: a review and bibliometric analysis from 2000 to 2020	Environmental Science and Pollution Research	Volume:29 Issue No:33 Page No:49632-49650 Year:2022 Month:Jul
Mohd Taqui, Sneha Das, Tuhin Kamilya, Sandip Mondal, Surabhi Chaudhuri	Green synthesis of iron-oxide nanoparticles using scrap iron as precursor for the removal of Pb (II) from aqueous medium	Journal of Environmental Engineering and Landscape Management	Volume:30 Issue No:2 Page No:308-320 Year:2022 Month:Jun
S. Karmakar, S. Mukherjee, S. R. Choudhury, P. Maiti, S. Sanyal, P. Sengupta	Neoproterozoic reworking of a Mesoproterozoic magmatic arc from the north-eastern part of the Central Indian Tectonic Zone: Implication for the growth and disintegration of the Indian shield in the Proterozoic supercontinental cycles	Precambrian Research	Volume:378 Issue No:N.A. Page No:106758: 1-22 Year:2022 Month:May
M Gope, P Paramanik, I Som, S Mondal, AR Ghosh, R Saha	A review on low-cost adsorbent (biochar) for the elimination of potentially toxic elements (PTEs) from contaminated water	Arabian Journal of Geosciences	Volume:15 Issue No:20 Page No:1609 Year:2022 Month:Oct



Author(s) Name	Paper Name	Journal Name	Others Info
Avishek Adhikary, Debasmitta Datta, Supriya Pal, Kalyan Adhikari, Sudipta Ghosh	Assessment of subsurface migration and simultaneous removal of Carbendazim in simulated constructed wetland through physical and numerical modeling	Journal of water process Engineering, Elsevier	Volume:50 (2022) 103272 Issue No: Page No: Year:2022 Month:Oct
A. Chakrabarty*, S. Mukherjee, S. Karmakar, S. Sanyal, P. Sengupta	Petrogenesis and in situ U-Pb zircon dates of a suite of granitoid in the northern part of the Central Indian tectonic Zone: Implications for prolonged arc magmatism during the formation of the Columbia supercontinent.	Precambrian Research	Volume:387 Issue No:N.A. Page No:106990; 1-19 Year:2023 Month:Jan
S. Chatterjee*, S. Karmakar, S. Mukherjee, S. Sanyal, P. Sengupta	Origin of clinopyroxene-ilmenite symplectites in mafic granulites from eastern parts of the Chotanagpur granite gneissic complex, East Indian shield	American Mineralogist	Volume:In Press Issue No:N.A. Page No:N.A. Year:2022 Month:Mar
Nilanjana Bhattacharjee, Ipsita Som, Rajnarayan Saha & Sandip Mondal	A critical review on novel eco-friendly green approach to synthesize zinc oxide nanoparticles for photocatalytic degradation of water	International Journal of Environmental Analytical Chemistry	Volume: Issue No: Page No:1-28 Year:2022 Month:Jan
Vineeta Prasad, Gautam Bandyopadhyay, Kalyan Adhikari, Sayan Gupta	An Integrated Framework for Prioritizing Sustainability Indicators for the Mining Sector with a Multicriteria Decision Making Technique	Operations Research Forum	Volume: Issue No:(2023) 4:5 <a href="https://doi.org/10.1007/s43069022-00188-">https://doi.org/10.1007/s43069022-00188-</a> Page No: Year:2023 Month:Apr

#### 4.8.15 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Debasree Roy, Kalyan Adhikari, Supriya Pal	In-situ remediation of Arsenic infested soil through Electrokinetic technique	3rd International Conference on Advanced Technologies for Industrial Pollution Control	DOI/ISBN: ISBN : 978-93-5768118-6 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR
Arghya Ghosh, Narayani Gogoi, Suresh A. Kartha, Sandip Mondal	Geochemical Evaluation and Spatiotemporal Distribution of Fluoride in Groundwater of the Sedimentary Alluvial Plain of Bankura District, West Bengal, India	EGU23-9327, Copernicus Meetings, EGU General Assembly 2023	DOI/ISBN: <a href="https://doi.org/10.5194/egusphereegu23-9327">https://doi.org/10.5194/egusphereegu23-9327</a> Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR

#### 4.8.16 Conference: Published in Others

Author(s) Name	Paper Name	Conference Name	Others Info
Nilesh Meshram, Sameer Shafi Ganaie, Kalyan Adhikari	Metalaxyl migration in the alluvial soil of the Nadia district using HYDRUS 3D: a comparison of experimental and simulated data	9th International Groundwater Conference: Effective Management of (sub) surface water resources in arid and semi arid regions Dept. of Hydrology, IIT Roorkee	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Sameer Shafi Ganaie, Nilesh Meshram, Kalyan Adhikari	Comparative study of migrative behavior of pesticide Metalaxyl through vadose zone via Physical (tank model) and Numerical (HYDRUS 3D) modeling	9th International Groundwater Conference: Effective Management of (sub) surface water resources in arid and semi arid regions Dept. of Hydrology, IIT Roorkee	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR

#### 4.8.17 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
36th IGC (International Geological Congress)	International Geological Congress	2022-03-20	2022-03-22	India
International Workshop at Institute for Water Resources and Water Supply	Hamburg University of Technology	2022-07-20	2022-07-22	Germany
India-Australia joint workshop On critical minerals research for sustainable transition to green energy	IIT Bombay	2023-03-03	2023-03-04	India
Valuing Low-grade Ore and Waste: Challenges and Remedies (VLOW: CR - 2023)	The Institution of Engineers (India) Durgapur Local Centre	2023-01-21	2023-01-22	India
2nd GWCO / APA & MPA and AEA Assessor's Meet 2022	NABET, New Delhi	2022-08-24	2022-08-26	India

#### 4.8.18 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Date
Synthesis of functionalized magnetic biochar for the removal of emerging contaminants from aqueous medium	Sneha Das	Dr. Sandip Mondal	ONGOING	-
Emerging Contaminants and their Accumulation in Ecosystem of Lower Stretch of Hooghly River	Lokenath Chakraborty	Dr. Sandip Mondal, Dr. Subir Kumar Nag	SUBMITTED	2023-02-17
Hydrogeochemical and mineralogical evaluation of shallow(<80m) arsenic affected aquifers of Murshidabad district of West Bengal, Eastern India	Rhitwik Chatterjee	Dr. Kalyan Adhikari	ONGOING	-
Optimization of sustainable integrated Municipal Solid Waste Management system through case studies	Arpan Chattopadhyay	Dr. Kalyan Adhikari, Dr. Supriya Pal	ONGOING	-
Development of quantitative tool for assessment of regional sustainability of coal mining area	Vineeta Prasad	Dr. Kalyan Adhikari	ONGOING	-
Assessment of Pesticide transport in soil and groundwater through field study, experiment and modelling	Nilesh Meshram	Dr. Kalyan Adhikari	ONGOING	-
Intensive hydrogeologic intervention to augment cultivable lands in a hardrock alluvium mixed terrain of northern part of Bankura district, India	Sagorika Chakraborty	Dr. Kalyan Adhikari	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Date
Geochemical and temporal Evolution of carbonatite in And around purulia area, Eastern india: using monaziteapatite geochemistry as proxy	Reeya Ghosh	Manoj Kumar Ozha	ONGOING	-

#### 4.8.19 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Emerging contaminants and their accumulation in Ecosystem of lower stretch of hooghly river	DR. Sandip Mondal, Prof. Rajnarayan Saha	WBDST	997800.0	2018

#### 4.8.20 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
EOGEPL, Durgapur	Land Subsidence Study at CBM- Raniganj Block	566400.0	Completed (04/04/2022 to 30/06/2022)

#### 4.8.21 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Kalyan Adhikari	Environmental Technology and Innovation	Elsevier	2023-02-28

#### 4.8.22 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Kalyan Adhikari	Member of Accreditation committee of GWCO, NABET, Quality Council of India	Online / New Delhi	2020-11-01	2024-10-31
Kalyan Adhikari	Member of Expert Committee of Assessment (Earth Science) of UGC Faculty Recharge Programme, Ministry of Education, GOI	Online / New Delhi	2022-11-23	2022-11-24
Shreya Karmakar	2023 Summer Research Fellowship Program for students and teachers, IASc, INSA, NASc	IASc, Bangalore	2023-01-05	2023-01-06

#### 4.8.23 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Kalyan Adhikari	UG BOS of Geology	KNU	2020-04-07	2024-04-06
Kalyan Adhikari	External Expert of framing of UG (Geology) syllabus	Bankura University	2022-06-30	2022-06-30

#### 4.8.24 Invited Lectures



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Manoj Kumar Ozha	Alteration halo surrounding radioactive minerals: a proxy to understand fluid assisted alteration	Indo-Australian Joint Workshop on “Critical Minerals Research for Sustainable Transition to Green Energy	IIT BOMBAY	2023-03-03	2023-03-04
Kalyan Adhikari	Invited lecture on Anthropogenic contamination of Groundwater - Case studies at Regional Centre of Central Groundwater Board, GOI, Kolkata	Workshop on Groundwater	CGWB, GOI, Kolkata	2022-06-29	2022-06-29
Kalyan Adhikari	Sustainable Waste Management through Synergistic Utilization	Seminar in Dr. B.C. Roy Engineering College	Durgapur	2022-04-19	2022-04-19

#### 4.8.25 Patents

NIL

### 4.9 Department of Humanities and Social Sciences

#### 4.9.1 Department at a Glance:

The Department has been in existence since the inception of the Institute in 1960. Stalwarts like Dr Sujit Mohan Chanda, Dr Hirendranath Roy, Mr Arun Kumar Dutta, Dr Debashish Roychowdhury, Dr Kamala Banerjee, Dr Baidyanath Chakrabarti, Dr Partha Pratim Sengupta graced this Department as illustrious Professors. The Department at present has seven faculty members. They are actively engaged in teaching, research, and administration, specializing in various genres of English, Economics, Sociology, and Social Work. It runs PhD program in different disciplines and one PG program in Social Work, besides functioning as a supporting Department in UG programs, offering two core courses and as many as nine open elective courses. The Department regularly organizes academic activities like conferences, seminars, academic talks by eminent persons, GIAN programs, faculty development programs, short-term courses, and workshops, thereby sustaining and whetting the intellectual appetite of the academic community. The Research Scholars of the Department are also dedicated to the wholesome development of the Department, contributing their best to the formation of the academic and cultural identity of the Department.

#### 4.9.2 Mission & Vision

##### Mission:

- To achieve excellence in imparting communication skill and to emerge as a centre of excellence in language studies.
- To instil a sense of social awareness and social responsibility by giving exposure to social sciences.
- To enhance decision-making power of budding techno-managers by imparting knowledge of Economics, Management, Social Work, and Literature.

##### Vision:

- To emerge as a catalyst of synergy between technical education and social sciences so as to produce value-based social technocrats.

#### 4.9.3 Faculty :

Name	Designation	Email-id
Dr Arindam Modak	Associate Professor & Head	hod@hu.nitdgp.ac.in arindam.modak@hu.nitdgp.ac.in
Dr Joydeep Banerjee	Associate Professor	joydeep.banerjee@hu.nitdgp.ac.in
Dr Shri Krishan Rai	Associate Professor	shrikrishanrai@hu.nitdgp.ac.in
Dr Debasis Chakraborty	Assistant professor, Grade I	debasis.chakraborty@hu.nitdgp.ac.in
Dr Sutanuka Banerjee	Assistant Professor, Grade I	sutanuka.banerjee@hu.nitdgp.ac.in
Dr Angshu Jajodia	Assistant Professor, Grade II	angshu.jajodia@hu.nitdgp.ac.in
Dr Rinki Chokhani	Assistant professor, Grade II	rinki.chokhani@hu.nitdgp.ac.in





#### 4.9.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Webcam, Language Lab Software, Headset, Desktop Computer, Network, Electrical Work (14 Nos.) for upgradation of the Language Laboratory	06-01-2023	Rs 16,88,670/-
2	Line Interactive UPS APC 10 nos. for MSW Laboratory	11-10-2022	Rs 33,984/-

#### 4.9.5 Labs:

Sl. No.	Name of Laboratory	Major equipment
1	Language Laboratory	Desktops with Software for acquiring Language Skills
2	MSW Laboratory	Desktops and Projector

#### 4.9.6 PhD degree awarded till 2022-23

63

#### 4.9.7 Any other relevant information

The Faculty Members of the Department have distinguished themselves in activities like continuing education, conducting of workshops, seminars and conferences, coordinating GIAN programmes, Unnat Bharat, Yuva Sangam, etc. The Department has been offering the compulsory Research Methodology course for all the Research Scholars of the Institute. The Faculty Members have also been offering unique open elective subjects keeping in view the updated requirement in the present professional scenario.

**Besides the regular academic activities, the Department conducted the following activities also.**

**Invited Talks:**

1. Prof. Himadri Lahiri, Professor (Retd.) of English, University of Burdwan, delivered a lecture on “Research Methodology for English” on 22-07-2022.
2. Prof. Sanjay Banerji, Professor of Finance, University of Nottingham, delivered a lecture on “Information Economics and Its Implications” on 27-09-2022.
3. Prof. Sukanta Chaudhuri, Professor Emeritus, Jadavpur University, delivered a lecture on “What Is Digital Humanities?” on 10-11-2022.
4. Prof. Sukanta Chaudhuri, Professor Emeritus, Jadavpur University, delivered a lecture on “What Shakespeare Wrote?” on 11-11-2022.
5. Prof. Edward Hollis, Professor of Architecture, Edinburgh University, delivered a lecture on “Architectural Heritage of Asansol-Raniganj Industrial Belt” on 28-03-2023.
6. The Asansol Heritage Research Group conducted a Story-Telling Session on “Cultural Heritage of Asansol-Raniganj Industrial Belt” on 28-03-2023.

**Memorial Lectures:**

1. Prof. Arup Kumar Chattopadhyay, Emeritus Professor of Economics, Sister Nivedita University, Kolkata, delivered the first Dr Baidyanath Chakrabarti Memorial Lecture on the topic, “Economic Implications of COVID-19 Pandemic in India” held on 30-09-2022.
2. Dr. Barnita Bagchi, Associate Professor, Utrecht University, delivered the first Prof. Arun Kumar Dutta Memorial Lecture on the topic, “Utopia and Dystopia Today from a Transcultural and Feminist Perspective” held on 05-01-2023.
3. Dr. Sukriti Ghosal, Principal (Retd.) of M U C Women’s College, Burdwan, delivered the first Prof. Sujit Mohan Chanda Memorial Lecture on the Birth Centenary of the Legendary Professor on the topic, “Mapping the Mutated Face of Culture” held on 15-02-2023.

#### 4.9.8 Specialization

- Indian English Literature
- Economics
- English
- Gender Studies, Cultural Studies, English Literature
- Social Work



- Indian English Literature, Cinema, and Religion
- Sociology and Social Work
- Economics

#### 4.9.9 Proposed Plan for Research

- Integrating the teaching of Language and Literature with Everyday Life Experiences
- Collaboration with different Institutes

#### 4.9.10 Area of Research Interest

- Literature
- Labour Economics, Development Economics, Migration Studies, Agricultural Economics, Urban Economics • Literary Theory
- Gender Studies, Cultural Studies
- Hearing impairment, language acquisition for pre-lingual hearing impaired children, mainstreaming of children with disabilities
- Gerontology, Dalit Studies, Cinema, Religion, Personality Development
- Disability, Gender, Caste
- International Economics, Entrepreneurial Practice

#### 4.9.11 Institute Industry Collaboration

NIL

#### 4.9.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
IIT (ISM) Dhanbad	Cultural Studies	Dr. Nirban Manna	Research Supervision
Sido Kanhu Murmu University, Dumka and ESAF LIMS (Lahanti Institute of Multiple Skills), Dumka	Writing and submission of a Project Proposal to DST	Dr Angshu Jajodia, Dr Animesh Dutta, Prof. Anupam Basu, Dr Sudipta Mondal, Dr Kaushik Mandal, Dr Anupam De (all from NIT Durgapur), Dr Sutanu Lal Bondya, Dr Punam Hembrom (from Sido Kanhu Murmu University Dumka) and Dr Ajithsen Selvadhas (ESAF LIMS Dumka)	Writing a Project Proposal on "UPLIFTTRIBALLIFE: Socio-Economic Upliftment of Tribal Communities through Establishment of STI Hubs and Targeted Interventions" submitted on 12/08/2022 to DST under SEED Division for the STI Hub for ST Community

#### 4.9.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr Anderson Luis Nunes da Mata	GIAN course on "Decolonial Options in Brazilian Contemporary Literature"	2022-08-22
Prof Sanjukta Dasgupta, Prof Sanjoy Saksena, Dr. Dhananjai Chopra, Prof Dhananjay Singh	National Seminar on "Nationalism and Indian Cinema: Celebrating the Unsung Heroes of Cinema in Azadi Ka Amrit Mahotsav"	2022-06-04
Dr Claudio R. V. Braga	GIAN course on "Apprehending Contemporaneity: a globalized gaze upon Postcoloniality and Diaspora through Chimamanda Adichie's literature"	2022-07-25



#### 4.9.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Rai, Shri Krishan and Das Avijit	The Caged Bird Sings: Resilience and Resistance against the Afghan Patriarchal Culture in Nadia Hashimi's One Half from the East	Journal of International Women's Studies	Volume:24 Issue No:6 Page No: Year:2022 Month:Oct
Debasis Chakraborty	Comparative role of income and social inequality in migration decision making: a household level analysis of India	International Journal of Economics and Business Research	Volume:26 Issue No:1 Page No:24-42 Year:2023 Month:
Debasis Chakraborty	Exploring Causality between Domestic Savings and Economic Growth: Fresh Panel Evidence from BRICS Countries	Economic Alternatives, 2023, Issue 1, pp. 48-69	Volume:29 Issue No:1 Page No:48-69 Year:2023 Month:
Ujjal Protim Dutta and Debasis Chakraborty	An Exploration of the Impact of Electricity Consumption on Economic Growth in India using ARDL Cointegration Analysis	Vision: The Journal of Business Perspective	Volume:ONLINE Issue No: Page No:1-14 Year:2022 Month:
Sutanuka Banerjee, Lipika Kankaria	Networking Voices against Violence: Online Activism and Transnational Feminism in Local-Global Contexts	Journal of International Women's Studies	Volume:24 Issue No:2 Page No:1-17 Year:2022 Month:Jun
Lipika Kankaria, Sutanuka Banerjee	Exploring Uncharted Territories: A Study of Bengali Women's Travelogues in the Colonial Period	Asiatic: IJUM Journal of English Language and Literature	Volume:16 Issue No:2 Page No:103-120 Year:2022 Month:Dec
Lipika Kankaria, Sutanuka Banerjee	Negotiating Identity through Travel: Japan through a Bengali Woman's Lens	SIC: Journal of Literature, Culture and Literary Translation	Volume:12 Issue No:1/13 Page No:1-21 Year:2022 Month:Dec
Rai, Shri Krishan and Panda Santanu	Cartographical Representation of Neglected Forms: Traversing from Repression to Reconciliation with Sashi Deshpande's That Long Silence	Journal of Xidian University	Volume: 16 Issue No:4 Page No:297-309 Year:2022 Month:Apr
Oliva Roy, Dr. Joydeep Banerjee	Khaledi Hosseini's And The Mountain Echoed: An Expose of the Hegemonic Power Relation between the Genders in the Legitimise of Social Structure of Hierarchy	The IUP Journal of English Studies	Volume:17 Issue No:4 Page No:14-29 Year:2022 Month:Dec
Rai, Shri Krishan and Panda Santanu	Book Review : THE NUTMEG'S CURSE: PARABLES for A PLANET IN CRISIS	STRAD RESEARCH	Volume:9 Issue No:5 Page No:343-345 Year:2022 Month:May

#### 4.9.15 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Pallabi Maji & Arindam Modak	Rape: A H (Heinous) E (Execrable) R (Repulsive) O (Objectionable) I (Infamous) C (Contemptible) Act!	International Conference on Malay, Arabic and English Literature	DOI/ISBN: 978-967-256911-4 Volume: Issue No: Page No:840-849 Year:2022 Month:Sep Presenter:CO-AUTHOR

#### 4.9.16 Conference: Accepted in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Pallabi Maji & Arindam Modak	From "Room" to "Independent Living": Survival Story of a Raped Victim in Emma Donoghue's "Room"	The Tenth International Tartu Conference on Canadian Studies	DOI/ISBN: N.A. Volume: Issue No: Page No:N.A. Year:2022 Month:Oct Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Pallabi Maji & Arindam Modak	Violence and Silence: Feminist Reading of T. S. Eliot's "The Waste Land"	International Conference on Mapping the Wastelands: Literature and Beyond	DOI/ISBN: N.A. Volume: Issue No: Page No:N.A. Year:2023 Month:Mar Presenter:CO-AUTHOR
Anindita Ghosal & Arindam Modak	Towards a Healing Gaia: The Human NonHuman Entanglement in Eco-Dystopian Japanese Manga "Nausicaa of the Valley of the Wind"	The 19th International Biennial Symposium on Literature and Culture in the Asia-Pacific Region, Literature and the Non-Human: Abrogating the Anthropocene	DOI/ISBN: N.A. Volume: Issue No: Page No:N.A. Year:2022 Month:Nov Presenter:CO-AUTHOR

#### 4.9.17 Books Authored

NIL.

#### 4.9.18 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
The 16th Annual Conference on Asian Studies: Bodies, Gender, Identities	Palacký University Olomouc	2022-11-25	2023-08-26	Czech Republic
ERASMUS + ICM (International Credit Mobility)	European Union	2023-01-15	2023-01-22	Portugal

#### 4.9.19 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Date
Foregrounding Social, Moral and Psychodynamic Perspectives of Empathy: A Study of Indian Graphic Novels	Kabita Mondal	Joydeep Banerjee	DEGREE AWARDED	2022-05-27
Theatre, Resistance and Activism in Postcolonial India: A critique of emerging Voices of Dissent with special reference to the plays of Utpal Dutt, Vijay Tendulkar and Safdar Hashmi	Oliva Roy	Joydeep Banerjee	ONGOING	-
Impact of Sustainability Issues on Consumer Purchase Decision Making: Special Emphasis on Indian Middle-Class Consumers	Amit Kumar Banerjee	Dr. Debasis Chakraborty & Prof. Partha Pratim Sengupta	ONGOING	-
Implementation And Performance Evaluation Of Enterprise Resource Planning ( ERP) In Durgapur Steel Plant, An Integrated Steel Plant In West Bengal, India, Under Steel Authority Of India Ltd	Sumit Ranjan Dasgupta	Dr. Debasis Chakraborty, Prof. Partha Pratim Sengupta, Dr. Anupam De	ONGOING	-
The Spectrum of Global Concerns in the Light of Glocalization: A Study in the Select Plays of Mahesh Dattani	Asoke Howlader	Dr Arindam Modak	SUBMITTED	2022-09-14
Healing the Trauma of Sexual Abuse: the Health Humanities Approach	Pallabi Maji	Dr Arindam Modak	ONGOING	-
The Yellow Book and the Alternative Literature at the Turn-of-the-Century by New Women Writers and Poets of the Periodical	Satorupa Ghosh Das	Dr Arindam Modak	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Date
From Sight to Insight: Psychopathological Interpretations of Abnormality of Shakespeare's Characters	Md. Abu Barkat Ali	Dr Arindam Modak	ONGOING	-
Visualizing the Entangled Gaia: A Study of Select Eco-Dystopian Graphic Narratives	Anindita Ghosal	Dr Arindam Modak	ONGOING	-
Understanding People's Perceptions through Visual Research Methods in Climate Change Affected Uncertain Landscapes: The Case of Indian Sundarbans and Kutch, Gujarat	Shibaji Bose	Dr Arindam Modak & Prof. (Retd.) Partha Pratim Sengupta	ONGOING	-
Towards Rooted Cosmopolitanism: Exploring Rabindranath Tagore as the Pioneer of Cosmopolitan Nationalism in India	Tanushree Mitra	Dr Arindam Modak & Dr Sutanuka Banerjee	ONGOING	-
Expanding Horizons: A Critical Exploration of Bengali Women's Travel Narratives in English (1915- 1947)	Lipika Kankaria	Dr. Sutanuka Banerjee	ONGOING	-
Performance, Identity and Colonial Modernity in Select Autobiographies of Indian Female Stars	Raju Rana	Dr. Sutanuka Banerjee	ONGOING	-
Negotiating Normative Spaces: Reading Transgressive Bodies in Select Contemporary Indian Narratives in English	Ankita Chatterjee	Dr. Sutanuka Banerjee	ONGOING	-
Towards Rooted Cosmopolitanism: Exploring Rabindranath Tagore as the Pioneer of Cosmopolitan Nationalism in India	Tanushree Mitra	Dr. Arindam Modak, Dr. Sutanuka Banerjee	ONGOING	-
Indian English Fiction and Cultural Studies	Subhasnata Mohanta	Dr. Sutanuka Banerjee, Dr. Rumpa Das	ONGOING	-
Pattachitra and Gender Studies	Somjit Halder	Dr. Sutanuka Banerjee, Dr. Nirban Manna	ONGOING	-
Post 9/11 Fictions	AVIJIT DAS	Dr Shri Krishan Rai	ONGOING	-
Abjection of Women in/and Contemporary Indian English Fiction: A Select Study	SANTANU PANDA	Dr Shri Krishan Rai	ONGOING	-
Cultural Representations and Metaphorical Tropes in Indian Disability Life Writings in English: A Select Study	SHIBU GORAI	Dr Shri Krishan Rai	ONGOING	-
Fiction in the Quantum Realm: The Changing Notions of Reality in Some Select Quantum Fictions	SUMANTA PRAMANIK	Dr Shri Krishan Rai	ONGOING	-
Gerontology and Bengali Cinema	ASHOKE KUMAR MONDAL	Dr Shri Krishan Rai	ONGOING	-
Secularism and Islam: Friction in the Post 9/11 Fictions by Muslim Writers	SOURAV PAUL	Dr Shri Krishan Rai	DEGREE AWARDED	2022-07-27
Efficiency and Productivity Analysis of India's Iron & Steel Industry: A Comparative Study	Dhiraj Kumar	Dr. Debasis Chakraborty	ONGOING	-
Impact of Energy Consumption on Economic Growth, Human Development and Sustainable Development: A Cross-Country Analysis with Special Reference to India	Titiksha Das	Dr. Debasis Chakraborty	ONGOING	-



#### 4.9.20 Reviews of Manuscripts for Publication in Journal

NIL

#### 4.9.21 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Angshu Jajodia	Coordinator, GATI Pilot Project Working Committee at NIT Durgapur vide Office Order No. NITD/SRCC/AD/CSE/2021/06/GSAT dated 29/08/2022	NIT Durgapur	2022-08-29	2023-03-31

#### 4.9.22 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Joydeep Banerjee	Gr.III Recruitment (Technical Officer) at CSIR	CSIR	2022-08-09	2022-09-01
Angshu Jajodia	Paper Setter for M.A. 3rd Semester Examination, 2023 in MSW course, Paper-DSEC I (B)	Kanyashree University	2023-02-21	2023-02-21

#### 4.9.23 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Joydeep Banerjee	English	Sanaka Educational Trust's Group of Institutions	2022-12-16	2022-12-16

#### 4.9.24 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Sutanuka Banerjee	Feminist Criticism	Delivered lecture as the PG Academic Counsellor	Netaji Subhas Open University, Durgapur	2022-05-22	2022-05-22
Sutanuka Banerjee	"Complicating Gender: Reflections on Literature, Society, and Culture"	One-day National Webinar	Purbasthali College	2022-05-16	2022-05-16
Angshu Jajodia	Keynote Lecture	International Day of Persons with Disabilities	Banwarilal Bhalotia College, Asansol	2022-12-02	2022-12-02

#### 4.9.25 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Sutanuka Banerjee	Chaired a session in NATIONAL SEMINAR on Nationalism and Indian Cinema: Celebrating The Unsung Heroes of Cinema	NIT Durgapur	Parallel Session II-B	2022-06-04	2022-06-05

#### 4.9.26 Patents

NIL





## 4.10 Department of Mathematics

### 4.10.1 Department at a Glance

The department is involved in teaching three mathematics courses to all the disciplines of undergraduate students and various elective courses are also offered to them. We offer two years M.Sc. in Mathematics and Ph.D. programs in mathematics. The department also participates as a coordinating department in the multidisciplinary M.Tech in Operations Research programme with the Department of Management Studies and the Department of Computer Science & Engineering. The broad range of mathematical disciplines we cover include algebra, analysis, differential equations, applied mathematics, theoretical physics and computational sciences.

### 4.10.2 Mission & Vision

#### Mission:

- To create an ambiance in which state-of-the-art undergraduate, postgraduate, and doctoral programmes will flourish.
- To identify different industrial problems through industry- academia interaction and to undertake collaborative projects for long term development.
- To generate human resources with finest capabilities who can emerge as leaders in a range of professions.

#### Vision:

- To be among the best Mathematics departments in the country and to contribute to the nation through quality and value-based education and research in order to meet the needs of the diverse student community and to improve their intrinsic standards.

### 4.10.3 Faculty

Name	Designation	Email-id
Kajla Basu	Professor	kajla.basu@maths.nitdgp.ac.in
Samarjit Kar	Professor	samarjit.kar@maths.nitdgp.ac.in
Seema Sarkar (Mondal)	Professor	seema.sarkar@maths.nitdgp.ac.in
Pinaki Pal	Associate Professor	pinaki.pal@maths.nitdgp.ac.in
Lakshmi Kanta Dey	Associate Professor & Head	lakshmikanta.dey@maths.nitdgp.ac.in
Anita Pal	Associate Professor	anita.pal@maths.nitdgp.ac.in
Sarit Maitra	Associate Professor	sarit.maitra@maths.nitdgp.ac.in
Satya Bagchi	Associate Professor	satya.bagchi@maths.nitdgp.ac.in
Goutam Panigrahi	Assistant Professor	goutam.panigrahi@maths.nitdgp.ac.in
Partha Pratim Gopmandal	Assistant Professor	partha.gopmandal@maths.nitdgp.ac.in
Md Firoz Ali	Assistant Professor	firoz.ali@maths.nitdgp.ac.in

### 4.10.4 Equipments (Newly Added):

Sl. No.	Name of the equipment	Date of Purchase	Amount (INR)
1	Benq Projector	05/04/2022	50197.50/-
2	White Board	15/09/2022	6500/-
3	Canon Printer	15/09/2022	41979.95/-
4	25 Desktop Computers	16/11/2022	1167000/-
5	02 Magnetic Ceramic Green Board	25/11/2022	36000/-
6	Ricoh Multifunction Machine	09/12/2022	139950/-
7	Erase Writing Board	09/01/2023	19970/-
8	Executive Computer Table	10/01/2023	11800/-
9	04 Steel Almirah	10/01/2023	88000/-
10	Executive Computer Table	10/01/2023	31000/-
11	Brother Multifunction Printer	23/01/2023	21923.86/-
12	Brother Printer	23/01/2023	25731/-
13	Acer Laptop	23/01/2023	54746/-
14	07 Computer Systems	23/01/2023	317509.98/-
15	27 Modular Work Stations	30/01/2023	369900/-
16	Throw Multimedia Projector	16/02/2023	42201.51/-
17	Toner Box (Brother)	16/02/2023	21058.79/-
18	Unbranded Writing Board	02/03/2023	4992.50/-
19	Printer Color Cartridge	03/03/2023	12733/-



Sl. No.	Name of the equipment	Date of Purchase	Amount (INR)
20	02 Metal Industrial Switch	03/03/2023	24570/-

#### 4.10.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Computational Laboratory	Desktop computers

#### 4.10.6 PhD degree awarded till 2022-23

100 (one hundred).

#### 4.10.7 Any other relevant information

NIL

#### 4.10.8 Specialization

- Fluid Dynamics
- Functional Analysis
- Major: Geophysics
- Computational Fluid Dynamics
- Algebraic Coding Theory
- Mathematics
- Algebra
- Complex Analysis
- Operations Research
- Optimization
- Nonlinear Waves, Plasma Dynamics, Mathematical Ecology
- Statistical Analysis and Operations Research

#### 4.10.9 Proposed Plan for Research

- Functional Analysis, Fixed Point Theory, Proximity Theory, Non-linear Analysis, Real Analysis, and Topology
- To develop and study the mathematical models to get insight of the ground deformation due to different types of Interacting faults/ To develop real life models on various problems of OR particularly transportation and inventory system/ study the problems on prey-predator system
- To investigate the convective instabilities in presence of rotation in electrically conducting fluids. 2. To explore the role of symmetries of complex networks in collective dynamics.
- (a) Electrophoresis/ Diffusiophoresis/ Sedimentation of various type of biocolloids and nanoparticulates, (b) Modulation of electroosmotic flow through microfluidic devices, (c) Streaming potential mediated energy conversion through engineered nanochannel.
- Investigation on Locally Repairable Codes
- Algebraic Geometry
- Chemical Graph Theory, Fuzzy Graph Theory, Fuzzy Inventory Model
- To study Geometric Function Theory
- In real world, the disaster may occur at a specified zone in a state. Now different modelling for the supply of essential commodities different topology in travelling salesman problem is considered. We are working on Ring Star, Ring Tree topologies
- To study nonlinear differential equations using analytic and numerical methods

#### 4.10.10 Area of Research Interest

- Functional Analysis, Fixed Point Theory, Proximity Theory, Non-linear Analysis, Integration Theory, and Geometry of Banach Spaces etc.
- Geophysics ( also Operations research & Mathematical Biology)
- Convective instabilities and collective dynamics in complex networks.
- Electrokinetic Transport Phenomena
- Computational Graph Theory, Fuzzy Mathematics
- Algebraic Coding Theory



- Group Ring
- Algebraic Geometry
- Complex Analysis
- Combinatorial Optimization
- Nonlinear dynamics

#### 4.10.11 Institute Industry Collaboration

NIL

#### 4.10.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Mahadevananda Mahavidyalaya Barrackpore, Kolkata	Mathematical Biology	Dr. Krishna Pada Das	Joint Research
Hiralal Bhakat College, Naihati, West Bengal	Mathematical Biology	Dr. Banshidhar Sahoo	Joint Research
Vidyasagar University, Midnapur, West Bengal	Operations Research	Prof. Manoranjan Maiti (Retd.)	Joint Research
International Institute of Information Technology, Hyderabad	Collective dynamics in complex networks	Dr. Chittaranjan Hens	Joint Research
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar	Complex Networks	Dr. Prosenjit Kundu	Joint Research
IIT Kharagpur	Transport of colloidal particle under applied potential gradient	Prof. S. Bhattacharyya	Publication of Research Articles
ISI Kolkata	Transport of colloidal particle under applied potential gradient	Prof. S. Sarkar	Publication of Research Articles
CNRS Nancy, France	Electrophoresis of various type of biocolloids	Prof. JFL Duval	Publication of Research Articles
Tsukuba University, Japan	Electrophoresis of various type of biocolloids	Prof. Y. Adachi	Publication of Research Articles
Tokyo University of Science	Electrophoresis/ Diffusiophoresis of various type of biocolloids	Prof. H. Ohshima	Publication of Research Articles
IIT Madras	Modulation of electroosmotic flow through microfluidic devices	Y Sanyasiraju	Publication of Research Articles
Babeş-Bolyai University, Romania	Functional Analysis	Adrian Petrusel	Research work
Jadavpur University, Kolkata	Functional Analysis	Pratulananda Das	Joint Research & Project
Thammasat University, Thailand	Functional Analysis	Wutiphol Sintunavarat	Research work
University of Lahore, Pakistan	Chemical Graph Theory	Muhammad Imran	Joint Research Paper
Sungkyunkwan University, South Korea	Spectral Graph Theory	Kinkar Chandra Das	Joint Research Paper
School of Basic Sciences, IIT Bhubanehwar	Spectral Graph Theory	Sasmita Barik	Joint Research Paper
Yamaguchi University	Geometric Function Theory	M. F. Ali, H. Yanagihara	Joint Research



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Mugberia Gangadhar Mahavidyalaya	Research	Dr. Kalipada Maity	Taken one student jointly with this faculty member in Operations Research field
Vilnius Gediminas Technical University, Lithuania	Decision-making and Optimization	Romualdas Bausys	Chief Research Fellow

#### 4.10.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. P. Das, Jadavpur University; Prof. A. Habib, SNU, Delhi; Prof. B. Bhowmik, IIT Kharagpur; Prof. D. Ghosh, IIT Kharagpur; Prof. V.R Allu, IIT Bhubaneswar.	Annual Foundation School-I	2022-12-12
Sister B. K. Supriya	Positivity in Negative Situation	2022-11-09
Swami Chidrupananda Saraswati	Value the Value	2022-08-22
Dr. K. P. Das	An introduction to basics of nonlinear dynamics and its application in plankton dynamics	2023-03-06
Prof. Anupam Basu, Prof. Prem Kumar Agarwal, Dr. Rajni Singh	International Women's Day	2023-03-03
Sensei Gopal Kumar Nath	Acts of Resistance: Self Defence Training Workshop	2023-01-07
Sensei Gopal Kumar Nath	Acts of Resistance: Self Defence Training Workshop	2023-01-08
Director NITD	B.Tech First Year Induction Programme	2022-11-17
Sister B.K Supriya	Seminar on Positivity in Negative Situations	2022-11-09
Prof. K.A Germina	Seminar on on Research Problem in Graph Theory	2022-11-02
DR. Vasudev Das	Seminar on One-day seminar on Sonic Therapeutic Intervention for Global Peace and Harmony	2022-09-15
Mr. Avelo Roy	Tips to step your life in 20's	2023-03-23
Prof. Damodar Gurrappu	Conference on Science Technology and Management-2022 (NCSTM-2022)	2022-07-08
Prof. D Chanda	Webinar on Stochastic Optimization & Machine Learning (SOME-2022)	2022-07-16

#### 4.10.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Kar S, Basu K, Sarkar B	Advertisement policy for dual-channel within emissions-controlled flexible production system	Journal of Retailing and Consumer Services	Volume: Issue No: Page No: Year:2023 Month:
Dasgupta C, Maitra S	The electrostatic wave modes and formation of dust voids in an externally magnetized cylindrical dusty plasma	Zeitschrift für Naturforschung	Volume: 77 Issue No:12 Page No:143-151 Year:2022 Month:Dec



Author(s) Name	Paper Name	Journal Name	Others Info
Piu Kundu and Seema Sarkar (Mondal)	Comparison of ground deformation due to movement across three different types of interacting fault models in Burger's rheology	Geomechanics and Geophysics for GeoEnergy and Geo-Resources	Volume:8 Issue No:48 Page No: Year:2022 Month:Apr
Pabita Mahato, Debabrata Mondal and Seema Sarkar (Mondal)	Determination of effect of the movement of an infinite fault in viscoelastic half space of standard linear solid using fractional calculus	Physica Scripta	Volume:97 Issue No:12 Page No: Year:2022 Month:Nov
S Mandal, M Ghosh, P Maity, A Banerjee, and P Pal	Supercritical and subcritical rotating convection in a horizontally periodic box with no-slip walls at the top and bottom	Physics of Fluids	Volume:34 Issue No: Page No:104117 Year:2022 Month:Oct
Susmita Samanta, Paramita Mahapatra, H Ohshima, Partha P Gopmandal	Diffusiophoresis of hydrophobic spherical particles in a solution of general electrolyte	Physics of Fluids	Volume:35 Issue No: Page No:032006 Year:2023 Month:Mar
SK Pal, YVSS Sanyasiraju, H Ohshima, Partha P Gopmandal	A meshless scheme on the electrokinetically driven flow of power-law fluid through nanochannel considering dual effects of heterogeneity in wall charge and surface wettability	Journal of Non-Newtonian Fluid Mechanics	Volume:310 Issue No: Page No:104943 Year:2022 Month:Dec
Paramita Mahapatra, H Ohshima, Partha P Gopmandal	Effect of hydrodynamic slip on the electrophoresis of hydrophobic spherical particles in a solution of general electrolytes	Colloid and Polymer Science	Volume:300 Issue No:12 Page No:1311-1325 Year:2022 Month:Sep
Sourav Chowdhury, Paramita Mahapatra, H Ohshima, Partha P Gopmandal	Electrophoresis of a soft particle with a hydrophobic rigid core decorated with a soft-step and partially ion-penetrable polymer layer	Physics of Fluids	Volume:34 Issue No:11 Page No:112019 Year:2022 Month:Nov
Paramita Mahapatra, H Ohshima, Partha P Gopmandal	Electrophoresis of Dielectric and Hydrophobic Spherical Fluid Droplets Possessing Uniform Surface Charge Density	Langmuir	Volume:38 Issue No:37 Page No:11421-11431 Year:2022 Month:Sep
Dipankar Kundu, S Bhattacharyya, Partha P Gopmandal	Ion partitioning and ion size effects on streaming field and energy conversion efficiency in a soft nanochannel	Colloid and Polymer Science	Volume:300 Issue No:9 Page No:1049-1062 Year:2022 Month:Sep
Bharti, Sankar Sarkar, H Ohshima, Partha P Gopmandal	Gel electrophoresis of a hydrophobic liquid droplet with an equipotential slip surface	Langmuir	Volume:38 Issue No:29 Page No:8943-8953 Year:2022 Month:Jul
Partha P Gopmandal, Jérôme FL Duval	Electrostatics and electrophoresis of engineered nanoparticles and particulate environmental contaminants: beyond zeta potential-based formulation	Current Opinion in Colloid & Interface Science	Volume:60 Issue No: Page No:101605 Year:2022 Month:Aug
Pragna Labani Sikdar, Samarjit Kar, Parag Kumar Guha Thakurta	Multiobjective energy efficient street lighting framework: A data analysis approach	Applied Intelligence	Volume:52 Issue No:15 Page No:17237-17263 Year:2022 Month:Dec
Raghunathan Krishankumar, Fatih Ecer, Arunodaya Raj Mishra, KS Ravichandran, Amir H Gandomi, Samarjit Kar	A SWOT-Based framework for personalized ranking of IoT service providers with generalized fuzzy data for sustainable transport in urban regions	IEEE Transactions on Engineering Management	Volume: Issue No: Page No: Year:2022 Month:Sep



Author(s) Name	Paper Name	Journal Name	Others Info
Raghunathan Krishankumar, Dragan Pamucar, Alok Pandey, Samarjit Kar, Kattur Soundarapandian Ravichandran	Double hierarchy hesitant fuzzy linguistic information based framework for personalized ranking of sustainable suppliers	Environmental Science and Pollution Research	Volume:29 Issue No:43 Page No:65371-65390 Year:2022 Month:Sep
Raghunathan Krishankumar, Arunodaya Raj Mishra, Pratibha Rani, Edmundas Kazimieras Zavadskas, Kattur Soundarapandian Ravichandran, Samarjit Kar	A new decision model with integrated approach for healthcare waste treatment technology selection with generalized orthopair fuzzy information	Information Sciences	Volume:610 Issue No: Page No:1010-1028 Year:2022 Month:Sep
Haresh Kumar Sharma, Saibal Majumder, Arindam Biswas, Olegas Prentkovskis, Samarjit Kar, Paulius Skačkauskas	A Study on Decision-Making of the Indian Railways Reservation System during COVID-19	Journal of Advanced Transportation	Volume: Issue No: Page No:1-10 Year:2022 Month:Jul
Shanoli Samui Pal, Samarjit Kar	Fuzzy transfer learning in time series forecasting for stock market prices	Soft Computing	Volume:26 Issue No:14 Page No:6941-6952 Year:2022 Month:Jul
Joydeep Dutta, Partha Sarathi Barma, Anupam Mukherjee, Samarjit Kar, Tanmay De, Dragan Pamučar, Šarūnas Šukevičius, Giedrius Garbinčius	Multi-objective green mixed vehicle routing problem under rough environment	Transport	Volume:37 Issue No:1 Page No:51–63 Year:2022 Month:May
Mohuya Byabartta Kar, Raghunathan Krishankumar, Dragan Pamucar, Samarjit Kar	A decision framework with nonlinear preferences and unknown weight information for cloud vendor selection	Expert Systems with Applications	Volume:213 Issue No: Page No:118982 Year:2023 Month:Mar
Anupam Mukherjee, Patha Barma, Joydeep Dutta, Goutam Panigrahi	A multi-objective antlion optimizer for the ring tree problem with secondary sub-depots	Operational Research	Volume:22 Issue No:1 Page No:1813-1851 Year:2022 Month:Jul
B Sarkar, S Kar, K Basu, R Guchhait	A sustainable managerial decision-making problem for a substitutable product in a dual-channel under carbon tax policy	Computers & Industrial Engineering	Volume: Issue No: Page No: Year:2022 Month:
Ghosh A, Maitra S	Conservation Laws and New Exact Solutions to The Maccari's Modulation Equations	Physics Scripta	Volume:98 Issue No:3 Page No:035219 Year:2023 Month:Mar
Saikat Roy, Satya Bagchi	Orthogonality of sesquilinear forms and spaces of operators	Linear and Multilinear Algebra	Volume:70 Issue No:19 Page No:4416-4424 Year:2022 Month:May
Pramod Kumar Maurya, Satya Bagchi	Quadratic residue-based unilateral authentication protocol for RFID system	Multimedia Tools and Applications	Volume:82 Issue No: Page No:16533-16554 Year:2023 Month:Mar
Pramod Kumar Maurya, Haradhan Ghosh, Satya Bagchi	MDS code based ultralightweight authentication protocol for RFID system	IEEE Access	Volume:11 Issue No: Page No:10563-10577 Year:2023 Month:Jan





Author(s) Name	Paper Name	Journal Name	Others Info
Sourav Mondal, Nilanjan De and Anita Pal	Topological Indices of Some Chemical Structures Applied for the Treatment of COVID-19 Patients	Polycyclic Aromatic Compounds	Volume:42 Issue No:4 Page No:1220-1234 Year:2022 Month:Apr
Mukhopadhyay, J., Singh, V. K., Mukhopadhyay, S., Pal, A., & Kumar, A	A truthful budget feasible mechanism for IoT-based participatory sensing with incremental arrival of budget	Journal of Ambient Intelligence and Humanized Computing	Volume:13 Issue No:2 Page No:1107-1124 Year:2022 Month:Aug
Prosanta Sarkar, Nilanjan De and Anita Pal	On some topological indices and their importance in chemical sciences	European Physical Journal Plus	Volume:137 Issue No:2 Page No:195 Year:2022 Month:May
Sourav Mondal, Sasmita Barik, Nilanjan De and Anita Pal	A note on neighborhood first Zagreb energy and its significance as a molecular descriptor	Chemometrics and Intelligent Laboratory Systems	Volume:2022 Issue No:222 Page No:104494 Year:2022 Month:Oct
Sourav Mondal, Biswajit Some, Anita Pal and Kinkar Chandra Das	On Neighborhood Inverse Sum Indeg Energy of Molecular Graphs	Symmetry	Volume:2022 Issue No:14 Page No:2147 Year:2022 Month:Oct
Kartick Mohanta, Anupam Kumar Jha, Arindam Dey, Anita Pal	An application of neutrosophic logic on an inventory model with two – level partial trade credit policy for time –dependent perishable products	Soft Computing	Volume:2023 Issue No:27 Page No:4795--4822 Year:2023 Month:Oct
M. F. Ali and S. Pal	Pre-Schwarzian norm estimates for the class of Janowski starlike functions	Monatsh. Math.	Volume:201 Issue No: Page No:311-323 Year:2023 Month:
M. F. Ali and M. Nurezzaman	On certain close-to-convex functions	Bull. Aust. Math. Soc.	Volume: Issue No: Page No: Year:2023 Month:
Debnarayan Khatua, Arif Ahmed Sekh, Rintu Kutum, Mitali Mukherji, Bhavana Prasher, Samarjit Kar	Classification of Ayurveda constitution types: a deep learning approach	Soft Computing	Volume:27 Issue No: Page No:5309–5317 Year:2023 Month:Mar
Raghunathan Krishankumar, Arunodaya Raj Mishra, KS Ravichandran, Samarjit Kar, Amir H Gandomi, Romualdas Bausys	An integrated personalized decision approach with probabilistic linguistic context for grading restaurants in India	Applied Soft Computing	Volume:136 Issue No: Page No:110089 Year:2023 Month:Mar
Madhushree Das, Arindam Roy, Samir Maity, Samarjit Kar	A Quantum-inspired Ant Colony Optimization for solving a sustainable fourdimensional traveling salesman problem under type-2 fuzzy variable	Advanced Engineering Informatics	Volume:55 Issue No: Page No:101816 Year:2023 Month:Jan
Komal Soni, Debi Prosad Dogra, Arif Ahmed Sekh, Samarjit Kar, Heeseung Choi, Ig-Jae Kim	Person re-identification in indoor videos by information fusion using Graph Convolutional Networks	Expert Systems with Applications	Volume:210 Issue No: Page No:118363 Year:2022 Month:Dec
Sanjit Bhowmick, Ramakrishna Bandi, Satya Bagchi	LCD Matrix product codes with an application	Discrete Mathematics, Algorithms and Applications	Volume:15 Issue No:4 Page No:2250104 Year:2022



Author(s) Name	Paper Name	Journal Name	Others Info
			Month:Apr
Prasanta Kumar Ghosh, Amallesh Kumar Manna, Jayanta Kumar Dey, Samarjit Kar	An EOQ model with backordering for perishable items under multiple advanced and delayed payments policies	Journal of Management Analytics	Volume:9 Issue No:3 Page No:403-434 Year:2022 Month:Jul
Madhushree Das, Arindam Roy, Samir Maity, Samarjit Kar, Shatadru Sengupta	Solving fuzzy dynamic ship routing and scheduling problem through new genetic algorithm	Decision Making: Applications in Management and Engineering	Volume:5 Issue No:2 Page No:329-361 Year:2022 Month:Oct
Ibrahim M Hezam, Arunodaya Raj Mishra, R Krishankumar, KS Ravichandran, Samarjit Kar, Dragan Stevan Pamucar	A single-valued neutrosophic decision framework for the assessment of sustainable transport investment projects based on discrimination measure	Management Decision	Volume:61 Issue No:2 Page No:443-471 Year:2023 Month:Mar
Prasanta Kumar Ghosh, Amallesh Kumar Manna, Jayanta Kumar Dey, Samarjit Kar	Optimal production run in an imperfect production process with maintenance under warranty and product insurance	OPSEARCH	Volume: Issue No: Page No:1-33 Year:2023 Month:Mar
Amrita Bhattacharya, Avijan Dutta, Samarjit Kar	Does demographics influence the risk behaviour of urban investors? A machine learning model based approach	Operational Research in Engineering Sciences: Theory and Applications	Volume:5 Issue No:2 Page No:190-205 Year:2022 Month:Apr
Joydeep Dutta, Partha Sarathi Barma, Anupam Mukherjee, Samarjit Kar, Tanmay De	A hybrid multi-objective evolutionary algorithm for open vehicle routing problem through cluster primary-route secondary approach	International Journal of Management Science and Engineering Management	Volume:17 Issue No:2 Page No:132-146 Year:2022 Month:Apr
Manas Kumar Mohanty, Parag Kumar Guha Thakurta, Samarjit Kar	Efficient sensor node localization in precision agriculture: an ANN based framework	OPSEARCH	Volume: Issue No: Page No:1-24 Year:2023 Month:Feb
Harinandan Tunga, Samarjit Kar, Debasis Giri	Intrinsic Profit Maximization of the Offloading Tasks for Mobile Edge Computing with Fixed Memory Capacities and Low Latency Constraints Using Ant Colony Optimization	Mathematical Modelling of Engineering Problems	Volume:9 Issue No:3 Page No: Year:2022 Month:Jun
Sibnath Deb, Samarjit Kar, Shayana Deb, Sanjib Biswas, Aehsan Ahmad Dar, Tusharika Mukherjee	A cross-sectional study on mental health of school students during the COVID-19 pandemic in India	Data	Volume:7 Issue No:7 Page No:99 Year:2022 Month:Jul
Arindam Dey and Anita Pal	Types of fuzzy graph coloring and polynomial ideal theory	International Journal of Advance Intelligence Paradigms	Volume:23 Issue No:1 Page No:146-154 Year:2022 Month:Sep



**4.10.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science**

Author(s) Name	Paper Name	Journal Name	Others Info
Sourav Mondal, Muhammad Imran, Nilanjan De and Anita Pal	Topological Indices of Total Graph and Zero Divisor Graph of Commutative Ring: A Polynomial Approach	Complexity	Volume: Issue No: Page No: Year:2023 Month:Jun

**4.10.16 Journal: Published in Others in 2022-2023**

Author(s) Name	Paper Name	Journal Name	Others Info
Yanfei Lan, Pingping Lu, Chen Pan, Sarmajit Kar, Weifeng Li	The effects of medical insurance and patients' preference on manufacturer encroachment in a pharmaceutical supply chain	Journal of Management Science and Engineering	Volume:7 Issue No:2 Page No:243-265 Year:2022 Month:Jun

**4.10.17 Conference: Published in 2022-2023 DOI/ISBN**

Author(s) Name	Paper Name	Conference Name	Others Info
Deep Mukhopadhyay, Kalyan Hansda, Satya Bagchi	Some Properties and Constructions of Weakly Self Dual LRCs	IEEE International Conference on Signal Processing and Communications (SPCOM)	DOI/ISBN: 10.1109/SPCOM55316.2022 Volume: Issue No: Page No: Year:2022 Month:Jul Presenter:SELF
Haradhan Ghosh, Pramod Kumar Maurya, Satya Bagchi	Secret Sharing Scheme: Based on LCD Code	International Interdisciplinary Conference on Mathematics, Engineering and Science (MESIICON)	DOI/ISBN: 10.1109/MESIICON55227.2022 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR
Ratnabali Pal, Samarjit Kar, Arif Ahmed Sekh	What and Why? Interpretability in Colon Cancer Detection	Proceedings of International Conference on Data Science and Applications: ICDSA 2022	DOI/ISBN: <a href="https://doi.org/10.1007/978-98119-6631-6">https://doi.org/10.1007/978-98119-6631-6</a> Volume: Issue No: Page No:771-780 Year:2023 Month:Feb Presenter:SELF
JN Roul, K Maity, S Kar, M Maiti	Optimal control of complementary and substitute items in a production system for infinite time horizon	3rd International Conference on Engineering Mathematics and Computing (ICEMC 2020)	DOI/ISBN: <a href="https://doi.org/10.1007/978-98119-2300-5">https://doi.org/10.1007/978-98119-2300-5</a> Volume: Issue No: Page No:117-141 Year:2022 Month:Oct Presenter:SELF
Avijit De, Samarjit Kar, Sujit Das	Development of Fuzzy-Based Methodologies for Decision- Making Problem	Intelligent Technologies: Concepts, Applications, and Future Directions	DOI/ISBN: <a href="https://doi.org/10.1007/978-98119-1021-0">https://doi.org/10.1007/978-98119-1021-0</a> Volume: Issue No: Page No:281-312 Year:2022 Month:May Presenter:SELF

**4.10.18 Conference: Published in Others in 2022-2023**

NIL.

**4.10.19 Conference: Accepted in Others in 2022-2023**

NIL.



#### 4.10.20 Books Authored

NIL.

#### 4.10.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference on Nonlinear Applied Analysis and Optimization	IIT BHU	2022-12-19	2022-12-22	India
BIOMETERICS- Theory and Applications	Department of Mathematics, NITD	2022-09-12	2022-09-12	India
Science, Philosophy and Education	NITD in collaboration with Tagore Centre for Natural Science and Philosophy, Kolkata.	2022-11-04	2022-11-04	India
One day Lecture on Graph Theory	Department of Mathematics, NITD	2022-11-22	2022-11-22	India
International conference on Modelling, Analysis and simulation of multiscale transport phenomena	IIT Kharagpur	2022-08-25	2022-08-27	India
“Series of Lecture on Electrokinetic transport of colloidal suspension and separation of ionic species: from fundamentals to applications”	Graduate school of Life and Environmental Sciences, University of Tsukuba, Japan	2023-03-28	2022-08-31	Japan
Invited Lecture on Hydrodynamic Interaction of Motors in Fluid Membranes	Department of Mathematics, NITD.	2023-01-12	2023-01-12	India
IEEE International Conference on Signal Processing and Communications (SPCOM)	IISc Bangalore	2022-07-11	2022-07-15	India
National Webinar on “Solving Real Life Problems with Non-Linear Optimization Models” (NOMO-2022)	ORSI Durgapur	2022-04-24	2022-04-24	India
National Conference on Science Technology and Management-2022 (NCSTM-2022)	NSHM Knowledge Campus in collaboration with ORSI Durgapur Chapter	2022-07-08	2022-07-09	India
One week Faculty Development Programme on “National Education Policy -2020	Teaching Learning Centre, Ramanujan College, University of Delhi	2023-06-25	2022-07-01	India
37th Annual Conference of Ramanujan Mathematical Society	Sri Sivasubramaniya Nadar College of Engineering	2022-12-06	2022-12-08	India
Optimization, Learning and Analytics in Business (OLAB 2022)	Department of Mathematics, Heritage Institute of Technology Kolkata and Operational Research Society of India, Calcutta Chapter	2023-12-15	2023-12-17	India
Workshop On Design Thinking Critical Thinking	Mugberia Gangadhar Mahavidyalaya	2023-03-31	2023-08-31	India

#### 4.10.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Topological Fixed-Point Theory	Ashis Bera	Lakshmi Kanta Dey	DEGREE AWARDED	2022-07-18



Topic Name	Scholar	Supervisor	Status	Status Date
Topology and Nonlinear Analysis	Supriti Laha	Lakshmi Kanta Dey	ONGOING	-
Topological Fixed-Point Theory	Subhadip Pal	Lakshmi Kanta Dey	ONGOING	-
Non-linear analysis	Anish Banerjee	Lakshmi Kanta Dey	ONGOING	-
Integration theory	Raja Dutta	Lakshmi Kanta Dey	ONGOING	-
Some Two-stage Four-dimensional Transportation Problems in Uncertain Environment	Sudeshna Devnath	Prof. Seema Sarkar (Mondal), Prof. Manoranjan Maiti (Retd.)	ONGOING	-
Mathematical Modelling for the Control of Infectious Diseases	Argha Roy	Dr. Seema Sarkar (Mondal), Dr. Banshidhar Sahoo	ONGOING	-
Study of Deformation due to Planar and Non-planar Fault Movement in Viscoelastic Half Space	Pabita Mahato	Dr. Seema Sarkar (Mondal)	ONGOING	-
Broad Topic: Nonlinear Dynamics	Anirban Sen	Dr. Seema Sarkar (Mondal)	ONGOING	-
Broad Topic: Seismology	Soubik Chanda	Dr. Seema Sarkar (Mondal)	ONGOING	-
Broad topic: Mathematical Biology	Sanjukta Pramanik	Dr. Seema Sarkar (Mondal), Dr. Krishna Pada Das, Dr. Partha Karmakar	ONGOING	-
Broad topic: Seismology	Tanushree Biswas	Dr. Seema Sarkar (Mondal)	ONGOING	-
Transitions near the onset of magnetoconvection	Lekha Sharma	Pinaki Pal	ONGOING	-
Effect of rotation and magnetic field on some convective instabilities	Sutapa Mandal	Pinaki Pal	ONGOING	-
Synchronization in Complex networks: Role of structural properties	Sangita Dutta	Pinaki Pal	ONGOING	-
Convective instabilities in presence of rotation and oblique magnetic field	Snehashish Sarkar	Pinaki Pal	ONGOING	-
Spreading of information in complex networks	Abhijit Mondal	Pinaki Pal	ONGOING	-
Ecological Modelling	Anath Bandhu Das	Pinaki Pal	ONGOING	-
Electrokinetics of bio-inspired nanoparticles.	Paramita Mahapatra	Partha Pratim Gopmandal	ONGOING	-
Electrophoresis of bio-colloids and electroosmotic flow through microdevices	Sourav Chowdhury	Partha Pratim Gopmandal	ONGOING	-
Electroviscous effects of colloidal suspension	Susmita Samanta	Partha Pratim Gopmandal	ONGOING	-
Controlled transport of colloidal particles under applied potential gradient	Jhulan Acharya	Partha Pratim Gopmandal	ONGOING	-
Linear complementary dual codes over finite commutative Frobenius rings	Sanjit Bhowmick	Satya Bagchi, R Bandi	DEGREE AWARDED	2022-09-22
Algebraic Characterization of Some Linear Codes via Group Codes	Ankan Shaw	Satya Bagchi	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Locally Repairable Codes: Constructions and Properties	Deep Mukhopadhyay	Satya Bagchi	ONGOING	-
Radio Frequency Identification Protocols Using Linear Codes	Haradhan Ghosh	Satya Bagchi	ONGOING	-
Study on some graph invariants and their applications	Sourav Mondal	A. Pal and N. De	DEGREE AWARDED	2022-11-02
A Study on Graph Optimization Problems in Uncertain Environment.	Kartick Mohanta	A. Pal	ONGOING	-
Study of topological indices in drug manufacturing.	Biswajit Some	A. Pal	ONGOING	-
A Study on Invariants and Energy of graphs.	Parikshit Das	A. Pal	ONGOING	-
Studies on sustainable supply chain management	Sumi Kar	A. Pal and B. Sarkar	ONGOING	-
Study On Spectral Graph Theory	Saroj Ghosh	A. Pal	ONGOING	-
Pre-Schwarzian and Schwarzian derivatives for analytic functions	Sanjit Pal	Md Firoz Ali	ONGOING	-
Pre-Schwarzian and Schwarzian derivatives for harmonic functions	Sushil Pandit	Md Firoz Ali	ONGOING	-
Coefficient Inequalities for certain univalent functions	Md Nurezamman	Md Firoz Ali	ONGOING	-
On bounded functions	Lokenath Thakur	Md Firoz Ali	ONGOING	-
Univalent functions	Shaesta Azim	Md Firoz Ali	ONGOING	-
Newsboy problem under some Uncertain Paradigms	Krishnendu Adhikary	Prof. Samarjit Kar	DEGREE AWARDED	2022-08-10
Rough Set Theory	Sandeep Majumder	Prof. Samarjit Kar	SUBMITTED	2022-07-14
Intelligent video analysis for visually impaired people	Ratnaboli Pal	Prof. Samarjit Kar	ONGOING	-
Optimal Control Theory	Debopriya Dey	Prof. Samarjit Kar and Prof. Dilip Kumar Bhattacharya	ONGOING	-
Portfolio Optimization	Bikash Koli Roy	Prof. Samarjit Kar	ONGOING	-
Supply Chain Management	Aparna Adhikary	Prof. Samarjit Kar and Dr. Jayanta Kumar Dey	ONGOING	-
Some real life decision making problems in different imprecise environment	Palash Sahoo	Goutam Panigrahi, Dipak Kumar Jana	DEGREE AWARDED	2022-04-29
Nonlinear differential equations	Arindam Ghosh	Sarit Maitra	ONGOING	-
Stability, bifurcation and control of predator-prey models	Rajesh Ranjan Patra	Sarit Maitra	ONGOING	-





Topic Name	Scholar	Supervisor	Status	Status Date
Linear and nonlinear wave propagation in dusty and astrophysical plasmas	Chitrita Dasgupta	Sarit Maitra	ONGOING	2023-03-31
Birkhoff-James Orthogonality in the Geometry of Banach Spaces and Some Related Topics	Saikat Roy	Satya Bagchi	DEGREE AWARDED	2022-06-22

#### 4.10.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Rotating and magnetized double-diffusive convection	Pinaki Pal	Science and Engineering Research Board, Government of India	2431264.0	2022
"Development of hybrid numerical tools to study the electrokinetic transport of biocolloids"	Partha Pratim Gopmandal	SERB, DST	6.6	2019
Investigation on Locally Repairable Codes	Satya Bagchi	Science and Engineering Research Board, DST, India	660000.0	2022

#### 4.10.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Dual Hamming Distance of two Weighted Codes from Trace Codes over a Chain Ring	Satya Bagchi & Lakshmi Kanta Dey	NBHM under DAE	2022
"Modulation of electroosmotic flow through nanochannel"	Partha Pratim Gopmandal	SERB, DST	2018

#### 4.10.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Lakshmi Kanta Dey	Fixed Point Theory	House Book Sci., ClujNapoca, Romania	2023-03-30
Lakshmi Kanta Dey	HELIYON	Elsevier	2023-03-25
Lakshmi Kanta Dey	MR Review	AMS	2022-10-31
Lakshmi Kanta Dey	Journal of Applied Mathematics and Computing	Springer	2022-09-27
Seema Sarkar (mondal)	GEM-International journal on Geomathematics	Springer Nature publication.	2022-04-03
Partha Pratim Gopmandal	Journal of Colloid and Interface Science	Elsevier	2022-11-06
Partha Pratim Gopmandal	Langmuir	ACS	2023-01-01
Partha Pratim Gopmandal	Physics of Fluids	AIP	2022-09-14
Pinaki Pal	Chaos, Soliton & Fractals	Elsevier	2022-11-20
Pinaki Pal	Pramana - Journal of Physics	Indian Academy of Sciences	2022-10-09
Satya Bagchi	Journal of Ambient Intelligence and Humanized Computing	Springer	2022-05-05



Reviewer	Name of the Journal	Publisher	Date of Final Review
Satya Bagchi	Transactions on Information Forensics & Security	IEEE	2022-11-15
Md Firoz Ali	Turkish Journal of Mathematics	Scientific and Technological Research Council of Turkey	2023-02-07
Md Firoz Ali	Abstract and Applied Analysis	Hindawi	2023-01-06
Md Firoz Ali	Hacettepe Journal of Mathematics and Statistics	Hacettepe University	2022-06-14
Md Firoz Ali	Bulletin of the Malaysian Mathematical Sciences Society	Springer	2022-09-06

#### 4.10.26 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Seema Sarkar (mondal)	Committee formed by the Commission for Scientific and Technical Terminology, Ministry of Education, Government of India	Sister Nivedita University, New Town, Kolkata	2023-01-16	2023-01-20
Satya Bagchi	Member of Constitution of Doctoral Committee - VIT-AP University of Mr. Umesh Uttamrao Shinde	Online	2021-09-14	2023-08-08
Satya Bagchi	External expert of Doctoral Committee member of Mr. N. Abhilash, Dept of Maths, SRMIST, Kattankulathur, Tamilndu, India	Online	2021-02-14	2023-08-08
Satya Bagchi	External examiner of Doctoral Committee member of Mr. Melvin Varghese, Dept of Maths, SRMIST, Kattankulathur, Tamilndu, India	Online	2022-06-21	2023-08-08
Satya Bagchi	External expert of Doctoral Committee member of Mr. Abin Sam Tharakan, Dept of Maths, SRMIST, Kattankulathur, Tamilndu, India	Online	2022-02-14	2023-08-08

#### 4.10.27 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Lakshmi Kanta Dey	Examiner of End term Examination	Netaji Subhas Open University	2023-06-01	2023-06-30
Partha Pratim Gopmandal	PG (Mathematics)	Kaji Nazrul University	2022-07-13	2022-12-31
Anita Pal	Ph.D. Thesis Evaluation	Manonmaniam Sundaranar University	2022-04-11	2022-04-11
Anita Pal	Ph.D. Thesis Evaluation	Manonmaniam Sundaranar University	2022-07-04	2022-07-04
Anita Pal	Ph.D. Thesis Evaluation	University of Madras	2022-08-22	2022-08-22
Anita Pal	Ph.D. Thesis Evaluation	Bharathidasan University, Tiruchirappalli, Tamilnadu	2022-11-03	2022-11-03
Anita Pal	Ph.D. Thesis Evaluation	Bharathidasan University, Tiruchirappalli, Tamilnadu	2022-12-22	2022-12-22
Anita Pal	P.h.D. Thesis Evaluation	University of Madras	2023-02-01	2023-02-01



Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Anita Pal	Ph.D. Thesis Evaluation	Anna University, Chennai	2023-02-03	2023-02-03
Anita Pal	Ph.D. Thesis Evaluation	Anna University, Chennai	2023-02-03	2023-02-03
Anita Pal	Ph.D. Thesis Evaluation	Anna University, Chennai	2023-02-01	2023-02-01
Anita Pal	Ph.D. Thesis Evaluation	University of Madras	2023-02-06	2023-02-06
Anita Pal	Ph.D. Thesis Evaluation	Presidency University, Bengaluru	2023-02-21	2023-02-21
Anita Pal	Ph.D. Thesis Evaluation	Thiruvalluvar University, Vellore	2023-02-22	2023-02-22
Md Firoz Ali	Engineering Mathematics	Saveetha University	2022-10-18	2022-10-18

#### 4.10.28 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Seema Sarkar (mondal)	Mathematics	Jadavpur University	2022-09-28	2022-09-28
Seema Sarkar (mondal)	Mathematics	For Recruitment of Primary Teachers under West Bengal Board of Primary Education	2023-01-14	2023-01-14
Lakshmi Kanta Dey	Assistant Teacher Selection	DAV Model School Durgapur	2023-04-22	2023-04-23

#### 4.10.29 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Lakshmi Kanta Dey	RIEMANN INTEGRATION IN BANACH SPACES AND THE PROPERTY OF LEBESGUE	International Conference on Nonlinear Applied Analysis and Optimization	IIT BHU	2022-12-19	2022-12-22
Seema Sarkar (mondal)	Stochastic Optimization	One Day National Seminar	Durgapur	2022-07-16	2022-07-16
Satya Bagchi	Linear codes with complementary duals	Annual Foundation School – I	NIT Durgapur	2022-12-20	2022-12-20
Anita Pal	Modelling of Real Life Problems Using Graph Theoretic Approach	International Conference on Emerging Trends in Applied Mathematics	Mount Carmel College, Bengaluru	2022-04-21	2022-04-22
Anita Pal	The Importance of Research and ORSID's Contribution in This Field	Fundamental Research Using Application Software	Dr. B. C. Roy Engineering College, Durgapur	2022-06-20	2022-06-20
Anita Pal	Computer Information Systems and Industrial Management-CISIM	International Conference on Computer Information	Universidad De La Costa, Colombia	2022-07-15	2022-07-17



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Anita Pal	Graph Theory and Its RealLife Applications	5-Days National Workshop on Recent Research Trends in Computer Science and Engineering	VIT AP University	2022-07-26	2022-07-30
Anita Pal	Graph Theory - Applications	Refresher Course in Mathematics and Statistics	Bharathiar University, Tamilnadu	2022-08-02	2022-08-02
Anita Pal	Optimization Using Graph Theory	Two days' workshop on Application of Optimazation Techniques in Engineering and Social Sciences	NSHM Knowledge Campus, Durgapur	2022-11-18	2022-11-18
Anita Pal	Modelling of Graphs in Real Life	International Conference on Green Supply Chain Management: New Challenges to Sustain Green Environment	Kazi Nazrul University	2022-11-19	2022-11-19
Anita Pal	Graph Theory	2nd International Conference on Intelligent Vision and Computing (ICIVC 2022)	NIT Agartala	2022-11-26	2022-11-26
Anita Pal	Fuzzy graph theory and its applications	International Conference on Applied Mathematics and Computing	DDGD Vaishnav College, Chennai	2023-02-27	2023-02-28

#### 4.10.30 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Lakshmi Kanta Dey	International Conference on Nonlinear Applied Analysis and Optimization	IIT BHU	Technical Session-II	2022-12-20	2023-07-20

#### 4.10.31 Patents

Title	Inventors	Application Nos	Date of Filling
Flying Network Secured Communication with Machine Learning Enabled Environment	Dr. K.P Manikandan, Saibal Majumder, Debosree Pal, Goutam Panigrahi, Swapna Halder, Dr. M. Ruban Dr. T. N Anitha	202241062969	2022-11-03

### 4.11 Department of Mechanical Engineering

#### 4.11.1 Department at a Glance:

Department of Mechanical Engineering is the second largest and one of the oldest Departments of the Institute started in the year 1960. It offers both undergraduate (B.Tech.) and postgraduate (M.Tech.) degree courses apart from doctoral programme.

The annual intake of the UG course is 187+ and that of the PG course is 20 for three specializations each, totaling 60(app.). At present about 55 students are doing their doctoral research in the department. The department comprises of well-qualified faculty members, supporting staff and well-equipped laboratories. The continuous development of faculty and upgradation of the laboratories makes the department at par with the current day academic and research requirement of global standard which is reflected by continuously increasing student of the department opting for higher studies in India and abroad.



Department of Mechanical Engineering offers three PG courses with different specializations: Machine Design, Thermal Engineering, Fluid Mechanics & Heat transfer.

#### 4.11.2 Mission & Vision

##### Mission:

- Imparting quality education to the students and enhancing their skills to make them globally competitive mechanical engineers.
- Maintaining state-of-the art research facilities for providing our students and faculties with opportunities to innovate, interpret, apply and disseminate their knowledge.
- To develop linkages with reputed R&D organization, Institutes and Industries world-wide through education and research.

##### Vision:

- Advancement of the society through excellence in teaching, research and innovation and services that exploits the rapidly changing technical diversity of Mechanical Engineering

#### 4.11.3 Faculty

Name	Designation	Email id (Institute & other id)
Banerjee Nilotpal, PhD	Professor	nilotpal.banerjee@me.nitdgp.ac.in nil_rec@yahoo.com
Basak Indrajit, PhD	Professor	indrajit.basak@me.nitdgp.ac.in basak_indrajit@yahoo.com
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Mullick Amar Nath, PhD	Professor	anmullick@gmail.com amaranth.mullick@me.nitdgp.ac.in
Hui Nirmal Baran, PhD	Professor	nirmal.hui@me.nitdgp.ac.in
Roy Shibendu Shekhar, PhD	Professor	shibendu.roy@me.nitdgp.ac.in ssroy99@gmail.com
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Mondal Sirshendu, Ph.D	Assistant Professor	sirshendumondal13@gmail.com,



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Pramanik Shantanu, PhD	Assistant Professor	shantanu.pramanik@me.nitdgp.ac.in
Sengupta Sayantan , Ph.D.	Assistant Professor	sayantanjgec@gmail.com, sayantan.sengupta@me.nitdgp.ac.in

#### 4.11.4 Patents

NIL

#### 4.11.5 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Data acquisition System	11-04-2022	325741.50
2	Photochemical Etching Machine	17-03-2023	1,83,490/-
3	GAS METAL ARC WELDING	28 March 2023	1,35,700/-
4	Gas Tungsten Arc welding	28 March 2023	1,28,620/-
5	Vertical Ram Turret Milling Machine	29 March 2023	6,37,700/- (Alumni Fund)
6	Submerged Arc Welding Machine	29 March 2023	4,17,001/- (Alumni Fund)
7	Stefan Boltzmann Apparatus	14th March 2023	28,900.00
8	Pin Fin Apparatus	14th March 2023	29,500.00
9	Parallel Flow/ Counter flow Apparatus	14th March 2023	29,500.00
10	Natural Convection Apparatus	14th March 2023	29,500.00

#### 4.11.6 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Heat power	Heat conduction unit, Heat exchanger, Natural convection, Forced convection, Vacuum gauge, Stefan-Boltzmann apparatus, Automobile Laboratory, Boiler, Separating & Throttling Calorimeter, Variable CR multi-fuel IC Engine test rig, Variable CR Diesel Engine test rig, Morse test, Rope brake dynamometer, Air compressor test rig, Convective heat transfer over Artificial roughness, Liquid crystal thermography system
2.	Hydraulics and Fluid Mechanics Laboratory	Impact of Jet, Determination of Pipe friction, Determination of Minor Losses, Determination of Coefficient of Discharge in orifice & venture meter, Determination of coefficient of discharge in open channel flow, Performance test of Pelton Turbine, Performance test of Francis Turbine, Performance test of Kaplan Turbine, Performance test of Centrifugal Pump, Performance test of Reciprocating Pump.
3.	Thermal Engineering Laboratory	Fluidization and fluid bed heat transfer unit, Computer linked Refrigeration Laboratory unit, Air conditioned Laboratory unit Cross flow heat exchanger unit
4.	Production Laboratory	Lathe Machine, drilling Machine, welding equipment etc.
5.	CAD CAM Laboratory	CATIA, MSCNASTRAN, ANSYS, MSC.PATRAN, MSCEASY MSCADAMS, MATLAB CNC Vertical Machining Center, XY Positioning Table
6.	Machine dynamics Laboratory	Twin rotor MIMO system, Digital pendulum system, Precision modular servd workshop, Dynamic balancing machine, 3-axis gyroscope, Mechanical power transmission system, FFT analyser, Soccer robot set-up
7.	Metrology Laboratory	Tool Maker's Microscope, Floating Carriage Micrometer, Strain Measuring Device, Surface roughness measuring instrument.





#### 4.11.7 PhD degree awarded till 2022-23

Ten.

#### 4.11.8 Any other relevant information

NIL

#### 4.11.9 Specialization

- Thermofluids
- Manufacturing Engineering
- Mechanical Engineering (Fluid Dynamics)
- Robotics, Dynamics and Control, Soft Computing, Data Analytics
- Thermal Engineering
- Thermal and Fluid Engineering
- Thermal Engineering
- Non-conventional Machining
- Fluid Mechanics Heat Transfer
- Machine Design
- Manufacturing Engineering
- Machine Design
- Machine Design, Mechanical Engineering
- Fluid and Thermal Engineering
- Machine Design
- Thermoacoustic instability
- Production Engineering, Micro and Nano Scale Manufacturing
- Fluid Mechanics
- Thermal and Fluids Engineering
- Control System
- Production Engineering, Non-conventional Machining
- Thermal Engineering
- Solid Mechanics, Mechanics of Composite Materials, FEM
- Machine Design
- Thermal Engineering
- Heat Power Engineering
- Machine Design, Modeling & Simulation
- Mechanical Engineering
- Theory of Machines, Hydraulic Machines
- Thermal Engineering
- Mechanical Engineering
- Thermal Science and Engineering
- Machine tool, machining, modeling and simulations
- Machine tool, Machining, Production Engineering
- Machine design

#### 4.11.10 Proposed Plan for Research

- Additive Manufacturing
- Friction Stir Welding
- Unmanned decision support systems
- Working on Law of Motive Force as Discovered and Documented by Achintya Kumar Pramanick
- Computation and experimentation on viscous instability through porous medium
- Mixing and transport in active flows of biological systems
- Numerical work
- Performance analysis of solar air heater using artificial roughness over absorber plate
- Performance test of CI engine using Biodiesel
- Set up a high speed aerodynamics lab.
- Dynamics of cracked structures (beams, shafts, rotors, turbine blades and pipes) made of FGMs.
- Friction Stir Welding
- Tribology of Machine components
- Defect Diagnosis of gear and bearing, Mathematical model of gear and bearing



- Dynamics and control of flow past elliptic cylinders
- Analytical and semi-analytical solution techniques of problems of Dynamics, Vibration and Control, Investigation of the non-autonomous and autonomous dynamics and stability thereof. Analyses of primary and higher order subharmonic and super harmonic responses, Investigation of bifurcation behavior of Mechanical and Structural Vibration problems.
- Study of Vortex Tube, Performance of Wind Turbine and optimum design of 3-D Diffuser.
- Developing set ups for micro scale manufacturing for semi conductor chips. Specifically Photochemical Etching, Hot Embossing, Laser Marking. Also aiming to develop set ups for large area fabrication for practical applications
- Numerical Investigation of Multiphase Flow
- Analysis of Composite Laminated structures
- Additive manufacturing
- Plasticity of materials
- Guiding UG, PG & PhD students
- Enhancement in thermal Performance of Solar Air Heater
- Symmetrical analysis of Thermal Pulse Combustor
- Experiments and Simulation of Rotary Atomizer
- Application of Turbulent Jet in Heat Transfer and Ejector Pump
- CFD analysis of non-Newtonian fluid at cryogenics temperature
- Numerical simulation to study the effects of mixing vane spacer on flow and thermal characteristics of fluid in nuclear fuel channels

#### 4.11.11 Area of Research Interest

- Additive Manufacturing
- Friction Stir Welding
- Robotics, Data Analytics, Design Optimization
- Thermodynamics, Heat Transfer and Fluid Mechanics
- Porous media and Hydrodynamic Instability
- Biological Active Matter
- Thermal Engineering
- Industry related problem
- Condensation
- Experimental Aerodynamics and Aeroacoustics, High Speed Flows, Shock Mitigation and Drag Reduction, Computational Fluid Dynamics, Subsonic and Supersonic jets, Jets in Cross-flow, Impinging Jets, Flow Control, Vortex Dynamics
- Functionally graded materials (FGMs) structures: Designs, developments and applications. • Dynamics of cracked structures (beams, shafts, rotors, turbine blades and pipes) made of FGMs. • Experimental setup for studying dynamic behavior of FGMs rotor system. • CFRC hydrogen pressure vessel: Optimized design, developments, and applications. • CFRC wind turbine blades: Optimized design, developments, and applications. • Mechanics of shear transformation zones in metallic glasses using LAMMPS and DFT-FE.
- Machining Technology, Nonconventional Machining Processes, Micromachining, Process Optimisation
- Tribology
- Condition Monitoring, Vehicle Dynamics, Systems and Control, Rotor Dynamics, Signal Processing
- Bluff body flows, Laminar flows, Vortex Shedding, Hydrodynamic Instability
- Aeromechanics of Aerial flyer
- Dynamics, Vibration and Control
- Computational Fluid Dynamics and Heat Transfer
- Micro and Nano Scale Manufacturing
- Thermal and Fluid Science
- Control System
- Industry related problems
- Sustainable Engineering
- Polygeneration
- Composite, FEM
- Robotics, Additive Manufacturing
- Power Plant Engineering, Energy, Thermodynamics, CO<sub>2</sub> Capture, Fluidized Bed Technology
- CFD, Cryogenics, Hydrogen Ice extrusion
- Vehicle Dynamics, Modeling of Engineering Systems
- Hydraulic machines, Green Energy Applications
- Dynamical Systems Analysis
- Heat Transfer
- Fluid Power, Fluid Mechanics and Heat Transfer, CFD
- Fluid mechanics, multiphase flow and heat transfer



- Experimental Fluid Dynamics
- Modeling and simulation, production management
- Multibody Mechanics

#### 4.11.12 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Steel Limited	Coal and Coke Research	Research and Development
SAIL-DSP	Firing Dies for Railway Wheels	Optimization of die geometry
Jadavpur University	Thermal Engineering	Research

#### 4.11.13 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Stuttgart, Germany	Thermodynamics	Achintya Kumar Pramanick	Student and Faculty Exchange
Duke University, USA	Thermodynamics	Achintya Kumar Pramanick	Pedagogy and Research
University of Lorraine, France	Thermodynamics	Achintya Kumar Pramanick	Pedagogy and Research
Federal University of Rio Grande – FURG, Brazil	Thermodynamics	Achintya Kumar Pramanick	Pedagogy and Research
Central Mechanical Engineering Research Institute Durgapur, India	Heat Transfer	Achintya Kumar Pramanick	Research
IIT Madras	Porous medium and viscous instability through a membrane	Dr Sankha Karmakar	Research Article
University of Luxembourg	Biological Active Matter	Dr Anupam Sengupta	Research Article
Indian Institute of Technology Kharagpur	Heat Transfer	Prof. Abhijit Guha	Research
University of Rennes 1	Rayleigh-Taylor Instability at pore- scale resolution	Dr Yves Meheust	Research Article
IIT Guwahati	Hydrodynamics Instability, Bluff body flows	Dr. Bhaskar Kumar	Visited IIT Guwahati during June 2022-July 2022 and published one paper related to this work.
IIT Bombay	Multiphase Flow and Heat Transfer	Prof. Atul Sharma	Joint Ph.D. Research Guidance
National University Science and Technology, Sultanate of Oman	Use of nano particles in mechanical Engineering	Sudhir CV	Use of nano particles in mechanical Engineering on wear and corrosion
Jadavpur University	Dynamical analysis of thermal systems	Prof. Achintya Mukhopadhyay, Prof. Swarnendu Sen and Prof. Koushik Ghosh	Collaborative research project
Shiv Nadar University	Aeroelastic Instability	Dr. J. Venkatramani	Collaborative Research
National Institute of Technology, Raipur	Turbulence mixing, CFD	Prof. (Miss) Shobha Lata Sinha	PhD. Guidance



#### 4.11.14 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Artificial Articular Cartilage And A Method Of Manufacturing The Same	Biswajit Bera	1767/KOL/2008	2008-10-20

#### 4.11.15 Workshops/Seminars Organized

NIL

#### 4.11.16 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Dheeraj Kumar, Apurba Layek	Heat Transfer Augmentation of a Solar Air Heater Using a Twisted V-Shaped Staggered Rib Over the Absorber Plate	Journal of Solar Energy Engineering	Volume:Vol. 145 Issue No:021013-1 Page No: Year:2023 Month:
U.K Kar, S Sengupta, S Pramanik	Dynamics of condensate film in the vicinity of a pulling vapor stream	Physics of Fluids	Volume:34 Issue No:12 Page No:123611: 1-19 Year:2022 Month:Dec
S Chakraborty, UK Kar, S Sengupta, S Pramanik	Influence of jumping-droplet condensation on the properties of separated flow in an air-cooled condenser tube: An Euler-Lagrange approach	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	Volume:237 Issue No:4 Page No:747-764 Year:2022 Month:Nov
UK Kar, S Sengupta, S Pramanik, S Chakraborty	An analytical theory for the forced convection condensation of shear-thinning fluids onto isothermal horizontal surfaces	Applied Mathematics and Computation	Volume:421 Issue No: Page No:126909: 1-15 Year:2022 Month:May
A Ganguly, S Sengupta, S Pramanik	Waste heat recovery using Tesla turbines in Rankine cycle power plants: Thermofluid dynamic characterization, performance assessment and exergy analysis	Applied Thermal Engineering	Volume:207 Issue No: Page No:118141:1-20 Year:2022 Month:May
J. Dhar, P. Meunier, F. Nadal and Y. Méheust	Convective dissolution of carbon dioxide in two- and three- dimensional porous media: The impact of hydrodynamic dispersion	Physics of Fluids	Volume:34 Issue No:6 Page No:064114 Year:2022 Month:Jun
J. Dhar, A. L. P. Thai, A. Ghoshal, L. Giomi, and A. Sengupta	Self-regulation of phenotypic noise synchronizes emergent organization and active transport in confluent microbial environments	Nature Physics	Volume:18 Issue No:8 Page No:945-951 Year:2022 Month:Jul
S. Mukherjee, J. Dhar, S. DasGupta, and S. Chakraborty	Electrokinetically augmented load bearing capacity of a deformable microfluidic channel	Physics of Fluids	Volume:34 Issue No:8 Page No:082019



Author(s) Name	Paper Name	Journal Name	Others Info
			Year:2022 Month:Aug
Amit Kumar, Apurba Layek	Heat Transfer Measurement in a Rectangular Channel of Solar Air Heater With Winglet-Type Ribs Using Liquid Crystal Thermography	Journal of Thermal Science and Engineering Applications	Volume:Vol. 14 Issue No:041006-1 Page No: Year:2022 Month:
A. Sengupta, J. Dhar*, F. Danza, A. Ghoshal, S. Müller and N. Kakavand (* Joint 1st author)	Active reconfiguration of cytoplasmic lipid droplets governs migration of nutrient-limited phytoplankton	Science Advances	Volume:8 Issue No:44 Page No:eabn6005 Year:2022 Month:Nov
Amit Kumar, Apurba Layek	Heat Transfer Measurement in a Rectangular Channel of Solar Air Heater With Winglet-Type Ribs Using Liquid Crystal Thermography	Journal of Thermal Science and Engineering Applications	Volume:Vol. 14 Issue No:041006-1 Page No: Year:2022 Month:
A. Sengupta, J. Dhar*, F. Danza, A. Ghoshal, S. Müller and N. Kakavand (* Joint 1st author)	Active reconfiguration of cytoplasmic lipid droplets governs migration of nutrient-limited phytoplankton	Science Advances	Volume:8 Issue No:44 Page No:eabn6005 Year:2022 Month:Nov
Amit Kumar, Apurba Layek	Thermo-hydraulic performance of solar air heater having winglet type roughness element	Journal of thermal analysis and calorimetry	Volume:10.1007/s10973-022-11286-8 Issue No: Page No: Year:2022 Month:
Swarup Deshmukh and Arjyajyoti Goswami	Parametric study of microlens array fabricated on polymer substrate through hot embossing with a micro-EDM mould and its optical characterisation	Advances in Materials and Processing Technologies	Volume: Issue No:https://doi.org/10.1080/2374068X.2022.2101322. Page No: Year:2022 Month:Jul
Swarup Deshmukh and Arjyajyoti Goswami	Parametric study of microlens array fabricated on polymer substrate through hot embossing with a micro-EDM mould and its optical characterisation	Advances in Materials and Processing Technologies	Volume: Issue No:https://doi.org/10.1080/2374068X.2022.2101322. Page No: Year:2022 Month:Jul
Arora, A. , Sarkar, D. , Majumder, A. , Sen, S., Roy, S.S.	Hybridized neural network inspired behavioural modelling of pneumatic artificial muscles for assistive robotic applications	Industrial Robot	Volume:50 Issue No:1 Page No:56-69 Year:2023 Month:Jan
Das, A.K., Singh, R.K., Roy, M., Kumar, A., Rana, S.C., Ansu, A.K., Goyal, A., Oza, A.D., Kumar, M., Gehlot, A.:	Optimum design of S-shaped diffuser by studying the effect of inlet velocity, turning angle and area ratio.	International Journal on Interactive Design and Manufacturing (IJIDeM).	Volume: Issue No: Page No:1-13 Year:2022 Month:Dec
Uttam Kumar Kar, Sayantan Sengupta, Shantanu Pramanik, Soumik Chakraborty	An analytical theory for the forced convection condensation of shear-thinning fluids onto isothermal horizontal surfaces	Applied Mathematics and Computation	Volume:421 Issue No: Page No:126909 Year:2022 Month:May
Abhisek Ganguly, Sayantan Sengupta, Shantanu Pramanik	Waste heat recovery using Tesla turbines in Rankine cycle power plants: Thermofluid dynamic characterization, performance assessment and exergy analysis	Applied Thermal Engineering	Volume:207 Issue No: Page No:118141 Year:2022 Month:May



Author(s) Name	Paper Name	Journal Name	Others Info
Soumik Chakraborty, Uttam Kumar Kar, and Shantanu Pramanik	Influence of jumping-droplet condensation on the properties of separated flow in an air-cooled condenser tube: An Euler-Lagrange approach	Proc IMechE Part A: Journal of Power and Energy	Volume:237 Issue No:4 Page No:747-764 Year:2023 Month:
Tanmoy Mondal, Neel Srivastava, S.M. O'Shaughnessy, Shantanu Pramanik	Comparison of the mean flow and turbulence characteristics of a single offset jet and a dual offset jet	European Journal of Mechanics - B/Fluids	Volume:98 Issue No: Page No:161-179 Year:2023 Month:Mar
Uttam Kumar Kar, Sayantan Sengupta and Shantanu Pramanik	Dynamics of condensate film in the vicinity of a pulling vapor stream	Physics of Fluids	Volume:34 Issue No: Page No:123611 Year:2022 Month:Dec
Arnab Ghosh Mazumder, Ritabrata Saha, Sirshendu Mondal, Koushik Ghosh, Achintya Mukhopadhyay, Swarnendu Sen	Dynamics of a single-phase natural circulation system under harmonic excitation	Chaos: An Interdisciplinary Journal of Nonlinear Science	Volume:32 Issue No:12 Page No:123125-1 : 123125-10 Year:2022 Month:Dec
Anupam Ghosh, Sirshendu Mondal, RI Sujith	Occasional coupling enhances amplitude death in delay-coupled oscillators	Chaos: An Interdisciplinary Journal of Nonlinear Science	Volume:32 Issue No:10 Page No: Year:2022 Month:Oct
Somnath De, Sabyasachi Mondal, Arijit Bhattacharya, Sirshendu Mondal, Achintya Mukhopadhyay, Swarnendu Sen	Dynamics of Premixed Flames Near Lean and Rich Blowout	Combustion Science and Technology	Volume: Issue No: Page No:1-17 Year:2022 Month:Sep
Dheeraj Tripathi, R Shreenivas, Chandan Bose, Sirshendu Mondal, J Venkatramani	Experimental investigation on the synchronization characteristics of a pitch-plunge aeroelastic system exhibiting stall flutter	Chaos: An Interdisciplinary Journal of Nonlinear Science	Volume:32 Issue No:7 Page No: Year:2022 Month:Jul
Arijit Bhattacharya, Somnath De, Sirshendu Mondal, Achintya Mukhopadhyay, Swarnendu Sen	Early detection of lean blowout using recurrence network for varying degrees of premixedness	Chaos: An Interdisciplinary Journal of Nonlinear Science	Volume:32 Issue No:6 Page No: Year:2022 Month:Jun
Vishal Gupta, Ranjana Gangradey, Samiran S. Mukipul L. Tanna aherjee, Jyoti Shankar Mishra, Pratik A. Nayak, Paresh Panchal, V, Yuvakiran Paravastu, Dilip C. Raval, Ziauddin Khan, Siju George, Atul Garg, LN Srikanth, Avijit Dewasi, Shashi Kant Verma , Rohan Dutta, Hemang Agravat	Performance testing of the liquid nitrogen cooled sorption cryopump for application in SST-1 Tokamak	Fusion Engineering and Design	Volume:181 Issue No: Page No:113212 Year:2022 Month:Aug
Ranjana Gangradey, Samiran S. Mukherjee, Vishal Gupta, Paresh Panchal, Pratik Nayak, Jyoti S. Mishra, Avijit Dewasi, Shashi Kant Verma	Design and development of a liquid nitrogen cooled test cryopump for application in Steady-state Superconducting Tokamak-1	Vacuum	Volume:200 Issue No: Page No:110986 Year:2022 Month:Jun





Author(s) Name	Paper Name	Journal Name	Others Info
Dheeraj Kumar, Apurba Layek	Nusselt number and friction characteristics of solar air heater roughened with novel twisted V-shaped staggered ribs using liquid crystal thermography	Renewable Energy	Volume:Vol 201 Issue No: Page No:651–666 Year:2022 Month:
Dheeraj Kumar, Apurba Layek	Heat Transfer Enhancement of Solar Air Heater Having Twisted V-Shaped Staggered Roughness Over Absorber Plate	Arabian Journal for Science and Engineering	Volume:48 Issue No:https:// doi.org/10.1007/s13 369-022-07319-x Page No:3931– 3946 Year:2023 Month:
R. K. Singh, A. K. Pramanick, and S. C. Rana	Computational study of temperature separation for a three-dimensional vortex tube with cold exit diameter and nozzle number variation	International Journal of Ambient Energy	Volume:43 Issue No:1 Page No:7046- 7060 Year:2022 Month:
Amit Kumar, Apurba Layek,	Effect of heat transfer and pressure drop characteristics on the performance analysis of an artificially roughened solar air heater	Heat and Mass Transfer	Volume:59 Issue No:891–907 Page No:10.1007/s0023 1-022-03296-x Year:2023 Month:
Dheeraj Kumar, Apurba Layek	Experimental assessment of thermo-hydraulic performance of a rectangular solar air heater duct using twisted v-shaped staggered ribs	Journal of Thermal Science and Engineering Applications	Volume:Vol. 15(4) Issue No:41009 Page No:doi:10.1115/1.4 056878. Year:2023 Month:
Dheeraj Kumar, Apurba Layek, Amit Kumar	Enhancement of Thermal efficiency and development of Nusselt number correlation for the solar air heater collector roughened with artificial ribs for thermal applications	Environmental Science and Pollution Research	Volume:https://doi. org/10.1007/s11356 -023-28096- 6. Issue No: Page No:https://doi.org/1 0.1007/s11356- 023-28096-6. Year:2023 Month:
Bishwajit Sharma, Geeta Verma and Rabindra Nath Barman	Steady flow of power-law fluids past a slotted circular cylinder at low Reynolds number	Physics of Fluids	Volume:34 Issue No:9 Page No:093615 Year:2022 Month:Sep
Avijit Dalal, Ankita Bebarta, Argha Deep Paul, Rabindranath Barman, Jean-Michel Nunzi, Alexey Tameev, Rajat Mahapatra, Aniruddha Mondal.	Iron-Sensitive Three-Terminal Device as a Universal Hybrid Platform With TiO <sub>2</sub> Nanowires on the Channel	IEEE Sensors Journal	Volume:23 Issue No:3 Page No:1917 - 1924 Year:2023 Month:Jan
Bishwajit Sharma and Rabindra Nath Barman	Unsteady Flow past slotted circular cylinders in laminar regime: Effect of slit shapes and Reynolds number	Physics of Fluids	Volume:35 Issue No:1 Page No:3602 Year:2023 Month:Jan
Soumyoraj Mallick and Debabrata Gayen	Thermal behavior and thermal runaway propagation in lithium-ion battery systems – A critical review	Journal of Energy Storage	Volume:62 Issue No: Page No:106894 Year:2023 Month:Feb



**4.11.17 Journal: Published in Others in 2022-2023**

Author(s) Name	Paper Name	Journal Name	Others Info
S Sengupta, U K Kar, N Kumar	Numerical investigation with the impact of collector’s artificial roughness on the performance of a solar chimney power plant	ISME Journal of Thermo-fluids	Volume: Issue No: Page No: Year:2022 Month:Dec

**4.11.18 Journal: Accepted in Others in 2022-2023**

Author(s) Name	Paper Name	Journal Name	Others Info
Nil	Nil	Nil	Nil

**4.11.19 Conference: Published in 2022-2023 DOI/ISBN**

Author(s)Name	Paper Name	ConferenceName	Other Info
Y. Méheust, J. Dhar, P. Meunier, and F. Nadal	Convective dissolution of Carbon Dioxide in two- and three-dimensional porous media: the impact of hydrodynamic dispersion	EGU General Assembly 2022	DOI/ISBN: 10.5194/egusphere-egu22- 13563 Volume: Issue No: Page No:EGU22-13563 Year:2022 Month:May Presenter:CO-AUTHOR
S. Ashraf, J. Dhar, P. Meunier, F. Nadal, and Y. Méheust,	Experimental study of miscible Rayleigh-Taylor convection in a granular porous medium	EGU General Assembly 2022	DOI/ISBN: 10.5194/egusphere-egu22- 11813 Volume: Issue No: Page No:EGU22-11813 Year:2022 Month:May Presenter:CO-AUTHOR
Sk. Nasir Hasan, A. Kumar, K. Khan	Parametric Study of Stress Distribution in Bimodular Curved Beam	International Conference on Thermo- Fluids and System Design 2022	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.03.301">https://doi.org/10.1016/j.matpr.2022.03.301</a> Volume: Issue No: Page No:27-33 Year:2022 Month:Mar Presenter:CO- AUTHOR
Nagendra Kumar, Sujit Karmakar	Techno-Environmental-Economic Analysis of Distributed Trigenation HRES	2022 International Conference on Electrical, Computer, Communications and Mechatronics, Maldives National University (MNU), Maldives	DOI/ISBN: 10.1109/ICECCME55909.2022.9988579 Volume: Issue No: Page No:1-6 Year:2022 Month:Nov Presenter:SELF
R. K. Singh, A. K. Pramanick, and S. C. Rana	Study of the impact of flow valve design on the temperature separation in the vortex tube with computational approach	Fluid Mechanics and Fluid Power (FMFP2022)	DOI/ISBN: N/A Volume: Issue No: Page No:N/A Year:2022 Month:Dec Presenter:CO-AUTHOR
Animesh Patari, Shantanu Pramanik and Tanmoy Mondal	Comparative Study of Turbulent Heat Transfer in Plane Wall Jet Using Different k-ε RANS Models	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	DOI/ISBN: NA Volume: Issue No: Page No:NA Year:2022 Month:Dec Presenter:CO-AUTHOR
Orkodip Mookherjee , Shantanu Pramanik , and Atul Sharma	Comparative CmFD Study on Geometric and Algebraic Coupled Level Set & Volume of Fluid Methods	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	DOI/ISBN: NA Volume: Issue No: Page No:NA Year:2022 Month:Dec Presenter:SELF
Arka Banerjee, Sayantan	Computational Fluid Dynamic	International Conference on Recent	DOI/ISBN: NA Volume: Issue No: Page
Sengupta and Shantanu Pramanik	Investigation of non-Newtonian Turbulent Duct-flow Subsequent to in- plane Double Bends	Advances in Fluid Mechanics ICRAF-2022, Organised by- Manipal Institute of	No:63-64 Year:2022 Month:Oct Presenter:CO-AUTHOR



Author(s)Name	Paper Name	ConferenceName	Other Info
		Technology, MAHE, Manipal (Online)	
Arka Banerjee, Sayantan Sengupta, Nawes Qamar, Shantanu Pramanik	Computational Analysis on the Three-dimensionality of Turbulent Duct Flow Subsequent to In-plane Double Bends	2nd International & 14th National Conference on "INDUSTRIAL PROBLEMS ON MACHINES & MECHANISMS (IPRoMM 2022)",- IIT-ISM Dhanbad.	DOI/ISBN: NA Volume: Issue No: Page No:NA Year:2022 Month:Dec Presenter:CO-AUTHOR
Debabrata Roy, Apurba Layek,	Analytical Study of Emission and Combustion Characteristics of Biodiesel Fueled Conventional Diesel Engine	Advances in Basic and Applied Sciences In Digital Age: Few Selected Areas, Conference on "Science, Technology and Management – 2022.	DOI/ISBN: Volume: Issue No: Page No: Year:2022 Month:July 8-9 Presenter:
Apurba Layek	Performance, combustion and emission characteristics of CI engine using waste cooking oil methyl ester - diesel - ethanol blends,	International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Maldives National University, Maldives	DOI/ISBN: 978-1-6654-7095-7/22 Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:SELF
Dheeraj Kumar, Apurba Layek,	Experimental study to determine the effect of staggered distance on the Nusselt number and friction characteristics of solar air heater using LCT technique	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP),IIT Roorkee	DOI/ISBN: 978-981-99-5751-4 Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.11.20Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Sk. Nasir Hasan, A. Kumar, K. Khan	Bending and undamped free vibration analysis of laminated bimodular composite material thin curved beam	International Conference on Thermo- Fluids and System Design 2022	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.03.297">https://doi.org/10.1016/j.matpr.2022.03.297</a> Volume: Issue No: Page No:10-15 Year:2022 Month:Mar Presenter:CO-AUTHOR
NiteshKumar Choudhury, Gautam Khankari, Sujit Karmakar	Comparative study of different thermodynamic low-grade power cycles for utilization of waste energy from a 500 MWe Supercritical power plant with CO2 capture	1st International Conference in Fluid, Thermal and Energy Systems 2022 (ICFTES'22), NIT Calicut, Kozikode (Virtual)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Jun Presenter:CO-AUTHOR
Nagendra Kumar, Sujit Karmakar	Performance Assessment of a Renewable Energy System with and without Net-Metering	1st International Conference in Fluid, Thermal and Energy Systems 2022 (ICFTES'22), NIT Calicut, Kozikode (Virtual)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Jun Presenter:CO-AUTHOR
Nitesh Kumar Choudhury, Sujit Karmakar	Comparative Performance Analysis of Organic Rankine Cycle with Different Working Fluids using Waste Heat from Post-combustion CO2 Capture Unit	3rd Energy System Modeling and Optimization Conference (ESMOC 2021), NIT Durgapur	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:SELF



#### 4.11.21 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Debajyoti Ray	Asit Baran Puri	Advances in Processing of Lightweight Metal Alloys and Composites	Machinability Study of Amorphous Bulk Metallic Glass in Micro Milling	Publisher: Springer Singapore Publication Date: 2022-11-19
Debajyoti Ray	Asit Baran Puri	Futuristic Manufacturing- Perpetual Advancement and Research Challenges	Mechanical Micro-milling A Broader Perspective of the Process	Publisher: CRC Press, Taylor and Francis Group Publication Date: 2023-03-19
Apurba Layek	Nagendra Kumar, Dheeraj Kumar, Sunil Yadav	Artificial Intelligence for Renewable Energy Systems	Renewable energy and sustainable development: A global approach towards artificial intelligence	Publisher: Woodhead Publishing Series in Energy Publication Date: 2022-09-01

#### 4.11.22 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
The 4th International Conference on Energy and Power (ICEP2022) (Online)	Military Institute of Science & Technology, Dhaka, Bangladesh	2022-12-11	2022-12-13	Bangladesh
Autonomous Air Vehicles- Technologies & Applications AAV-2023	ADE-DRDO & Design Division- AeSI	2023-01-06	2023-01-07	India
9th International and 49th National conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Roorkee	2022-12-14	2022-12-16	India
Do Drones	IISc Bangalore	2022-11-16	2022-12-18	India
Fluids Under Confinement (FUC-2023)	IIT Kharagpur and SPARC	2023-03-24	2023-03-25	India
2nd International Conference & Exposition on Mechanical, Material and Manufacturing Technology (ICE3MT 2022)	Department of Mechanical Engineering, CVR College of Engineering Hyderabad, Telangana	2022-10-28	2022-10-29	India
2022 International Conference on Electrical, Computer, Communications and Mechatronics	Maldives National University (MNU), Maldives	2022-11-16	2022-11-18	Maldives
3rd Energy System Modeling and Optimization Conference (ESMOC 2021)	NIT Durgapur	2021-12-05	2022-12-07	India
9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Roorkee	2022-12-14	2022-12-16	India

#### 4.11.23 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Additive Manufacturing	Subhadeep Saha	Ratnesh Kumar	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Viscous instability in porous medium: Consistent analysis at pore-scale resolution	Abhishek Kumar	Dr Jayabrata Dhar and Dr Sirshendu Mondal	ONGOING	-
Numerical Investigation Of Solar Chimney Power Plant	Avishek Mukherjee	Dr. Achintya Kumar Pramanick and Dr. Sayantan Sengupta	ONGOING	-
Atypical Condensations	Uttam Kumar Kar	S Sengupta, S Pramanik	ONGOING	-
Numerical investigation of non-Newtonian secondary flow through ducts	Arka Banerjee	S Sengupta, S Pramanik	ONGOING	-
Numerical investigation of Solar Chimney Power Plant	Avishek Mukherjee	A. K. Pramanick, S Sengupta	ONGOING	-
von Karman instability over bluff body: The effect of upstream obstruction	Subhssh Chandra Paramanik	Deepak Kumar, Jayabrata Dhar	ONGOING	-
Fluid flow and convective heat transfer past a slotted circular cylinder	Bishwajit Sharma	Rabindra Nath Barman	SUBMITTED	2023-02-20
EXPERIMENTAL AND NUMERICAL STUDY OF VIBRATION AND STABILITY ANALYSIS OF ROTATING SHAFT USING BEARINGS AND LUBRICANTS	PRAVEEN SHARMA	Rabindra Nath Barman, S.C. Rana	DEGREE AWARDED	2022-11-14
Functionally Graded Cracked Structures	KRISHANU ROY	Dr. Debabrata Gayen and Dr. Ranjan Kumar Mitra	ONGOING	-
Numerical simulation to study the effects of mixing vane spacer on flow and thermal characteristics of fluid in nuclear fuel channels	Satish Kumar Dhurandhar	Prof. (Miss) S. L. Sinha Mechanical Engineering Department, NIT Raipur, Chhattisgarh, Shashi Kant Verma (Joint-Supervisor)	ONGOING	-
Friction Stir Welding	Megnnath Sen	Asit Baran Puri	ONGOING	-
Friction Stir Welding	Lalita Nayek	Asit Baran Puri	ONGOING	-
Heat transfer enhancement in microchannel	DEEPAK KUMAR RAJ	Aparesh Datta	ONGOING	-
Heat transfer enhancement in microchannel	Vivek Kumar	Aparesh Datta, Sirshendu Mondal	ONGOING	-
Heat transfer study in Phase change material	Subham Show	Aparesh Datta, Sirshendu Mondal	ONGOING	-
Study of Solar air heater with Surface roughness	Nirmalya Tripathi	Sirshendu Mondal, Aparesh Datta,	ONGOING	-
Active, passive control and dynamic stability of nonlinear flexible System	Saikat Suvra Mondal	Atul Krishna Banik, Ranjan Kumar Mitra	ONGOING	-
Modelling and Diagnosis of Gear Faults	Rajeev Kumar	Chintamani Mishra, Ranjan Kumar Mitra	ONGOING	-
Nonlinear dynamics and active control of flexible systems	Ranjan Kumar	Ranjan Kumar Mitra	ONGOING	-
Experimental and Numerical Investigation on Optimum Orientation of Fin Arrayed Heat Sinks	PABITRA KUMAR MANDAL	Dr. Subhas Chandra Rana and Dr Dipankar Bhanja( NIT, Silchar)	DEGREE AWARDED	2022-05-06
Experimental And Numerical Study Of Vibration And Stability Analysis Of Rotating	PRAVEEN SHARMA	Dr. Subhas Chandra Rana and Dr. Rabindra Nath Barman	DEGREE AWARDED	2022-11-14





Topic Name	Scholar	Supervisor	Status	Status Date
Shaft Using Bearings And Lubricants				
: Studies On Flow Physics Of A Vortex Tube	Ravi Kant Singh	Dr. Subhas Chandra Rana and Dr. Achintya Kumar Pramanick	ONGOING	-
Flow through S- shaped 3-D diffuser	Asim Kumar Das	Dr Subhas Chandra Rana	ONGOING	-
Performance study of Wind Turbine using appropriate air foil	Arunabha Mahato	Dr. Subhas Chandra rana	ONGOING	-
Studies on Fiber Laser parameters for different applications	Tuhin Kar	Arjyajyoti Goswami	ONGOING	-
Fabrication on advanced materials (tentative)	Sourav Das	Arjyajyoti Goswami	ONGOING	-
Development of Meta-Heuristic Algorithms tuned Artificial Intelligence-Based Models for Prediction and Optimization of Process Parameters of Metal Additive Manufacturing	Ananda Rabi Dhar	S.S.Roy, N.Mandal (CMERI)	DEGREE AWARDED	2022-04-16
Development and Modelling of Low Pressure Actuated Pneumatic Artificial Muscle for Assistive Applications	Aman Arora	S.S.Roy	SUBMITTED	2022-09-20
Studies on hot embossing of polymer substrate for different applications	Swarup Deshmukh	Arjyajyoti Goswami	ONGOING	-
Experimental and Numerical studies on Hot Embossing of polymers for different applications	Subir Datta	Arjyajyoti Goswami	ONGOING	-
reliability based maintenance	Arka chatterjee	jagannath de	ONGOING	-
Manufacturing Analytics	Tarak Nath De	Nirmal Baran Hui and Chandan Mandal	ONGOING	-
Supply Chain Management	Pravanjan Bera	Nirmal Baran Hui and Debabrata Das	ONGOING	-
Condition Monitoring	Samrat Mondal	Nirmal Baran Hui and Chintamani Mishra	ONGOING	-
Buyer-Vendor Relationship	Arghya Bagchi	Nirmal Baran Hui	ONGOING	-
A sharp interface coupled-level-set-volume- of- fluid method based cmfd development and its applications for analysis of droplet dynamics	Orkodip Mookherjee	Shantanu Pramanik, Atul Sharma (IIT Bombay)	ONGOING	-
Numerical investigation of fluid flow and heat transfer characteristics of wall-attached turbulent jets	Animesh Patari	Shantanu Pramanik	ONGOING	-
Investigation of condensation heat transfer in non-Newtonian fluids	Uttam Kumar Kar	Sayantana Sengupta, Shantanu Pramanik	ONGOING	-
Flow and heat transfer analysis through pipe bends	Arka Banerjee	Sayantana Sengupta, Shantanu Pramanik	ONGOING	-
Analysis of Bimodular Composite laminated sandwich beams	Yogesh Kumar	kallol Khan	ONGOING	-





Topic Name	Scholar	Supervisor	Status	Status Date
Design and Control of Smart Material based Actuators for Robotic Assembly	Bhaskar Ghosh	S. Mukhopadhyay (NIT), S.S. Roy (NIT), R.K. Jain (CMERI)	SUBMITTED	2023-08-17
Numerical Simulation of Solar Air Heater	Mr. Nirmalya Tripathi	Dr. Sirshendu Mondal and Dr. Aparesch Datta	ONGOING	-
Studies on Flow Physics of a Vortex Tube	RAVI KANT SINGH	Dr. Achintya Kumar Pramanick and Dr. Subhas Chandra Rana	SUBMITTED	2023-08-07
Experimental and Computational Studies on Thermal Performance Enhancement of Solar Air Heater with Novel Hybrid Tape using Different Geometrical Shapes in Circular and Non-circular Pipes	Soumya Ghosh	Biswajit Halder, Suvanjanjan Bhattacharyya	ONGOING	-
Phase Change Material	Mr. Subham Show	Dr. Aparesch Datta and Dr. Sirshendu Mondal	ONGOING	-
Thermodynamic Analysis of Oxy-Coal fired Thermal Power Plants	Soumya Jyoti Chatterjee	Sujit Karmakar	ONGOING	-
Thermodynamic Analysis of Advanced Coal based Power Generation Systems with CO <sub>2</sub> Capture	Rajesh Kumar	Sujit Karmakar	SUBMITTED	2023-07-10
Thermodynamic Analysis of Integrated Gasification-Fuel cell Combined Cycle based Power Generation Systems	A Pruthvi Deep	Sujit Karmakar	ONGOING	-
Techno-Economics of Renewable based Energy systems for various loads: Some case studies in India	Nagendra Kumar	Sujit Karmakar	ONGOING	-
Combined Power and Cooling through Waste heat recovery from Thermal Power Plants and other sources	Nitesh Kumar Choudhary	Sujit Karmakar	ONGOING	-
Performance Analysis of Solar Air Heater having Staggered V-Shaped Twisted Ribs on Absorber Plate	Dheeraj Kumar	Apurba Layek	SUBMITTED	2023-08-07
Performance analysis of CI engine using biodiesel and its blends with diesel	Debabrata Roy	Apurba Layek	ONGOING	-
Performance analysis of CI engine using biodiesel and its blends with diesel	Bijoy Narayan Mohanty	Apurba Layek	ONGOING	-
Implementing electrostatics to split water molecules	Bikramjit Mukherjee	Apurba Layek	ONGOING	-
Performance of solar air heater having roughened absorber	Ramit Choudhury	Apurba Layek	ONGOING	-
Performance of solar air heater having roughened absorber	Abhimannu Sharma	Apurba Layek	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Reliability based maintenance	Arka Chatterjee	Jagannath De	ONGOING	-

#### 4.11.24 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology)	Dr. Deepak Kumar, Dr. Nilanjan Chattaraj, Dr. Jayati Dey, and Dr. Aritro Dey	Ministry of Electronics and Information Technology	898702000	2022
Design of high-performance microsinks with disruptive structure like cavity, secondary branch and rib	Dr. Apareesh Datta, Dr. Sirshendu Mondal, Prof. Amit Agarwal	SERB	3494202.0	2022
Controlled assembly of main frame of the ballistic missile	Nirmal Baran Hui, Ranjan Kumar Mitra	Research Centre Imarat (RCI), Hyderabad, DRDO)	2200000.0	2019
Design of a Smart Material based Soft Lower Limb Exoskeleton to Assist Soldier	S.S.Roy	DRDO, New Delhi	8450000.0	2019
Design and development of force reflecting hand exoskeleton (haptic device) for application in remote handling in defence	S.S.Roy, A.Mahapatra (CMERI)	DRDO, New Delhi	940000.0	2019
Development of Assembly Auto Alignment Methodology	Nirmal Baran Hui and Ranjan Kumar Mitra	Advanced Systems Laboratory, DRDO	1943500.0	2020
Investigation of Thermo hydraulic performance of Artificially Roughened Solar air heater Using Infrared Thermography Technique	Apurba Layek	DST - SERB, Govt India	3925000.0	2019

#### 4.11.25 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Development of Compliant Actuators with Mechanical Impedance Variability	S.S.Roy	DRDO, New Delhi	2022

#### 4.11.26 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Nil	Nil	Nil	Nil



## 4.11.27 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Ratnesh Kumar	Sadhana	Springernature	2022-12-30
Ratnesh Kumar	Transactions of the Indian Institute of Metals	Springer	2023-03-22
Jayabrata Dhar	Journal of Porous Media	Begell House	2023-06-29
Achintya Kumar Pramanick	Institute of Engineers India Series C	Springer	2022-12-07
Saif Akram	Physics of Fluids	AIP Publishing	2023-01-25
Saif Akram	Physics of Fluids	AIP Publishing	2022-10-25
Debabrata Gayen	Reviews on Advanced Materials Science	De Gruyter	2022-04-27
Debabrata Gayen	Mechanics of Advanced Materials and Structures	Taylor & Francis	2022-05-03
Debabrata Gayen	Results in Engineering	Elsevier	2022-04-27
Debabrata Gayen	Advances in Applied Mathematics and Mechanics	Global Science Press	2022-07-12
Debabrata Gayen	Journal of Aerospace Technology and Management	Instituto de Aeronautica e Espaco-IAE	2022-08-19
Debabrata Gayen	Journal of Structural Integrity and Maintenance	Taylor and Francis	2022-11-02
Debabrata Gayen	Modern Physics Letters B	World Scientific	2022-11-21
Debabrata Gayen	Journal of Thermal Stresses	Taylor & Francis	2023-01-14
Shashi Kant Verma	Cryogenics	ELSEVIER	2023-01-01
Asit Baran Puri	The International Journal of Advanced Manufacturing Technology	Springer	2022-05-15
Asit Baran Puri	The International Journal of Advanced Manufacturing Technology	Springer	2022-06-11
Asit Baran Puri	Alexandria Engineering Journal	Elsevier	2022-07-08
Asit Baran Puri	Sadhana	Springer	2022-10-12
Asit Baran Puri	Sadhana	Springer	2022-11-20
Asit Baran Puri	The International Journal of Advanced Manufacturing Technology	Springer	2023-01-14
Deepak Kumar	Physics of Fluids	American Institute of Physics	2023-08-01
Shashi Kant Verma	Fusion Science and Technology	American Nuclear Society	2020-12-28
Shashi Kant Verma	Fusion Science and Technology	American Nuclear Society	2023-03-12
Aparesh Datta	International Journal of Heat and Mass Transfe	Elsevier	2022-06-21
Arjyajyoti Goswami	Part E: Journal of Process Mechanical Engineering	SAGE Publications	2022-05-10
Arjyajyoti Goswami	Applied Sciences	MDPI	2022-07-22
Arjyajyoti Goswami	Optics and Laser Technology	ELSEVIER	2022-08-30
Nirmal Baran Hui	Applied Soft Computing	Sciencedirect	2023-05-29
Nirmal Baran Hui	Computers & Industrial Engineering	Sciencedirect	2023-05-09



Reviewer	Name of the Journal	Publisher	Date of Final Review
Nirmal Baran Hui	IEEE Transactions on Emerging Topics in Computational Intelligence	IEEE	2023-03-09
Sayantana Sengupta	Fluid Dynamics and Materials Processing	Tech Science Press	2022-07-22
Apurba Layek	Solar Energy	Elsevier, SEJ-D-22-00074	2022-04-24
Apurba Layek	Thermal Science and Engineering Progress	Elsevier, TSEP-D-22-00158R1	2022-06-25
Apurba Layek	Renewables: Wind, Water, and Solar	Springer; RWWS-D-22-00010	2022-07-18
Apurba Layek	Environmental Progress & sustainable Energy	American Institute of Chemical Engineers; EP-22-447	2022-07-21
Apurba Layek	Solar Energy	Elsevier, SEJ-D-22-02169	2022-08-21
Apurba Layek	Environmental Science and Pollution Research	Springer, ESPR-D-22-19685	2022-12-29
Apurba Layek	Thermal Science and Engineering Progress	Taylor & Francis, TSEP-D-23-00072	2023-01-16
Apurba Layek	International Journal of Ambient Energy	Taylor & Francis, TAEN-2023-0003	2023-02-03
Apurba Layek	International Journal of Ambient Energy	Taylor & Francis, TAEN-2019-0786.R1	2023-02-21
Apurba Layek	International Journal of Ambient Energy	Taylor & Francis, TAEN-2023-0056	2023-02-24
Apurba Layek	Advances in Materials Science and Engineering	Hindawi, 3611416	2023-02-26
Apurba Layek	International Journal of Ambient Energy	Taylor & Francis, TAEN-2023-0070	2023-03-18
Apurba Layek	International Journal of Energy Research	Hindawi, 4851352	2023-03-25

#### 4.11.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Asit Baran Puri	Ph.D open Viva-voce Examination	VSSUT	2022-05-12	2022-05-12
Asit Baran Puri	Ph. D Thesis Examination	Jadavpur University	2022-09-06	2022-10-10
Asit Baran Puri	Ph. D Thesis Examination	VSSUT	2022-10-01	2022-11-14
Asit Baran Puri	Ph.D open Viva-voce Examination	VSSUT	2022-12-09	2022-12-09
Asit Baran Puri	Ph. D Thesis Examination	NIT Patna	2022-09-28	2023-01-30
Shibendu Shekhar Roy	MTech Thesis Evaluation	IEST Shibpur	2022-07-15	2022-07-15
Apurba Layek	PhD defense, of Iftikar Ahmad Khan, Experimental Investigation of the Performance and Emission of a Diesel Engine Fuelled by Biodiesel-Diesel Blends with	NIT Jamshedpur	2022-08-01	2022-08-01

#### 4.11.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Apurba Layek	PhD defense, of Sanjay Singh Rathore, Computational Analysis of Flow and Heat Transfer Characteristics of Wall-Bounded Turbulent Jets	NIT Patna	2022-11-25	2022-11-25



Name of the Faculty	Discipline	University/Institute	From Date	To Date
Apurba Layek	hD defense, of Bhargava Srusti, Investigations on reducing the car cabin temperature subjected to solar load by incorporating phase change material	VIT Chennai,	2022-12-26	2022-12-26
Apurba Layek	PhD defense, of Rahul Ganpatrao Makade, Empirical modelling and analysis of solar radiation for Indian locations	OPJU, Raigarh, Chhathishgarh	2023-01-22	2023-01-22

#### 4.11.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Deepak Kumar	Unmanned Aerial Vehicles (Drone technology applications)	Re-Union & Symposium 2K23	Asansol Polytechnic	2023-01-08	2023-01-08
Deepak Kumar	Recent Development in Drone Technology and Basic Flight Mechanics	Workshop on Data Science, Machine Learning & Drone	Bengal College of Engineering & Technology Durgapur	2023-03-29	2023-03-29
Shibendu Shekhar Roy	Computer Aided Design and Development of Agricultural Machinery	DST-SERB sponsored Workshop named "KAARYASHALA"	CMERI Durgapur	2022-07-22	2022-07-22
Arjyajyoti Goswami	Critical thinking and Innovation Design	3 Days National Level Workshop on "Innovative Technologies to Improve Quality of Teaching & Learning" (Hybrid Mode)	G H RAISONI INSTITUTE OF ENGINEERING & TECHNOLOGY, Nagpur	2022-04-03	2022-04-05
Arjyajyoti Goswami	Design Thinking, Critical thinking and Innovation Design	SVIST IIC activities, 2022	Swami Vivekananda Institute Of Science And Technology, Kolkata	2022-05-03	2022-05-03
Arjyajyoti Goswami	Structured Surfaces	FDP organized by Swami Vivekananda Institute of Science and Technology	Swami Vivekananda Institute Of Science And Technology, Kolkata	2022-05-31	2022-05-31
Arjyajyoti Goswami	Design Thinking Approach and Critical thinking	Invited talk	DAV Model School Durgapur	2022-09-03	2022-09-03
Nirmal Baran Hui	New Education Policy	ATAL Academy Program on "Zero Wastage Practice in Industries	NIT Durgapur	2023-01-09	2023-01-20
Nirmal Baran Hui	Motion Planning of Mobile Robots	SERB Sponsored Karyashala entitled "Application of Artificial Intelligence (AI) and Machine Learning (ML) Techniques in Robotics	CMERI Durgapur	2023-01-06	2023-01-13
Nirmal Baran Hui	Multi-objective optimization using genetic algorithms	SERB Sponsored Karyashala entitled "High-end workshop on Internet-of-thing (IoT) and Artificial Intelligence (AI) and its	CMERI Durgapur	2023-06-26	2023-07-02
Apurba Layek	Artificial Roughness- A Potential Method to Enhance the Performance of Solar Air Heater	FDP on 'Recent Advancement in Heat Exchanger Technologies: Experimentation & Simulations'	OP Jindal University, Raigarh, Chhattisgarh	2022-03-14	2022-03-18



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Shashi Kant Verma	Basics of Research Publications and Its Best Practices	Faculty Development Programme (FDP)	Shri Shankaracharya Institute of Professional Management & Technology, Raipur (C.G.)	2022-10-10	2022-10-14

#### 4.11.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Nil	Nil	Nil	Nil	Nil	Nil

#### 4.11.32 Patents

Title	Inventors	Application Nos	Date of Filing
Artificial Articular Cartilage And A Method Of Manufacturing The Same	Biswajit Bera	1767/KOL/2008	2008-10-20

## 4.12 Department of Metallurgical and Materials Engineering

### 4.12.1 Department at a Glance:

#### Brief Outline of the Department:

The Department, which started its journey in the year 1960, presently offers B.Tech. (Metallurgical and Material Engineering), M.Tech.(Metallurgy and Materials Technology) and Ph.D Programme. The Department maintains high level of interactions with other academic institutes (IIT Kharagpur, Jadavpur University, IEST (Shibpur) and NIFT (Ranchi)), CSIR Laboratories, SAIL and other steel plants in India. At present, fifteen highly qualified and dedicated faculty members are serving this Department.

#### Teaching & Research Activities:

The teaching at B.Tech level focuses on the fundamental knowledge base development in various areas of Metallurgical and Materials Engineering, such as, Extractive Metallurgy, Physical Metallurgy, Mechanical Metallurgy and Corrosion Science and Engineering. M.Tech level teaching emphasizes on advanced knowledge input in new material development and latest techno-scientific progress in Metallurgical Industry. The research activities of the Department are centered on B.Tech and M.Tech Projects, Ph.D Programmes and sponsored research projects. Many research papers have been published in reputed peer reviewed Journals.

### 4.12.2 Mission & Vision

#### Mission:

- To produce highly educated, well-rounded and motivated graduates possessing fundamental understanding and knowledge in Metallurgical and Materials Engineering, who can provide service and leadership to the nation and the world.
- To pursue creative research and new technologies in Metallurgical and Materials Engineering in order to cater the needs of industry, government and society.
- To accomplish visibility by active participation in conferences and technical activities.

#### Vision:

- To prove and be accepted globally as a leading department and as a quality establishment for gathering and disseminating knowledge in the field of metallurgical and materials engineering.

### 4.12.3 Faculty

Name	Designation	Email-id
Ghosh Karuna Sindhu, PhD	Professor	<a href="mailto:ksgghosh2001@mme.nitdgp.ac.in">ksgghosh2001@mme.nitdgp.ac.in</a>
Maity Joydeep, Ph.D	Professor	<a href="mailto:joydeep.maity@mme.nitdgp.ac.in">joydeep.maity@mme.nitdgp.ac.in</a>
Show Bijay Kumar, Ph.D	Associate Professor	<a href="mailto:bijay.show@mme.nitdgp.ac.in">bijay.show@mme.nitdgp.ac.in</a>





Name	Designation	Email-id
Ghosh Madan Mohan, Ph.D	Associate Professor	madanmohan.ghosh@mme.nitdgp.ac.in
Mondal Manas Kumar, Ph.D	Associate Professor	manas.mandal@mme.nitdgp.ac.in
Bera Supriya, PhD	Associate Professor	sbera.mme@nitdgp.ac.in
Ghorai Satadal, PhD	Associate Professor	Sghorai.mme@nitdgp.ac.in
Pramanik Susanta, Ph.D	Associate Professor	spramanik.mme@nitdgp.ac.in
Maji Barnali, Ph.D	Assistant Professor	<a href="mailto:bmaji.mme@nitdgp.ac.in">bmaji.mme@nitdgp.ac.in</a>
Mallik Manab, Ph.D	Assistant Professor	mmallik.mme@nitdgp.ac.in
Mandal Arup Kumar, PhD	Assistant Professor	arup.mandal@mme.nitdgp.ac.in
Mandal Durbadal, Ph.D	Associate Professor	dmandal.mme@nitdgp.ac.in
Yagati Krishna Priya, Ph.D	Assistant Professor	kp.yagati@mme.nitdgp.ac.in
Roy Barna, Ph.D.	Assistant Professor	broy.mme@nitdgp.ac.in

#### 4.12.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount (Rs.)
1	Pelletizer	13/12/2022	1,42,780
2	Mortar Grinder	28/09/2022	8,48,400
3	Augmentation of UTM (Instron)	08.07.2022	44, 92,996
4	Sieve shakers	20/04/2022	45,800
5	Tap density tester	20/04/2022	89,775
6	Polishing Machine	25.11.2022	2,05,452
7	Melting Furnace	17.02.2022	1,26,525
8	aczet LCD Micro weighing Balance with licensed software	19.04.2022	34,394
9	AVISION CIS Flat Bed scanner	30.05.2022	12,100

#### 4.12.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	X-Ray Diffraction Laboratory	XRD
2	Mechanical Working Laboratory	Rolling Mill
3	Transport Phenomena Laboratory	Bernoulli's Theorem Apparatus
4	Thermodynamics of Materials Laboratory	Gas-Solid Dissociation Unit and Oxidation Furnace, Fluidized Bed Furnace(High Temperature)
5	Metal Joining Laboratory	Welding Unit
6	Composites Laboratory	Stir-Casting Unit
7	Agglomeration Laboratory	Disk Pelletizer, Sintering Unit, Ball Mill
8	Foundry and Casting Laboratory	Sand Casting Unit
9	Powder Metallurgy Laboratory	Planetary Ball Mill
10	Heat Treatment Laboratory	Furnaces
11	Metallography Laboratory	Optical Microscopes
12	Corrosion Testing Laboratory	SSRT, Potentiostat
13	Surface Engineering Laboratory	Potentiostat / Galvanostat
14	Extractive Metallurgy Laboratory	Grinding Ball Mill, Pelletizer, Sintering unit
15	Plastic Deformation and Strengthening of Materials Laboratory	UTM Instron-100kN Hardness Tester Impact testing machine Torsion testing machine
16	Manufacturing Processes Laboratory	Melting Furnace, Indirect Arc Melting Furnace
17	Mineral Beneficiation Laboratory	Flotation Cell, Sieve Shaker
18	Nanomaterials Laboratory	Particle Size Analyser, Thermal Conductivity Measuring Equipment
19	Computation Laboratory	Computers, Servers
20	Reducibility Testing Laboratory	Reducibility Testing Unit
21	Materials Characterization Laboratory	DSC, Composition analyser, Wear testing unit
22	Mechanochemical synthesis Lab	PM400 planetary Ball Mill PM200 Planetary Ball Polishing Unit Micro oven Weighing Balance



#### 4.12.6 PhD degree awarded till 2022-23

Two.

#### 4.12.7 Any other relevant information

NIL

#### 4.12.8 Specialization

- Physical Metallurgy
- Process Metallurgy
- Physical Metallurgy, Foundry Technology, Welding, Casting, Composite materials
- Process Metallurgy
- Metallurgical and Materials Engineering
- Materials Modelling and Simulation, Mechanical Behaviour of Materials, Nanotechnology, Advanced Materials
- Advanced Materials
- Extractive Metallurgy
- Process Metallurgy
- Corrosion Engineering; Physical Metallurgy, Characterisation of Al-alloys and Biomaterials; Welding Technology
- Physical Metallurgy (Structure-property correlation)

#### 4.12.9 Proposed Plan for Research

- Development of Al-based alloys for high temperature applications, Cu-based alloys for electrical applications, Ti/Mg based biomaterials
- Development of wear resistant materials (Al alloys and Al based composites))
- Alloy development for aerospace/automobile applications
- Development of semi solid process,
- Green Steel Making
- Waste Utilization
- Submit a project in SERB
- Oxidation of ilmenite ore
- Thermal stabilization of Boron/Zirconium doped Inver alloy
- Development of bulk nanostructured stainless steel with superior strength and enhanced ductility.
- Design and Development of New Challenging Materials through Modelling and Experiments
- Additive Manufacturing of light weight materials
- Structure-property correlation of ultra high temperature ceramics
- Stress Corrosion Cracking (SCC) AND Hydrogen Embrittlement (HE) of Al-alloys, Ti-alloys and Mg-alloys.
- Structure-property correlation

#### 4.12.10 Area of Research Interest

- Phase transformation in new alloys, Biomaterials, Materials Characterization
- Microstructure-property correlation and wear behaviour of different materials
- Composites
- Alloy development
- Finite Element Analysis
- Tribological behaviour of materials
- Microstructure property correlation, Development of Al alloys,
- Decarbonization of Steelmaking
- Composite Materials, Non-ferrous Metal casting
- Alternative iron making, Agglomeration and raw materials characterization, Refining of liquid metal, Utilization of fines and waste materials,
- Recovery of valuable metal from low grade ore, Physical modeling
- Thermal stabilization
- Bulk nanostructured materials
- Design and Development of Materials for Biomedical Applications
- Additive Manufacturing
- Joining of Materials



- Laser Processing of Materials
- Powder Metallurgy
- Corrosion of Weldments
- Solidification & phase studies
- Waste Management
- Ultra high temperature ceramics, Nanomaterials, Biomaterials, Refractory, ODS alloys
- Industry waste and Use of Bio char in iron making

#### 4.12.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
SAIL-DSP	Iron Making And Coke Oven	Research Work- Optimisation of Coke Moisture and Prediction of Sinter Qualit
CSIRO Australia	Green Stee	Decarbonization in iron and steel sectors
University of Southampton, UK	Biomaterial of Ti-alloys; High Pressure Torsion (HPT) of Al-Alloys	Preparation of HPT of alloys

#### 4.12.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Materials Engineering Division, CSIR-NML, Jamshedpur, India	Mechanical Metallurgy	Dr. H. N Bar	Ph.D student supervised
Metallurgical Engineering Department, Indus University, Ahmedabad, India	Materials Characterisation	Dr. S. K Chaudhury	Research Work
ESI, Leoben, Austria	Al based alloys	Prof. J. Eckert	Joint work
CGCRI, Kolkata	Biomaterials	Dr. M. Das	Joint PhD student
IIT Roorkee	Al-based alloys	Dr. S. Das	Joint Project
NML Jamshedpur	Cu-based alloys	Dr. J. Chakraborty	Joint undergraduate Student
KNU Asansol	Steel, Al alloys	Dr. A. Sinha, Dr. G. Mandal	Joint Student, Project
Indian Institute Of Technology Kharagpur	Thermodynamics Analysis	Dr. Manas Paliwal	Joint Research Work, Publications
CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal 713209, India	Material Characterization	Dr. Manidipto Mukherjee	Joint Research Work, Publications
Sikkim Manipal University, Majhitar, East Sikkim 737136, India	Material Characterization	Dr. Joydeep Biswas	Joint Research Work, Publications
IIT Roorkee	Al based Al-Cu-Ni alloys	Dr. S. Bera (PI), Dr. B.K.Show and S.Das (IIT Roorkee)	Joint DST project
CSIRO Australia	CSIRO Australia	Dr. Nawshad Haque	Decarbonization of Iron and Steel making
CSIR-CMERI	Welding	Barnali Maji	Research work
R&D Centre for Iron and Steel, Ranchi	Flux development for refining of steel	Satadal ghorai	Joint PhD Student
National Institute of Advanced Manufacturing Technology	Thermal stabilization	Prof. Koushik Sikdar	Sharing ideas and doing research



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Kazi Nazrul University	Bulk nanostructured materilas	Prof. Gurudas Mondal	Sharing ideas and doing research
NIT Raipur	Modeling and Simulations	Prof. Subhas Ganguly	Sharing ideas and doing research

#### 4.12.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr B.K. Dubey, Prof PankajKumar ray , Prof Anupam Debsarkar Dr Alok Bajpai	Green Technology and Sustainability	2022-02-25

#### 4.12.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Chandan Choudhary, A.K Pramanik, K.L Sahoo and D.Mandal	Evaluation of Microstructure and Mechanical Properties of M-SIMA Processed Al-7Si alloy	Materials Science and Technology	Volume:38 Issue No:13 Page No:912-925 Year:2022 Month:Jul
Ritwik Das, Manas Kumar Mondal & Susanta Pramanik	Effect of Extrusion on the Physical and Mechanical Properties of Briquette Made with Blast Furnace Flue Dust and Iron Ore Fines	Journal of The Institution of Engineers (India): Series D	Volume:103 Issue No:2 Page No:473-478 Year:2022 Month:Apr
Atosh Kumar Sinha, Susanta Pramanik, Krishna P Yagati	WAAM of Al-Cu Alloy: Effect of Cooling and Remelting on Grain Size and Mechanical Properties	MEASUREMENT	Volume:200 Issue No: Page No: Year:2022 Month:Jun
Atosh Kumar Sinha, Susanta Pramanik, Krishna P Yagati	WAAM of Al-Cu Alloy: Effect of Cooling and Remelting on Grain Size and Mechanical Properties	Transactions of the Indian Institute of Metals	Volume:76 Issue No:5 Page No:1331-1339 Year:2023 Month:Mar
P. Siva Prasad and K. S. Ghosh	Effect of Heat Treatment and NC Ni Coating on Electrochemical and Hydrogen Embrittlement Behaviour of a High Strength Low Alloy (HSLA) Steel	Electrocatalysis (Springer)	Volume:13 Issue No:5 Page No:551-566 Year:2022 Month:May
Imran Rizwi, D. Mandal, B.K Show	Development of wear resistant aluminium based nano-composite reinforced with nano-AlN	Tribology	Volume:145 Issue No: Page No:021702-1-10 Year:2022 Month:Oct
M. Salot, K. Santhy, D. Mandal, A. Awasthi, S.K Chaudhury	A New Electrolytic Process for synthesis of tungsten oxide nanopowder from WC-6Co scrap	Ceramics International	Volume:49 Issue No: Page No:1507-1512 Year:2022 Month:Oct
Prosanta Biswas, Durbadal Mandal, Manas Kumar Mondal	Compressive failure analysis of in-situ Al- Mg2Si composites: An experimental and finite element based study,	Engineering Fracture Mechanics	Volume:277 Issue No: Page No:108986 Year:2022 Month:Dec



Author(s) Name	Paper Name	Journal Name	Others Info
Rahul Bhandari, Prosanta Biswas, Manab Mallik and Manas Kumar Mondal	Microstructure based numerical simulation of the micromechanics and fracture in hypereutectic Al–Mg <sub>2</sub> Si composites	Materials Chemistry and Physics	Volume:297 Issue No: Page No:127427 Year:2023 Month:March
Suveksha Tamang, Sadhna Rai, Manas Kumar Mondal, Nayan Kamal Bhattacharyya, Bibhu Prasad Swain and Joydeep Biswas	Microwave-assisted reduction of graphene oxide using Artemisia vulgaris extract for supercapacitor application	Journal of Materials Science: Materials in Electronics	Volume:35 Issue No: Page No:575 (1 to 18) Year:2023 Month:February
Prosanta Biswas, Durbadal Mandal and Manas Kumar Mondal	Compressive failure analysis of in-situ Al- Mg <sub>2</sub> Si composites: Experiment and finite element modelling	Engineering Fracture Mechanics	Volume:277 Issue No: Page No:108986 Year:2023 Month:January
Tanay Rudra Paul, Manas Kumar Mondal, and Manab Mallik	Thermal shock behavior of ZrB <sub>2</sub> -MoSi <sub>2</sub> - SiC Composites	Journal of Alloys and Compounds	Volume:924 Issue No: Page No:166443 Year:2022 Month:November
Sadhna Rai, Rabina Bhujel, Manas Kumar Mondal, Joydeep Biswas and Bibhu P. Swain	Investigation of optical and electrical properties of graphene oxide/silicon nanowires heterojunction	Journal of Materials Science: Materials in Electronics	Volume:33 Issue No: Page No:16501–16510 Year:2022 Month:June
Md. Imran Rizwi, Durbadal Mandal, Bijay Kumar Show	Development of Wear Resistant Aluminum Based Nano-Composite Reinforced With Nano-AlN	Journal of Tribology	Volume:145 Issue No:2 Page No:021702-01 to 021702-10 Year:2022
Ramesh Kumar, Avash Kumar Saha & Arup Kumar Mandal	Removal of metallic and non-metallic impurities by hydrogen plasma-arc melting	Journal of The Institution of Engineers (India): Series D	Volume:62 Issue No:2 Page No:383-395 Year:2022 Month:Jul
Amit Kumar Singh, Sharvan Kumar, Biswajit Mishra, Raj Kumar Dishwar, Arup Kumar Mandal, Lakkoju Sankara Rao & Om Prakash Sinha	Direct reduction of fluxed iron ore pellets made from coarse iron ore particles,	Canadian Metallurgical Quarterly	Volume:61 Issue No:4 Page No:475-482 Year:2022 Month:Mar
Tanay Rudra Paul, Manas Kumar Mondal, Manab Mallik	Thermal shock behavior of ZrB <sub>2</sub> -MoSi <sub>2</sub> - SiCw composites	Journal of Alloys and Compounds	Volume:924 Issue No: Page No:166443 Year:2022 Month:Jul
Sujeet Kumar Gautam, Sudip Kumar Samanta, Manab Mallik, Himadri Roy and Aditya Kumar Lohar	Wear And Mechanical Properties Of In Situ A356/5%Tib <sub>2</sub> Composite Synthesis By Cooling Slope Technique	International Journal of Metalcasting	Volume:17 Issue No: Page No:2239–2251 Year:2022 Month:Dec
Rahul Bhandari, Prosanta Biswas, Manab Mallik, Manas Kumar Mondal	Microstructure based numerical simulation of the micromechanics and fracture in hypereutectic Al–Mg <sub>2</sub> Si composites	Materials Chemistry and Physics	Volume:297 Issue No: Page No:127427 Year:2023 Month:Jan
Atosh Kumar Sinha, Susanta Pramanik, Krishna P Yagati	Research progress in arc based additive manufacturing of aluminium alloys-A review	Measurement	Volume:200 Issue No:111672 Page No: Year:2022 Month:Jul
Atosh Kumar Sinha, Susanta Pramanik, Krishna P Yagati	Atosh Kumar Sinha WAAM of Al–Cu Alloy: Effect of Cooling and Remelting on	Transactions of the Indian Institute of Metals	Volume:76 Issue No:5 Page No:1331-1339 Year:2023 Month:Jan



Author(s) Name	Paper Name	Journal Name	Others Info
	Grain Size and Mechanical Properties		
F Hijazi, B Roy, D Srinivasan, P Kumar, V Jayaram	Non-uniform mechanical behaviour of uniaxially rolled Ti-6Al-4V with	Materials Science and Engineering: A	Volume:869 Issue No: Page No:144813 Year:2023 Month:Mar
K Sikdar, A Mahata, B Roy*, D Roy	Thermokinetic stabilisation of nanocrystalline Cu by ternary approach	Philosophical Magazine	Volume:103 Issue No:1 Page No:27-42 Year:2022 Month:Jan
K Sikdar, B Roy*, A Mahata, D Roy	Enhanced thermal stability of nanocrystalline CuAl alloy by nanotwin and nanoprecipitate	Journal of Alloys and Compounds	Volume:922 Issue No: Page No:166273 Year:2022 Month:Nov
F Hijazi, D Srinivasan, B Roy, P Kumar, V Jayaram	Micro-texture regions in rolled Ti6Al-4V under polarized light.	Scripta Materialia.	Volume:213 Issue No: Page No:114588 Year:2022 Month:May
K. Bandyopadhyay, S. Das, K.S. Ghosh and M.M. Ghosh	Molecular Dynamics based Scheme of Designing Nanostructured Cu-Ni Alloy Thin Film for Coating on Advanced Structural Components in Naval Vessels	Journal of Materials Engineering and Performance	Volume:32 Issue No: Page No:3401-3419 Year:2022 Month:Sep
Krishnan Bandyopadhyay, Ajay Kumar Mishra, Sujoy Das, K.S. Ghosh and M.M. Ghosh	A Multiscale Model based Scheme for the Design and Development of Nanocomposites for Advanced Structural Applications	Journal of Materials Engineering and Performance	Volume:32 Issue No: Page No:5798-5812 Year:2022 Month:Oct
Suvam Chatterjee, Manas Kumar Mondal and Joydeep Maity	Diffusional evolution of $\sigma$ -phase to resolve a long-standing dissimilar material joining issue in supercritical boiler	Philosophical Magazine	Volume:102 Issue No:7 Page No:559-588 Year:2022 Month:Jul
Samata Saha, Manojit Ghosh, Ashit Kumar Pramanick, Chandan Mondal and Joydeep Maity	Microstructure and Mechanical Properties of Al/Cu <sub>p</sub> /SiC <sub>p</sub> /TiC <sub>p</sub> -Based Hybrid Composites Fabricated by Spark Plasma Sintering	Journal of Materials Engineering and Performance	Volume:31 Issue No:1 Page No:424-438 Year:2022 Month:Jan
Mousumi Mallick, Biplab Hazra, Swapan Kumar Mitra, Debasish Basak, Bijay Kumar Show and Joydeep Maity	Temperature-Dependent Wear Characteristics of a High-Voltage Low- Current Electric Energy-Treated AISI 1080 Steel	Journal of Materials Engineering and Performance	Volume:31 Issue No:5 Page No:3661-3678 Year:2022 Month:May
Joydeep Maity	An analytical model of grain growth considering the conjoint effects of precipitate pinning and solute drag in steel	Philosophical Magazine Letters	Volume:102 Issue No:10 Page No:307-323 Year:2022 Month:Oct
Joydeep Maity and Anupam Sharma	A novel analytical approach to ascertain hardenability of plain carbon steel	Philosophical Magazine	Volume:103 Issue No:5 Page No:407-434 Year:2023 Month:May
Joydeep Maity	An analytical model to ascertain the fragmentation of cementite lamella at lamellar fault sites	Philosophical Magazine	Volume:103 Issue No:7 Page No:611-629 Year:2023 Month:Apr





Author(s) Name	Paper Name	Journal Name	Others Info
J. Maity, S. A. Rahman, S. Alam, K. K. Singh, P. Kumar and S. Hembram	On ascertaining hardness-microstructure relationship in annealed steel for varying carbon content	J. Maity, S. A. Rahman, S. Alam, K. K. Singh, P. Kumar and S. Hembram	Volume:54 Issue No:3 Page No:335-344 Year:2023 Month:Mar
Ritwik Das, Manas Kumar Mondal & Susanta Pramanik	Comparison of Compressive Strength of Fly Ash Bonded Flue Dust Briquettes with that of Briquettes made with Bentonite, Sodium Silicate, Lime, Starch, Pitch, Molasses and Dextrin Binder	Transactions of the Indian Institute of Metals	Volume:76 Issue No:5 Page No:1253-1262 Year:2022 Month:May
Ritwik Das, Manas Kumar Mondal & Susanta Pramanik	Strengthening Behaviour and Microstructural Properties during the Compaction of Reduced Blast Furnace Flue Dust—Fly Ash—Iron Metal Matrix Composite Fines using Powder Metallurgy Route	Transactions of the Indian Institute of Metals,	Volume:75 Issue No:9 Page No:2255-2263 Year:2022 Month:Nov
Sk. Md. Arif. S. Ghorai H.N Bar, D. Mandal	Effect of Quenching and Partitioning time on microstructure and mechanical properties of low carbon micro-alloyed steels	Materials Today: Proceedings	Volume:66 Issue No: Page No:3865-3869 Year:2022 Month:Jun
Gaurav Pandya, Vatsal Ramani, Gaurav Awasthi, D.K Basa, D. Mandal, Sujoy Krishna Chaudhury	Optimisation of Sea Beach sand composition for Cast Iron Foundry Applications	Materials Transactions (Japan)	Volume:64 Issue No:1 Page No:260-266 Year:2023 Month:Jan
Sk Md Arif, Satadal Ghorai, Himadri Nandan Bar and Durbadal Mandal	Effect of quenching and partitioning time on microstructure and mechanical properties of low carbon micro-alloyed steel	Materials Today: Proceedings	Volume:66 Issue No:9 Page No:3865–3869 Year:2022 Month:Sep
Ritwik Das, Manas Kumar Mondal and Susanta Pramanik	Effect of Extrusion on the Physical and Mechanical Properties of Briquette Made with Blast Furnace Flue Dust and Iron Ore Fines	Journal of The Institution of Engineers (India): Series D	Volume:103 Issue No: Page No:473–478 Year:2022 Month:May

#### 4.12.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Arvind Jaiswal, Barnali Maji, Manoj Kumar, Joydeep Maity	Structure-property correlation of a newly synthesized 6351Al/bct-BN composite	Journal of Materials Engineering and Performance	Volume: Issue No: Page No: Year:2023 Month:



## 4.12.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
Abdur Rouf, Krishna Priya Yagati and Manab Mallik	Synthesis and Characterization of Magnesium Aluminate (MgAl <sub>2</sub> O <sub>4</sub> ) Spinel Through Solid State Pressureless Sintering	TRANSACTIONS OF POWDER METALLURGY ASSOCIATION OF INDIA	Volume:47 Issue No: Page No:32-40 Year:2022 Month:Jun
Sonam Kumari and Divyadutta Behura	Densification and Characterization of Pressureless Sintered ZrB <sub>2</sub> -20 vol% MoSi <sub>2</sub> Ultra High Temperature Ceramic Composites	TRANSACTIONS OF POWDER METALLURGY ASSOCIATION OF INDIA	Volume:47 Issue No: Page No:77-82 Year:2022 Month:Jun
K S Ghosh	BOOK: "Foundation of Welding Technology"	Prentice Hall International (PHI)	Volume:1 Issue No:9 Page No:530 Year:2022 Month:Sep

## 4.12.17 Journal: Accepted in Others in 2022-2023

NIL

## 4.12.18 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Sayandip Sarkar, Manas Kumar Mondal, and Manab Mallik	Synthesis and characterization of ZrB <sub>2</sub> -SiC composite powder	International Conference on Powder Metallurgy (PMAI-PM 2022)	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.07.164">https://doi.org/10.1016/j.matpr.2022.07.164</a> Volume: Issue No: Page No: 320-325 Year:2022 Month:Jun Presenter:CO-AUTHOR
Akash Maity, Bishal Bidyut Buragohain, Prosanta Biswas, Rahul Bhandari, Anjan Pal, and Manas Kumar Mondal	Effect of Mn addition on the micromechanical response and failure of Al-12.6Si alloy using actual microstructure based RVE model	Symposium on Failure and Preventive Maintenance of Machineries 2022	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.06.128">https://doi.org/10.1016/j.matpr.2022.06.128</a> Volume: Issue No: Page No:3790-3798 Year:2022 Month:Sep Presenter:CO-AUTHOR
Anirban Hazra, Manab Mallik	Synthesis and characterization of Co-based alloy	International Conference on PM 22	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.06.454">https://doi.org/10.1016/j.matpr.2022.06.454</a> Volume: Issue No: Page No:301-308 Year:2022 Month:Jul Presenter:CO-AUTHOR
Sayandip Sarkar, Manas Kumar Mondal, Manab Mallik	Synthesis and characterization of ZrB <sub>2</sub> -SiC composite powder	International Conference on PM 22	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.07.164">https://doi.org/10.1016/j.matpr.2022.07.164</a> Volume: Issue No: Page No:320-325 Year:2022 Month:Jul Presenter:CO-AUTHOR
Sk. Md. Arif. H.N Bar, D. Mandal	Study the microstructure, hardness and tensile properties of low carbon microalloyed steels processed through quenching and partitioning treatment	59th NMD and 75th ATM	DOI/ISBN: NA Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Kashi Nath Malik, Satadal Ghorai, Arup Kumar Mandal	Investigation on Indian Coal utilization in Coke making	35th National Convention of Metallurgical and Materials Engineers and National Conference on Valuing Low grade ore and waste: Challenges and Remedies (VLOW:CR-2023), NIT Durgapur	DOI/ISBN: NA Volume: Issue No: Page No:2 Year:2023 Month:Jan Presenter:CO-AUTHOR
Avash Kumar Saha, Ramesh Kumar, Kashi Nath Mallik, Arup Kumar Mandal	Investigation on Mechanical characteristics of Fluxed Composite Pre-Reduced Pellets made with High ash Coal	35th National Convention of Metallurgical and Materials Engineers and National Conference on Valuing Low grade ore and waste: Challenges and Remedies (VLOW:CR-2023), NIT Durgapur	DOI/ISBN: NA Volume: Issue No: Page No:3 Year:2023 Month:Jan Presenter:CO-AUTHOR
Ramesh Kumar, Avash Kumar Saha, Kashi Nath Mallik, Arup Kumar Mandal	Comparative study on the characteristics of Fluidized bed combustion and Pulverized coal combustion bottom ash bricks	35th National Convention of Metallurgical and Materials Engineers and National Conference on Valuing Low grade ore and waste: Challenges and Remedies	DOI/ISBN: NA Volume: Issue No: Page No:4 Year:2023 Month:Jan Presenter:CO-AUTHOR

#### 4.12.19 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Mainak Saha	Sourajit Pramanik, Rajdeep Banik, Pooja Maurya, Simrat Singh, S. Vandan Raj, D. Prem Madhur, Tanay Rudra Paul, Rahul Mitra, Manas Kumar Mondal and Manab Mallik	Modern Manufacturing Systems Trends and Developments	An Insight into Cyclic Oxidation Behavior of ZrB <sub>2</sub> -20 Vol.%MoSi <sub>2</sub> Based Ultra-High Temperature Ceramic Matrix Composite	Publisher: Apple Academic Press Publication Date: 2022-12-27
Mainak Saha, Manab Mallik		Smart Multifunctional Nano-inks Fundamentals and Emerging Applications	Metal-based conducive nano-inks: synthesis and characterization techniques	Publisher: Elsevier Publication Date: 2023-01-27
Mainak Saha, Manab Mallik		Surface Engineering Methods and Applications	Surface engineering of nanomaterials	Publisher: CRC Press Publication Date: 2022-12-19
Mainak Saha, Manab Mallik		Advanced Materials for Biomechanical Applications	Additive Manufacturing and Characterisation of Biomedical Materials	Publisher: CRC Press Publication Date: 2022-05-31
Mainak Saha, Manab Mallik	Sourajit Pramanik, Rajdeep Banik, Pooja Maurya, Simrat Singh, S. Vandan Raj, D. Prem Madhur, Tanay Rudra Paul, Rahul Mitra, Manas Kumar Mondal,	Modern Manufacturing Systems	An Insight Into Cyclic Oxidation behavior of ZrB <sub>2</sub> -20 Vol.% MoSi <sub>2</sub> Based Ultrahigh Temperature Ceramic Matrix Composite	Publisher: Apple Academic Press Publication Date: 2022-12-27



#### 4.12.20 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International conference on “Laser Assisted Material Processing (LAMP 2022)	IIT Kharagpur	2022-08-29	2022-08-31	India
International Conference on Advances in Materials and Processing: Challenges and Opportunities”	IIT Roorkee	2022-10-17	2022-10-19	India
International Conference on Powder Metallurgy and Particulate Materials (PM23) 2023	PMSI	2023-03-13	2023-03-15	India
DAE-BRNS Two-Day Theme Meeting on “Strategic Planning for Enhancing Research Reactor Utilization (RRU-2022)”	Bhabha Atomic Research Centre, Mumbai	2022-05-06	2022-05-07	India
ICPCM-2022	NIT Rourkela, India	2022-12-09	2022-12-11	India
4th Structural Integrity Conference and Exhibition (SICE 2022)	IIT Hyderabad	2022-12-14	2022-12-16	India
International Conference on Future Technologies in Manufacturing, Automation, Design & Energy	NIT Puduchery	2022-12-14	2022-12-16	India
NMD ATM 2022	Indian institute of Metals	2022-11-14	2022-11-16	India

#### 4.12.21 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Structure property correlation of ODS alloys	Anirban Hazra	Manab Mallik	ONGOING	-
Synthesis and Characterization of Mg- based alloys for biomedical application	Sudeep Paul	S. Bera, D. Mandal, M. Das	ONGOING	-
Development of Cu-Co-Ni Alloys for Magnetic Applications	A. Sarkar	S. Bera, S. Chhabri	ONGOING	-
Development of Cu-based alloys and alloy composites for electrical applications	A Mahato	S. Bera, BK Show	ONGOING	-
Development of Al-Cu-Ni alloys for high temperature applications	S Das	S. Bera, BK Show	ONGOING	-
Synthesis and Characterization of Titanium based alloys for biomedical applications	S Arulmozhiselvar	S. Bera, D. Mandal	ONGOING	-
Processing, microstructure and characterization of biomaterials microstructure	A. Dhar	M. Mallik, S. Bera	ONGOING	-
Study on the mechanical working of blast furnace flue dust – iron oxide – graphite composite briquette made with fly ash as a binder	Ritwik Das (Registration No.: NITD/PhD/MM/2018/01023, Roll No: 16/MM/1102)	Dr. S.Pramanik and Dr. M. K. Mondal	DEGREE AWARDED	2022-07-28
Development and micromechanics of in- situ Al-Mg <sub>2</sub> Si composites	Prosanta Biswas (Registration No. NITD/PhD/MME/2017/00856, Roll No: 15/MME/1104)	Dr. M. K. Mondal and Dr. D. Mandal	DEGREE AWARDED	2022-04-29



Topic Name	Scholar	Supervisor	Status	Status Date
Coupled multi-scale modeling and experimental approach to develop carbon fiber reinforced epoxy resins composites with enhanced mechanical properties for advanced structural applications.	Ajay Kumar Mishra (18MM1103)	Dr. Madan Mohan Ghosh and Dr. Bijay Kumar Show	ONGOING	-
Development of nano-AlN and nano-TiN reinforced aluminum metal matrix composite by stir casting method	Md. Imran Rizwi (20MM1102)	Dr. Bijay Kumar Show and Dr. Durbadal Mandal	ONGOING	-
Development of Cu-based alloys and alloy composite for electrical applications	Amar Mahato (20MM1101)	Dr. Supriya Bera and Bijay Kumar Show	ONGOING	-
Development of Al-Cu-Ni alloys for high temperature applications	Sagar Das (20MM1105)	Dr. Supriya Bera and Bijay Kumar Show	ONGOING	-
Studies on Fatigue behaviour of Multiphase steels	Sk Md Arif	Dr H.N Bar (CSIR-NML Jamshedpur)	ONGOING	-
Development of high entropy bulk metallic glass for structural and biomedical applications	Sudeep Paul	Dr. Supriya Bera	ONGOING	-
Development of nano AlN and Nano TiN reinforced Aluminium metal matrix composites by stir casting methods	MD IMRAN RIZWI	Dr. B K Shaw	ONGOING	-
Synthesis and Characterization of Titanium-based alloys for biomedical applications	S Arulmozhiselvar	Dr. Supriya Bera	ONGOING	-
Composite Materials	Abhishek Kumar	Dr. M. Mallik and Dr. Barnali Maji	ONGOING	-
Desulphurization studies of liquid iron by hydrogen in an indigenously fabricated transferred arc plasma furnace	Ramesh Kumar	Arup Kumar Mandal	SUBMITTED	2023-07-18
Studies on enhanced utilization of Indian coking coal in coke making	Kashi Nath Malik	Arup Kumar Mandal; Satadal Ghorai	ONGOING	-
Production of Steel by green DRI using biomass as a reductant	Avash Kumar	Arup Kumar Mandal	ONGOING	-
Low-Cost Synthesis and Characterization of Boron Nitride Reinforced Aluminum Based Metal Matrix Composite	Arvind Kumar Jaiswal	Dr. Barnali Maji and Prof. J. Maity	SUBMITTED	2023-04-13
Design and Development of Ti-based Alloys by Multiscale Modelling to Manufacture through 3D Printing Technique for Advanced Applications.	Pritam Shadukhan	Dr. Barnali Maji and Dr. M.M.Ghosh	ONGOING	-
Design and Development of Nanostructured Zr-Nb-based Alloy with Enhanced Irradiation Tolerance	Satadipa Banerjee	Dr. M.M.Ghosh and Dr. Barnali Maji	ONGOING	-
Study on Calcium Ferrite formation under Microwave	Raj Kumar Kalshyan	Satadal Ghorai & G. M. Chowdhury	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Studies on increased utilization of high ash Indian coal in coke making	Kashinath Mallik	Arup Kumar Mandal & Satadal Ghorai	ONGOING	-
Study on titanium carbide formation	Rahul Dhibar	Satadal Ghorai	ONGOING	-
Thermal stabilization of nanostructured alloys	Ajfarul Islam	Barna Roy	ONGOING	-
Molecular Dynamics and Finite Element Method based Modelling and Simulations of Nanoparticles and Nanocomposites for Advanced Structural Applications	Krishnan Bandyopadhyay	MM Ghosh and KS Ghosh	DEGREE AWARDED	2022-04-19
Characterisation of Aluminium Alloys and Corrosion Behaviour	Abhishek Kumar Sinha	K.S. Ghosh and M.M. Ghosh	ONGOING	-
Design and Development of Nanostructured Cu-Ni Alloy Thin Film Coated Structural Materials for Naval Applications	Hrishikesh Kumar	M.M. Ghosh and S. Pramanik	ONGOING	-
Studies on Wire Arc Additive Manufacturing of high strength Aluminium alloys: Process Parameters - Structure - Property Correlation	Atosh Kumar Sinha	Dr. Krishna Priya Yagati, Dr. Susanta Pramanik	ONGOING	-
Structure property correlation of magnesia refractory	Abdur Rouf	Dr. M. Mallik & Dr. K. P. Yagati	ONGOING	-
Structure property correlation of high	ABHISHEK KUMAR	Dr. M. Mallik & Dr. B.	ONGOING	-
ZrB <sub>2</sub> -SiC based ultrahigh temperature ceramic composites for high temperature applications	Sayandip Sarkar	Dr. M. Mallik & Dr. M.K. Mondal	ONGOING	-
Equal Channel Angular Pressing (ECAP) of in-situ Al-Mg <sub>2</sub> Si composites: Mechanical and Tribological Properties.	Rahul Bhandari	Dr. M.K. Mondal & Dr. M. Mallik	ONGOING	-
Processing, microstructure and characterization of biomaterials	Amit Dhar	Dr. M. Mallik & Dr. Supriya Bera	ONGOING	-
Study of Agglomerated Waste for Removal of Sulphur in Steel	Mohammad Hamza	Dr K.P. Yagati and S Pramanik	ONGOING	-
Design and Development of Surface Nano- Structured Materials	Hrishikesh Kumar	Dr M.M. Ghosh and Dr S Pramanik	ONGOING	-
Studies on Wire Arc Additive Manufacturing of High Strength Aluminium alloys: Process Parameters – Structure – Property Correlation	Atosh Kumar Sinha	Dr K.P. Yagati and S Pramanik	ONGOING	-
Low-Cost Synthesis and Characterization of Boron Nitride Reinforced Aluminium Based Metal Matrix Composite	Mr. Arvind Kumar Jaiswal	Dr. B. Maji and Prof. J. Maity	SUBMITTED	2023-08-31
Tentative: Analysis of Rolling of Sheet Steels	Arijit Bannerjee	M M Ghosh and K S Ghosh	ONGOING	-





#### 4.12.22 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Development of Al-Mg <sub>2</sub> Si Composite through Novel Equal Channel Angular Squeeze Casting (ECASC) Technique	Dr. M. K. Mondal	Science and Engineering Research Board (SERB) Department of Science and Technology, Government of India	3045000.0	2019
Tailoring the architecture of microstructure in Al-based Al-Cu-Ni alloys to improve the mechanical properties	PI: Dr. Supriya Bera NIT Durgapur Other Investigators: Dr. Sourav Das IIT Roorkee Dr. Bijay Kumar Show NIT Durgapur	DST-SERB	4419900.0	2020
Development of Al-Si alloys with and without grain refiner or eutectic modifier by Strain Induced Melt Activation Process	Durbadal Mandal	SERB DST Govt. of India	2405400.0	2019
Tailoring the architecture of microstructure in Al-based Al-Cu-Ni alloys to improve the mechanical properties	S. Bera, BK Show, S. Das	DST-SERB	48.0	2020
Studies on Sustainable Steelmaking in 2050 using biomass as a reductant	Arup Kumar Mandal	SERB	3564000.0	2022
Effect of Y <sub>2</sub> O <sub>3</sub> Addition on Oxidation Behavior of Pressure-less Sintered ZrB <sub>2</sub> -SiC Composite	Dr. Manab Mallik	DST-SERB-CRG	3498959.0	2020

#### 4.12.23 Completed Sponsored Projects Details

NIL

#### 4.12.24 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Manas Kumar Mondal	Crystals	MDPI	2022-06-26
Manas Kumar Mondal	Metals	MDPI	2022-08-27
Manas Kumar Mondal	Crystals	MDPI	2022-09-09
Manas Kumar Mondal	Advanced Engineering Materials	Wiley-VCH GmbH	2022-10-12
Manas Kumar Mondal	Transactions of the Indian Institute of Metals	Springer	2022-10-20
Manas Kumar Mondal	Transactions of the Indian National Academy of Engineering	Springer	2022-10-26
Manas Kumar Mondal	Materials Research Express	IOP Publishing	2022-11-14
Manas Kumar Mondal	Materials	MDPI	2022-12-12
Manas Kumar Mondal	Materials	MDPI	2022-12-21
Manas Kumar Mondal	Advances in Materials and Processing Technologies	Taylor and Francis	2023-01-09
Manas Kumar Mondal	Silicon	Springer	2023-01-10
Manas Kumar Mondal	Lubricants	MDPI	2023-01-20
Manas Kumar Mondal	Materials	MDPI	2023-01-19
Manas Kumar Mondal	International Journal of Metalcasting	Springer	2023-02-27



Reviewer	Name of the Journal	Publisher	Date of Final Review
Bijay Kumar Show	Materials Today: Proceedings	Elsevier Ltd.	2022-04-19
Manas Kumar Mondal	Advanced Engineering Materials	Wiley-VCH GmbH	2022-04-24
Durbadal Mandal	Materials Science and Technology	Taylor & Francis	2022-12-03
Durbadal Mandal	Journal of Alloy and Compounds	Elsevier	2022-10-22
Durbadal Mandal	Journal of Alloy and Compounds	Elsevier	2022-07-02
Durbadal Mandal	Crystals	MDPI	2021-10-06
Supriya Bera	Journal of alloys and compounds	Elsevier	2022-09-14
Supriya Bera	Trans IIM	Springer	2022-05-23
Arup Kumar Mandal	Transactions of the Indian Institute of Metals	Springer	2022-06-08
Arup Kumar Mandal	Biomass Conversion and Biorefinery	Springer	2022-06-08
Arup Kumar Mandal	Mineral Processing and Extractive Metallurgy Review	Taylor and Francis	2023-01-28
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2023-01-16
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2022-06-09
Barna Roy	Transactions of the Indian Institute of Metals	Springer	2023-01-11
Madan Mohan Ghosh	Journal of Materials Engineering and Performance	Springer	2022-11-19
Madan Mohan Ghosh	Journal of Materials Engineering and Performance	Springer	2022-11-19
Madan Mohan Ghosh	Transactions of the Indian Institute of Metals	Springer	2023-02-18
Susanta Pramanik	Iron Making and Steel Making _ Products and Processes	Taylor and Francis	2023-02-20

#### 4.12.25 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Supriya Bera	BTech-Semester Exam	KNU	2022-06-05	2023-06-05

#### 4.12.26 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	From Date	To Date
Durbadal Mandal	Expert member of the selection Committee for selecting Project staff of various Categories	CSIR National Metallurgical Laboratory Jamshedpur	2022-04-04	2022-04-05
Durbadal Mandal	Member of Assessment Committee to interview the candidates belonging to Technical Cadre	CSIR National Metallurgical Laboratory, Jamshedpur	2022-09-15	2022-09-15
Durbadal Mandal	Expert member of the selection Committee for selecting project staff of various categories	CSIR National Metallurgical Laboratory Jamshedpur	2022-12-13	2022-12-13
Supriya Bera	Metallurgy	KNU	2023-02-16	2022-02-16



Satadal Ghorai	Expert Member (External) of the selection Committee for selecting Project staff	CSIR-National Metallurgical Laboratory, Jamshedpur	2022-08-04	2022-08-04
Satadal Ghorai	Member of Assessment Committee to interview the candidates belonging to Technical Cadre	CSIR-National Metallurgical Laboratory, Jamshedpur	2022-09-15	2022-09-15

#### 4.12.27 Patents

NIL

### 4.13 Department of Management Studies

#### 4.13.1 Department at a Glance:

DMS offers MBA with specialization in Marketing, Finance, OB & HR and Systems and Operations. DMS in Collaboration with Mathematics and Computer Science and Engineering Departments offer M Tech in Operation Research. DMS offers Courses Like Principle of Management and Accounting for all streams of B Tech courses and open elective courses namely Marketing Research and Analytics, Security and Stock Market Analysis and Industrial Marketing. Already DMS has started offering Minor programs namely Financial Management and Marketing Management in BTech streams.

#### 4.13.2 Mission & Vision

##### Mission

- To deliver rigorous and relevant education of international standing that inspires students to implement their professional skills in an enterprising manner and become architects of an equitable world. Through vibrant collaboration, and innovation we drive excellence in teaching and research to contribute to the intellectual, social and economic development of the communities. We serve thereby shaping a responsible future for both business and society.

##### Vision

- To become center of academic excellence with commitment to provide quality education in management, liberal studies, entrepreneurship and related fields to the students and working executives with a holistic approach, to develop them as entrepreneurs and future leaders of the industry.

#### 4.13.3 Faculty

Name	Designation	Email-id
Dr. Mousumi Roy	Professor	mousumi.roy@dms.nitdgp.ac.in
Dr. Avijan Dutta	Professor	avijan.dutta@dms.nitdgp.ac.in
Dr. Gautam Bandyopadhyay	Professor	gautam.bandyopadhyay@dms.nitdgp.ac.in
Dr. Neelotpaul Banerjee	Associate Professor	neelotpaul.banerjee@dms.nitdgp.ac.in
Dr. Kaushik Mandal	Associate Professor and HOD	kaushik.mandal@dms.nitdgp.ac.in
Dr. Anupam De	Associate Professor	anupam.de@dms.nitdgp.ac.in
Dr. Durba Pal	Associate Professor	durba.pal@dms.nitdgp.ac.in
Dr. Amlan Ghosh	Associate Professor	amlan.ghosh@dms.nitdgp.ac.in
Dr. Subhadip Sarkar	Assistant Professor	subhadip.sarkar@dms.nitdgp.ac.in
Dr. Ujjwal Kanti Paul	Assistant Professor	ujjwalkanti.paul@dms.nitdgp.ac.in
Dr. Umamaheswarrao Jada	Assistant Professor	umamaheswararao.jada@dms.nitdgp.ac.in

#### 4.13.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Peoplelink Interactive Display S75 without OPS (1 Nos)	22.02.2023	179960.40



2	Ricoh Multifunction Machine with ARDF & Network (1 Nos)	24.02.2023	98887.00
3	Dell Computer (8 Nos)	22.11.2022	637200.00

#### 4.13.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Business Laboratory for MBA	Desktop Computer
2	Finance Lab for Minor program Financial Management	Desktop computers
3	Marketing Lab for Minor Program Marketing Management	Desktop computers/ Laptop

#### 4.13.6 PhD degree awarded till 2022-23

Fifty One

#### 4.13.7 Any other relevant information

#### Unique Selling Proposition of DMS

- 1) High Return on Investment (ROI) for students (Average package/Total expenditure for the study)
- 2) Multiple courses relevant to Business analytics
- 3) Focus on practical implementation through hybrid courses (theory and practical)

#### SWOT of DMS

##### Strengths:

- Well-qualified and motivated faculty members with industry background
- An ideal mix of experience and youth in the faculty members
- Regular revision of curricula and syllabi with the help of experts from academia and industries
- Large number of publication and reviews by faculty members.
- Students encouraged to take up research early
- Faculty development programmes given highest priority
- Low tuition fee, higher average package
- Over 50 PhDs earned by the students of the DMS since its inception
- Providing exposure to all the BTech students through core, minor and open elective courses

##### Weaknesses:

- Inadequate facilities for the post graduate laboratories and research
- Limited number of Institute research scholars
- Limited number of students in reserved categories
- Inadequate number of technical and supporting staffs
- Inadequate space for expansion of laboratories and setting up new laboratories
- Limited access to case studies, and full text research articles of international peer-reviewed journals
- Inadequate number of equipped class rooms
- Budget constraint for promotion of MBA and PhD courses

##### Opportunities

- Globalisation of education opening up huge opportunities for market driven courses and research
- Government focus on skill based education and entrepreneurship.
- Huge demand for job oriented courses
- Rising demand for online and executive management programs
- Corporate Spending on CSR has increased as per new regulation. Thus, scopes for CSR based consultancies have risen.

##### Threat

- Challenges from newer IIMS and private management Institutes including newer branches spread over the country.
- Gradual reduction in number of applicants (CAT, XAT)
- Declining industrial activities in and around Durgapur



- Limited job opportunities in few specialisation areas like OB& HR, Systems and operations Management and Finance.
- Availability of online courses (certificate, regular and executive MBA)

#### 4.13.8 Specialization

- Finance
- Marketing
- Managerial Economics; Sustainable Development; Environmental Economics; Technology Strategy; International Business
- Finance
- Human Resource Management and Organizational Behaviour
- Finance
- Organizational Behaviour
- OPERATIONS MANAGEMENT
- Operations Research
- Marketing Management, Marketing Research, Brand Management, Service Marketing
- Systems & Operations Management

#### 4.13.9 Proposed Plan for Research

- Pension Resaerch
- Complete the project received from ICSSR for the AY 23-24
- Complete the pending research pipeline comprising a few papers and a book chapter
- Insert a few fresh articles in the pipeline
- Development of Strategy for Sustainable Development, Marketing & Behavioral Finance
- Financial Inclusion, Multi-criteria decision-making (MCDM), Etc.
- In the field of Capital Market and Strategic Management
- Green OCB, Workplace Inclusion, Employee Engagement, Sports Leadership, Psychological Capital
- NEW MODELS FOR SOLVING LPP AND QUADRATIC PROBLEMS
- Famvertising and its impact on consumer, Societal Marketing and company performance.

#### 4.13.10 Area of Research Interest

- Banking, Insurance and Pension
- Sustainable marketing, digital marketing, rural marketing, agricultural marketing
- Sustainable Strategy for Human Resource Development, Industrialization and Knowledge management
- Corporate Finance, Behaioural Finance, Capital Structure Issues, Dividend Policy, Working Capital Management, Financial Ratio Analysis, Capital Budgeting, Banking and Insurance, Stock Market Analysis
- Positive Organizational Behaviour, Leadership, Employee Well Being
- Capital Market, Corporate Finance
- Psychological Capital, OCB, Employee Engagement, Workplace Adaptability, Employee Green Behaviour, Workplace Resilience, Sports Leadership, Workplace Inclusivity
- OPERATIONS RESEARCH
- Marketing
- Portfolio optimization, Application of DEA in Tourism/Destination Marketing, Application of DEA for evaluating performance efficiency in Banking Sector, Application of optimization techniques in Business, Application of statistical software's in Marketing & Human resource Management, Financial market data analysis using soft computing techniques
- CSR led Marketing. Service Marketing, Famvertising and its impact. Specialised Service Marketing

#### 4.13.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Metallics	Determination Of The Optimal Mix Of The Ingridiants	Application Of Statistical Techniques
DSP CSR Department	CSR impact assessment	Consultancy



4.13.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
NIT Silchar	Ph D supervision	Prof. Gurudas Das, Ujjwal Paul	Joint Ph D supervision, research
LUT, Finland	Circular Economy	Prof. L. Linnanen & Prof.M.Roy	Research & Publication

4.13.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. G Bandyopadhyay and Amlan Ghosh	Workshop On Economics & Management Research	2022-05-27
Prof. Gautam Bandyopadhyay, Dr. Amlan Ghosh	Workshop On Quantitative Techniques In Research 29th June to 3rd July, 2022.	2022-06-29

4.13.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
M.Malhotra, M.Roy, P.Pal	A Membrane-based Green and Low-cost system for ensuring safe Drinking water in a Selenium-affected region	Journal of Environmental Management, Elsevier	Volume:324C Issue No: Page No:116361 Year:2022 Month:Dec
Soumya Banerjee, Banhi Guha, Amlan Ghosh, G Bandyopadhyay	Forecasting The Performance of Efficient Indian Equity Mutual Funds Portfolio Using Auto-Regressive Integrated Moving Average Model	The Seybold Report	Volume:17 Issue No:109 Page No:161-179 Year:2022 Month:Aug
Soumya Banerjee, Sayan Gupta, Amlan Ghosh, G Bandyopadhyay	Optimal Portfolio Selection of Equity Mutual Funds using Genetic Algorithm: An Indian Perspective	Mathematical Statistician and Engineering Applications	Volume:71 Issue No:4 Page No:4620 - 4631 Year:2022 Month:Oct
Abhijit Mukherjee and Amlan Ghosh	Role of economic factors in property liability insurance consumption: empirically examining the Indian market	Studies in Business and Economics	Volume:17 Issue No:1 Page No:112 - 129 Year:2022 Month:Apr
Divya Singh, Ujjwal Paul, Neeraj Pandey	Does electric vehicle adoption (EVA) contribute to clean energy? Bibliometric insights and future research agenda.	Cleaner and Responsible Consumption	Volume:8 Issue No: Page No:1-12 Year:2022 Month:Dec
Ujjwal Paul	Estimation of Technical Efficiency of Chemical-free Farming using Data Envelopment Analysis and Machine Learning: Evidence from India	Benchmarking: An International Journal	Volume:ahead of print Issue No: Page No: Year:2023 Month:Jan
Bijoy Kumar Dey, Gurudas Das, Ujjwal Paul	Technical Efficiency and its Determinants of handloom micro-enterprises in the Indian state of Assam: A Two-stage double bootstrap DEA approach	. Indian Growth and Development Review	Volume:16 Issue No:2 Page No:123-140 Year:2023 Month:Mar
Tanuj Mathur, Ujjwal Paul	Predictors of home insurance purchase: the homeowners' knowledge, perceived benefits and perceived vulnerability towards disaster losses. International Journal of Housing Markets and Analysis	International Journal of Housing Markets and Analysis	Volume: Issue No: Page No: Year:2022 Month:Dec





Author(s) Name	Paper Name	Journal Name	Others Info
M.M.Chanda, Neelotpaul Banerjee, & G. Bandyopadhyay.	Effective implementation of Knowledge Management Systems (KMS) in Government Schemes/Programs of selected sectors using soft computing.	International Journal of Knowledge Management.	Volume:Vol.18 Issue No:No.1 Page No:1-22 Year:2022 Month:
Aviit Sarkar and Avijan Dutta	The Milk Producers' Organization and Indian dairy sector: a strategic alignment	Veterinarska stanica	Volume:53 Issue No:3 Page No:329-341 Year:2022 Month:Jun
Aviit Sarkar , Hemant Gupta ,Avijan Dutta	In Search of the Determinants of Dairy Production in an Emerging Market: A Panel Data Approach	Veterinarska stanica	Volume:53 Issue No:4 Page No:441-448 Year:2022 Month:Jul
Amrita Bhattacharya Avijan Dutta Samarjit Kar	Does Demographics Influence the Risk Behaviour of Urban Investors? A Machine Learning Model Based Approach	Operation Research in Engineering science: Theory and application	Volume:5 Issue No:2 Page No:190-205 Year:2022 Month:Apr
Biswas, S., Bandyopadhyay, G., & Mukhopadhyaya, J. N.	A multi-criteria framework for comparing dividend pay capabilities: Evidence from Indian FMCG and consumer durable sector.	Decision Making: Applications in Management and Engineering.	Volume:5 Issue No:2 Page No:140-175 Year:2022, Month:Oct
Chanda, M. M., Banerjee, N., & Bandyopadhyay, G.	Effective Implementation of Knowledge Management Systems (KMS) in Government Schemes/Programs of Selected Sectors Using Soft Computing.	International Journal of Knowledge Management	Volume:18 Issue No:1 Page No:18 Year:2022 Month:
Chanda, M. M., Banerjee, N., & Bandyopadhyay, G.	Using Artificial Neural Networks (ANNs) to Improve Agricultural Knowledge Management System (KMS)	Research Anthology on Artificial Neural Network Applications	Volume: Issue No: Page No:1031-1051 Year:2022 Month:
Biswas, S., Bandyopadhyay, G., Pamucar, D., & Joshi, N.	A Multi-Criteria Based Stock Selection Framework in Emerging Market.	Operational Research in Engineering Sciences: Theory and Applications	Volume:5 Issue No:3 Page No:153-193 Year:2022 Month:
Banerjee, S., Guha, B., Ghosh, A., & Bandyopadhyay, G.	Forecasting the Performance of Efficient Indian Equity Mutual Funds Portfolio using ARIMA	The Seybold Report	Volume:17 Issue No:09 Page No:161-179 Year:2022 Month:
Banerjee, S., Gupta, S., Ghosh, A., & Bandyopadhyay, G.	Selection of Efficient Equity Mutual Funds Portfolio in Indian market using Optimization Techniques	NEUROQUANTOLOGY	Volume:20 Issue No:11 Page No:2056-2072 Year:2022 Month:
Soumya Banerjee, Sayan Gupta, Amlan Ghosh, G Bandyopadhyay	Selection of Efficient Equity Mutual Funds Portfolio In Indian Market Using Optimization Techniques.	Neuroquantology	Volume:20 Issue No:11 Page No:2056-2072 Year:2022 Month:Nov
Banerjee, S., Gupta, S., Ghosh, A., & Bandyopadhyay, G.	Optimal Portfolio Selection of Equity Mutual Funds using Genetic Algorithm: An Indian Perspective	Mathematical Statistician and Engineering Applications	Volume:71 Issue No:4 Page No:4620-4631 Year:2022 Month:



**4.13.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science**

Author(s) Name	Paper Name	Journal Name	Others Info
Bijoy Kumar Dey, Gurudas Das, Ujjwal Paul, Tanuj Mathur	How does Human, Financial and Social Capital Affect Firm Performance? Evidence from the Handloom Enterprises in Assam	Global Business Review	Volume:Forthcoming Issue No: Page No: Year:2023 Month:Jan
Bijoy Kumar Dey, Ujjwal Paul	What Drives the Profitability of Indian Handloom Enterprises? An Insight based on the Seemingly Unrelated Regression model	Research Journal of Textile and Apparel	Volume:ahead of print Issue No: Page No: Year:2023 Month:Apr
Bijoy Kumar Dey, Ujjwal Paul, Gurudas Das	Are handloom micro-enterprises in India efficient? Estimation based on DEA and bootstrap truncated regression approach	Research Journal of Textile and Apparel	Volume: Issue No: Page No: Year:2023 Month:Apr
Nayanjyoti Bhattacharjee and Anupam De	Black Swan Event and The Stock Market Volatility Response to Shocks in Developed, Emerging , Frontier and the BRIC Markets: Lessons from the COVID-19 Pandemic	Brazilian Business Review	Volume:https://doi.org/10.15728/bbr.2022.19.5.2.en Issue No:NA Page No:NA Year:2022 Month:
Nayanjyoti Bhattacharjee and Anupam De	The Policy Response to COVID-19 Pandemic and its impact on the Equity Market Sentiment: The Indian Experience	Journal of Public Affairs	Volume:https://doi.org/10.1177/23197145221099682 Issue No:NA Page No:NA Year:2022 Month:May
Nayanjyoti Bhattacharjee and Anupam De	Firm Size Effect and the Price and Volume Reaction to Corporate News: Evidence from India	Afro-Asian J. of Finance and Accounting, Inderscience Publishers Ltd	Volume:NA Issue No:NA Page No:NA Year:2022 Month:Jun
Dipanita Deb, Philippe Gillet, and Anupam De	Examining the relationship between Corporate Social Responsibility and Financial Performance of BSE Listed Companies using Data Envelopment Analysis	International Journal of Economics and Business Research	Volume:NA Issue No:NA Page No:NA Year:2022 Month:Dec
Asmita Basu and Anupam De	Management and Economic Valuation of Cultural Heritage: The case of terracotta temples in Birbhum District, West Bengal	Ancient Asia	Volume:NA Issue No:NA Page No:NA Year:2022 Month:Nov
SUBHADIP SARKAR	ABC classification using extended R-model, SVM and Lorenz curve	OPSEARCH	Volume: Issue No: Page No: Year:2023 Month:Apr
SUBHADIP SARKAR	“Identification of Groups Due to Generic Strategies among Private Primary Schools using CFA”	Asian J. of Management Science and Applications	Volume: Issue No: Page No: Year:2023 Month:Apr
Gupta, S., Bandyopadhyay, G., Biswas, S., & Mitra, A.	An integrated framework for classification and selection of stocks for portfolio construction: Evidence from NSE, India.	Decision Making: Applications in Management and Engineering.	Volume: Issue No: Page No: Year:2022 Month:
Arup Mitra, Sayan Gupta, Gautam Bandyopadhyay, A.K. Jalan	Stock Portfolio Performance by Clustering using Correlation: An empirical pretext of “MSCI-96	International Journal of Business Innovation and Research	Volume: Issue No: Page No: Year:2022 Month:

**4.13.16 Conference: Published in 2022-2023 DOI/ISBN**

Author(s) Name	Paper Name	Conference Name	Others Info
Vikash Mandal & Durba Pal.	The Impact of Green Orientation of Human Resource Management on Employee Green Performance: The Mediating role of Green Organizational Citizenship Behaviour.	Conference on Performance Management at University of Rome Tor Vergata (Rome, Italy).	DOI/ISBN: ISBN: 979-12-210-1921-6 Volume: Issue No: Page No:13-19 Year:2022 Month:Nov Presenter:CO-AUTHOR



Author(s) Name	Paper Name	Conference Name	Others Info
Durba Pal & Vikash Mandal.	The Impact of Happiness at Work Vis-à-vis Workplace Diversity on Organizational Citizenship Behaviour Towards Environment: An Exploration.’	Diversity, Equity and Inclusion-Making the Invisible Visible, organized by K J Somaiya Institute of Management, Mumbai.	DOI/ISBN: ISBN: 978-81-9547782-3-2 Volume: Issue No: Page No:190-199 Year:2023 Month:Jan Presenter:CO-AUTHOR
Durba Pal & Vikash Mandal.	Unlocking Employees' In-Role and Extra- Role Green Behaviours: Exploring the Role of Green Organizational Culture Vis-à-vis Green Work Engagement (Awarded as best paper-2nd prize).	International Conference on Sustainable Business Management SBM 2023 organized by DoMs, IIT Roorkee.	DOI/ISBN: ISBN: 978-93-94086-21-0 Volume: Issue No: Page No:158 Year:2023 Month:Mar Presenter:SELF
Indu Nath Jha, Durba Pal & Subhadip Sarkar.	Achieving a sense of satisfaction with life through Inclusive leadership: Does workgroup inclusion matter? Evidence from the Indian IT sector.’	Diversity, Equity and Inclusion-Making the Invisible Visible, organized by K J Somaiya Institute of Management, Mumbai.	DOI/ISBN: ISBN: 978-81-9547782-3-2 Volume: Issue No: Page No:218-223 Year:2023 Month:Jan Presenter:CO-AUTHOR
Indu Nath Jha, Durba Pal & Subhadip Sarkar	'Promoting Life Satisfaction in It Sector Employees Through Leaders' Inclusiveness.'	20th AIMS International Conference, organized by AIMS and IIM Kozhikode.	DOI/ISBN: ISBN: 978-1-943295-20-3 Volume: Issue No: Page No:1266-1273 Year:2023 Month:Jan Presenter:CO-AUTHOR
Indu Nath Jha, Subhadip Sarkar & Durba Pal.	'A Study on Consequences of Workplace Inclusivity: Empirical Evidence from Indian IT sector.'	International Conference on Sustainable Business Management SBM 2023 organized by DoMs, IIT Roorkee.	DOI/ISBN: ISBN: 978-93-94086-21-0 Volume: Issue No: Page No:15 Year:2023 Month:Mar Presenter:CO- AUTHOR
Puja Ghosh, Mousumi Roy	Role of Atma-nirbhar Bharat and New Education Policy for Skill Development	National Conference, Bhairab Ganguly College, Kolkara	DOI/ISBN: 20/1/2023 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:CO-AUTHOR
Puja Ghosh, Mousumi Roy	Covid-19 and Online Education in Higher Studies- How far sustainable in Rural Areas?	International Conference on Sustainable Development Goals, Tamralipta Mahavidyalaya, W.B.	DOI/ISBN: 4/2/2023 Volume: Issue No: Page No: Year:2023 Month:Feb Presenter:CO-AUTHOR
Aishwarya Mitra, Anupam De & Keshav Kant Prasad	Predicting the Determinants of Employees Well-being: Role of Financial Literacy	20th AIMS International Conference on Management (AIMS-20)	DOI/ISBN: NA Volume: Issue No: Page No:23 Year:2023 Month:Jan Presenter:CO-AUTHOR
Aishwarya Mitra, Anupam De & Keshav Kant Prasad	Empirical Review of Factors Affecting Financial Awareness	International Conference on Shaping the Future of Management Education for Sustainable Emerging Economies (SFME – 2022)	DOI/ISBN: NA Volume: Issue No: Page No:NA Year:2022 Month:Nov Presenter:CO-AUTHOR

#### 4.13.17Conference: Published in Others in 2022-2023

NIL



#### 4.13.18 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Amlan Ghosh		Pension and Informal Sector in India		Publisher: Routledge, Taylor & Francis Group, UK. Publication Date: 2022-08-03
Dr.Kaushik Mandal	Dr.Sujata Banerjee	Accepted for publication in edited book 'Resilience and Sustainable Development'	A Journey towards societal advertisement: An empirical validation	Publisher: Bloomsbury India Publication, NewDelhi, India Publication Date: 2023-03-16

#### 4.13.19 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
63rd ISLE conference	Rajiv Gandhi University, Itanagar and ISLE	2022-03-01	2022-03-03	India
OLAB 2022: Optimization, Learning and Analytics in Business	Heritage Institute of Technology, Kolkata	2022-12-15	2022-12-17	India
Shaping the Future of Management Education for Sustainable Emerging Economies (SFME 2022)	DoMS, IITRoorkee	2022-11-20	2022-11-22	India
International Conference on Business Management and Social Innovation (ICBMSI-22)	Institute for Scientific and Engineering Research (ISER)	2022-09-10	2022-09-10	India
SFME 2022	IIT Roorkee	2022-11-20	2022-11-22	India
National e-Workshop on "Advanced Research Methodology in Social Sciences". On 19th April 2022, A.K. Visva-Bharati University, A.K.DasGupta Centre for Planning & Development	Visbha-Bharati University, Shantiniketan	2022-04-15	2022-04-25	India
International Conference on Green Energy & Sustainable Environmental Technology (GESET-2022)	KIITs Bhubaneswar	2022-09-15	2022-09-16	India
Shaping the Future of Management Education for Sustainable Emerging Economies (SFME 2022)	IIT Roorkee	2022-11-20	2022-11-22	India
International Conference on Sustainable Business Management SBM 2023	DoMs, IIT Roorkee.	2023-03-23	2023-03-25	India
Decoding the HR Mantra: HR Roadmap & Future of Workforce	Indian Institute of Social Welfare & Business Management (IISWBM), Calcutta.	2023-03-01	2023-03-02	India

#### 4.13.20 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Assessing potential tourist destinations in North Bengal: A tourism revival strategic planning	Sanmay Mallick	Amlan Ghosh and D. Mitra (NBU)	ONGOING	-



Topic Name	Scholar	Supervisor	Status	Status Date
Factors Affecting Investment Behaviour In Mutual Fund Industry-An Indian Perspective	Soumya Banerjee	Prof. G. Bandyopadhyay and Amlan Ghosh	SUBMITTED	2023-02-27
Yet to be registered	Abhisikta Basak	Amlan Ghosh	ONGOING	-
Optimum assets allocation of DC pensions funds in India	Keshav Kant Prasad	Amlan Ghosh	ONGOING	-
Three Essays on eWOM	Ms. Krishna Roy	Ujjwal Paul	ONGOING	-
A Study on the Adoption Intention of Electric Cars in India	Ms. Divya Singh	Ujjwal Paul	ONGOING	-
Industrial Efficiency and its Impact on Firm- Level Performance: A Case Study of Hand loom Micro Enterprises in India	Mr. Bijoy Kumar Dey	Gurudas Das, Ujjwal Paul	SUBMITTED	2023-05-11
A study on consumer buying decision in the time of pandemic.	P. Sahoo	N.Banerjee& K.Mandal	ONGOING	-
Digital divide in Education sector	Puja Ghosh	M.Roy & T.Chatterjee	ONGOING	-
Sustainable Energy Management strategy towards Net-Zero Economics	Iman Ghosh Dastidar	Prof.M.Roy & Prof.P.Pal	ONGOING	-
Issues of HR development among the Santal tribes of Eastern India	Alok Emanuel Kisku	Prof.M.Roy	ONGOING	-
Sustainable Marketing of Green Products	Kritisha Sharma	Prof.M.Roy	ONGOING	-
Technology Management Strategy for Green Products	Sayantan Ghosh Dastidar	M.Roy& P.Pal	ONGOING	-
A Study on Corporate Social Responsibility and its Impact on the Performance of Indian Corporate Sector	Dipanita Deb	Dr. Anupam De and Prof. Philippe Gillet	SUBMITTED	2022-11-30
Strategy for Dairy Development in West Bengal, India	Avijit Sarkar NITD/PhD/16/MS/1306	Avijan Dutta	DEGREE AWARDED	2023-08-14
Investor behavior in Durgapur and Asansol Region	Amrita Bhattacharya NITD/PhD/16/MS/1306	Avijan Dutta	SUBMITTED	2023-08-14
Essay & Issues on Earning management of Indian firms with special emphasis on family business and the role of corporate governance	Soumen Chatterjee NITD/PhD/16/MS/1501	Avijan Dutta	ONGOING	-
Exploring Antecedents & Consequences Of Workplace Inclusivity Among Employees Of Indian Organisation: An Empirical Study	Indu Jha	Subhadip Sarkar, Durba Pal	ONGOING	-
A Study on Workplace Adaptability: An Indian Perspective.	Sujata Bose	Dr.Durba Pal.	DEGREE AWARDED	2022-05-31
A Study on the Determinants of Sports Leadership of a Group of Physical Educators in the Academic Institutions of West Bengal.	Hillol Mukherjee	Dr.Durba Pal.	ONGOING	-
Exploring Green Organizational Citizenship Behaviour Vis-a-vis its Correlates among the Employees of Indian Organizations: An Empirical Investigation.	Vikash Mandal.	Dr.Durba Pal.	ONGOING	-
Exploring Antecedents and Consequences of Workplace Inclusivity among Employees of Indian Organizations: An Empirical Study.	Indu Nath Jha.	Dr.Subhadip Sarkar; Dr.Durba Pal.	ONGOING	-
Comparative Analysis of Listed Banks using Financial Indicators and Stock Returns in Indian Scenario.	Vinay Kumar Shaw	Prof. Gautam Bandyopadhyay	ONGOING	-
Factors Affecting Investment Behaviour In Mutual Fund Industry-An Indian Perspective	Soumya Banerjee	Prof. Gautam Bandyopadhyay & Dr. Amlan Ghosh	SUBMITTED	2023-02-13





Topic Name	Scholar	Supervisor	Status	Status Date
A Comprehensive Soft-computing Approach for Construction of Conservative Portfolio in Indian Equity Market	Sayan Gupta	Prof. Gautam Bandyopadhyay	SUBMITTED	2022-11-16
An Investigation into the applications of Big Data Analysis in Supply Chain management	Sanjib Biswas	Prof. Gautam Bandyopadhyay	SUBMITTED	2022-11-23
Harnessing The Association Between Inherent Interests Of Employees With Key Leadership Competencies For Organisational Development In Indian Industries.	Mainak Ranjan Chaki	Prof. Gautam Bandyopadhyay	ONGOING	-
Estimation of systemic risk and identification of systemically important firms in India	Subhash Karmakar	Prof. Gautam Bandyopadhyay	SUBMITTED	2022-12-02
A study on the relationship of promotional mix with sales and profits.	Somroop Siddhanta	Neelotpaul Banerjee	DEGREE AWARDED	2015-05-11
Determining the attitude of Indian young consumers towards online marketing.	Debasis Ghosh	Neelotpaul Banerjee	DEGREE AWARDED	2018-02-14
A study of evolution, growth and decline of small brands of apparels in India.	Naveen Arora	Neelotpaul Banerjee	DEGREE AWARDED	2018-04-19
An empirical study on the impact of social media to facilitate the effectiveness of marketing.	Kaustav Mukherjee	Neelotpaul Banerjee	DEGREE AWARDED	2018-06-01
An empirical analysis on various facets of celebrity endorsement in Indian context.	Ramendra Pratap Singh	Neelotpaul Banerjee	DEGREE AWARDED	2018-08-24
A study on various aspect of consumer behavior in context to different products and services – A comparison between consumers in India and USA.	Jyotirmoy Samanta	Neelotpaul Banerjee	DEGREE AWARDED	2021-02-12
A study on effective management of national economic planning and budgeting using soft computing based techniques.	Mriganka Mohan Chanda	G.Bandyopadhyay & N.Banerjee	DEGREE AWARDED	2021-09-30
Psychological Contract With Reference To Employment Relationship A Study From Fast- Food Industry	Anitha Thomas	Avijan Dutta	DEGREE AWARDED	2023-08-14
Developing a Model for Better Utilization of Hospital Resources	S.Bandyopadhyay	Avijan Dutta , G Gandyopadhyay, G Sanyal,	DEGREE AWARDED	2023-08-14
Stress in Police Personnel: A Study on Occurrences, Consequences within West Bengal Police Service and Coping Strategies	Malini Nandi Majumdar	Avijan Dutta	DEGREE AWARDED	2023-08-14
A New Approach of Gap Identification in Service Quality of Educational Institutes: An Empirical Study Based on West Bengal, India	Chandan Banerjee	Kaushik Mandal	DEGREE AWARDED	2016-04-13
Study on Nature of Relationship Between Channel Power and Influence Strategy vis-a- vis Channel Management Practices prevalent in India.	Koushick Roy	Kaushik Mandal	DEGREE AWARDED	2015-11-09
The Impact of Website formation on various facets of business-An empirical study	MONAMI DASGUPTA(BANERJEE)	Kaushik Mandal	DEGREE AWARDED	2018-07-27
A Quest for Relationship among CSR, Marketing Activities and Business Performance: A Cross Industry Comparison on Indian Firm	Sujata Banerjee	Kaushik Mandal	DEGREE AWARDED	2018-09-12
Determinants of the pharmaceutical education service quality: an empirical quest based on eastern India.	Hemant Gupta	Kaushik Mandal	DEGREE AWARDED	2020-03-13





Topic Name	Scholar	Supervisor	Status	Status Date
In search of nature of relation between internal marketing and financial performance of the company with reference to hotel, hospital and banks operating in Kolkata	Rituparna Chattopadhyay	Kaushik Mandal	DEGREE AWARDED	2020-12-29
A Quest For Relationship Among Socio demographic variables and various facets of consumer loyalty	Saswati Roy	Kaushik Mandal	SUBMITTED	2023-08-17
A Study on Consumer Buying Decision in the time of Pandemic	Pabitra Sahoo	Neelotpaul Banerjee and Kaushik Mandal	ONGOING	-
Impact of Societal marketing on Business Performance of the Organisation-An empirical Study	Shantanu Dutta	Kaushik Mandal	ONGOING	-
Attitude towards Famvertising and its impact on Brand Building: An analysis based on Experimentation and Empirical Survey	Anwasha Mazumder	Kaushik Mandal	ONGOING	-

#### 4.13.21 Ongoing Sponsored Projects Details

NIL

#### 4.13.22 Completed Sponsored Projects Details

NIL

#### 4.13.23 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Amlan Ghosh	Int. J. of Globalisation and Small Business	Inderscience Publisher	2023-07-22
Amlan Ghosh	Int. Journal of Social Economics	Emerald Publisher	2023-08-30
Subhadip Sarkar	CAIE	ELSEVIER	2022-08-18
Durba Pal	Asia-Pacific Journal of Management Research and Innovation	Sage Journals Publication	2022-11-12

#### 4.13.24 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Mousumi Roy	Appointed Member of the Assessment Committee for Technical Officers (Gazetted) employees- reg., CSIR CMERI Durgapur	CSIR_CMERI	2022-07-14	2022-07-15
Mousumi Roy	Appointed Expert Member for Selection/promotion of Faculty Members, NIT Jamshedpur	Jamshedpur	2022-08-18	2022-08-19
Mousumi Roy	Senate Member of NIT Jamshedpur	Jamshedpur	2023-03-10	2023-03-11

#### 4.13.25 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Amlan Ghosh	of PG Board of Studies in Management	University of North Bengal	2022-11-03	2022-11-03
Mousumi Roy	PhD	MNIT, Allahabad	2023-03-14	2023-03-16
Anupam De	PhD Viva voce examination	Birla Institute of Technology (BIT) Mesra	2022-09-09	2022-09-09



Mousumi Roy	Technical Gazette, CMERI Durgapur	CSIR_CMERI	2022-07-16	2022-07-17
Mousumi Roy	Humanities, Social Sciences	NIT Jamshedpur	2022-08-18	2022-08-19
Avijan Dutta	Member of the Assessment Committee for assessment of Technical Officers- CMERI	CMERI	2022-07-14	2022-07-14
Gautam Bandyopadhyay	International Conference on Green Supply Chain Management: New Challenges to sustain Green Environment	GNU UGC STRIDE Project Component-I Sponsored by the University Grants Commission in collaboration with the Department of Mathematics and the Department of Business Administration, KNU	2022-11-18	2022-11-19

#### 4.13.27 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Amlan Ghosh	Time Series Analysis	Workshop on Research Methodology" Organised by NB St. Xavier's College, Siliguri	Siliguri, West Bengal	2022-06-10	2022-06-11
Amlan Ghosh	Chartered Accountants – Contribution to the 5 trillion Economy	CA Day Programme Organised by the Siliguri Branch of EIRC OF ICAI	Siliguri	2022-07-01	2022-07-01
Amlan Ghosh	How to Select Journals for Publication	One-day webinar on “Research Paper Writing” organised by Calcutta Business School in collaboration with ORSI Durgapur Chapter	Kolkata (Online)	2022-08-11	2022-08-11
Ujjwal Kanti Paul	Analysing Business and Professional Case Studies	Faculty Development Program "Professional Communication and Soft Skills"	Online	2022-08-23	2022-09-03
Ujjwal Kanti Paul	Qualitative data analysis	Workshop on Quantitative Techniques in Research	Online	2022-06-29	2022-07-03
Mousumi Roy	Developing an Extended theory of Planned behavioral model towards green energy and Sustainable environmental technology development	International Conference on Green Energy & Sustainable Environmental Technology (GESET-2022), KIIT, Bhubaneswar	Bhubaneswar	2022-09-15	2022-09-16
Anupam De	Multiple Regression and ANOVA using MS Excel	Quantitative Techniques in Research	NIT Durgapur	2023-06-29	2022-07-03
Anupam De	Case Study Presentation	Orientation Course for the CA students	Durgapur Branch of the ICAI	2022-07-07	2022-07-08
Anupam De	Case Study Presentation	Orientation Course for the CA students	Durgapur Branch of the ICAI	2022-12-07	2022-12-08
Avijan Dutta	Rejuvenating Alma Mater through Alumni Partaking	Faculty of Dairy Technology, WBUAFS in collaboration with Association of Dairy Alumni (BCKV & WBUAFS) Under the aegis of NAHEP (IG) project	Mohanpur, Nadia(WB)	2022-12-23	2022-12-24
Gautam Bandyopadhyay	Fundamental Research using Application Software	Organized by Department of Management Studies, Dr. B.C.Roy Engineering College in Collaboration with Operational	Durgapur	2022-06-20	2022-06-21



Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Society of India, Durgapur Chapter					
Gautam Bandyopadhyay	Qualitative Techniques using Analytical Tools	Organised by Haldia Institute of Management, Haldia, West Bengal	Online	2022-09-24	2022-06-25
Gautam Bandyopadhyay	Advanced Research Techniques: Structured Equation Modelling (SEM)	St. Xavier's University, Kolkata organise a workshop on Advanced Research Techniques: Structured Equation Modelling (SEM) for the Faculty members and the Ph.D. scholars	Online	2023-02-17	2023-08-18
Gautam Bandyopadhyay	ICSSR Sponsored Ten Days Research Methodology Course	Organized by the Department of Commerce Alagappa University Karaikudi	Alagappa University Karaikudi	2022-11-02	2022-11-11
Gautam Bandyopadhyay	An overview of the application software : R Studio and Python	Organised by EIRC Auditorium, 3rd Floor, CMA Bhawan, 84, Harish Mukherjee Road, Kolkata - 700025.	Kolkata	2022-12-09	2022-12-09
Kaushik Mandal	Research Design: Quantitative Research	10-day national workshop on "Advanced Research Methodology in Social Sciences" in online mode	A.K.Dasgupta Centre, Visvabharati	2022-04-21	2022-04-21
Kaushik Mandal	Questionnaire Design with Primary & Secondary Scale, Experimental Design I	5 Day Faculty Development Program (FDP) on 'Advances in Research Methodology and Data Analysis'	Siliguri Institute of Technology	2023-01-09	2023-01-13
Kaushik Mandal	Cluster Analysis	5 Day Faculty Development Program (FDP) on 'Advances in Research Methodology and Data Analysis'	Siliguri Institute of Technology	2023-01-09	2023-01-13

#### 4.13.28 Patents

NIL

### 4.14 Department of Physics

#### 4.14.1 Department at a Glance:

This is one of the oldest departments of the institute which has been providing the basic knowledge of physics to all the undergraduate students of this institute who come to become engineers of future. Physics is one of the core subjects along with mathematics that drive engineering and innovation as it teaches us about the laws of nature and its consequences in both microscopic and macroscopic domain. Over the years, the department has also established its identity as an independent knowledge centre for physical science studies and research through two postgraduate programs and PhD. Programs across diverse disciplines of Physical sciences. Currently, the interest of the department of physics spreads over many interdisciplinary areas of science and the boundaries are not rigidly defined. The department encourages and appreciates new ideas in physics that have relevance to technologies useful for the mankind.

The department currently boasts of several state-of-the-art research laboratories which provide the infrastructural support for cutting edge multidisciplinary research which is primarily focused on various aspects of synthesis, properties and applications of materials and in particular nanostructured materials. In recognition of the high-quality research in materials science and engineering conducted by its faculty members, the department has been selected by the MHRD, Govt. of India for the prestigious "Centre of Excellence" grant in 2013 (in partnership with the department of MME of this institute). In recent years, department has recruited several new faculty members to add more diversity to the knowledge and expertise. As a consequence, the department is now also very much active in terms of research in areas such as exploration of helium and geothermal power, earthquake precursory studies, environmental radioactivity, Water geochemistry, nonlinear systems and time series analysis, study of chaotic behavior of electronic circuits and systems and application of chaos in cryptography, nanomaterials for optical sensors, solar cells, photocatalyst, standard model and beyond standard model, B meson decays, boson phenomenology, biophysics and biostatistics, artificial intelligence and machine learning in physical and biological phenomena, etc. The research in the above-mentioned areas are conducted in the various laboratories which are described in the Laboratory section.



#### 4.14.2 Mission & Vision

##### Mission

To provide quality education to students with sound understanding of the fundamentals and applications of physics for the advancement of science & technology with the following aims:

- To provide high quality teaching and research.
- To improve global visibility of the department through highly qualified and internationally acclaimed faculty and staff.
- To provide the most up to date and purposeful curriculum and the state-of-the-art laboratory facilities in a “student centric” approach to empower them in finding suitable employment.
- To improve employability of our graduates by arranging close interaction with nearby industries, so that our programs and graduates are highly regarded and accepted in their workplace.
- To provide necessary knowledge, experience and ethical values to the students leading them to responsible citizens of the nation

##### Vision

- To impart quality education & focus on research in basic and applied sciences leading to advancement of technology to cater to the need of the country.

#### 4.14.3 Faculty

Name	Designation	Email-id
Ajit Kumar Meikap	Professor (HAG)	ajit.meikap@phy.nitdgp.ac.in
Pathik Kumbhakar	Professor (HAG)	patihk.kumbhakar@phy.nitdgp.ac.in
Amit Kumar Chakraborty	Professor	amit.chakraborty@phy.nitdgp.ac.in
Sukadev Sahoo	Associate Professor	sukadev.sahoo@phy.nitdgp.ac.in
Mrinal Kanti Mandal	Associate Professor	mrinalkanti.mandal@phy.nitdgp.ac.in
Soumen Basu	Associate Professor	soumen.basu@phy.nitdgp.ac.in
Hirok Chaudhuri	Associate Professor	hirok.chaudhuri@phy.nitdgp.ac.in
Aniruddha Mondal	Associate Professor	aniruddha.mondal@phy.nitdgp.ac.in
Soumik Das	Assistant Professor	soumik.das@phy.nitdgp.ac.in
Hemachander Subramanian	Assistant Professor	hemachander.subramanian@phy.nitdgp.ac.in
Syantari Ghosh	Assistant Professor	syantari.ghosh@phy.nitdgp.ac.in
Abhijit Ghosh	Assistant Professor	abhijit.ghosh@phy.nitdgp.ac.in

#### 4.14.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount (Lakh Rs.)
1.	LCR meter (IM3536, Hioki)	19.04.2022	4.00
2.	Kithley source measure unit (2450)	27.04.2022	4.00
3.	Digital Storage Oscilloscope	16.06.2022	0.98
4.	Function Generator	20.07.2022	1.33
5.	UV-Vis Spectrophotometer (PerkinElmer, Lambda 365+)	06.09.2022	10.5
6.	Reme Centrifuge	08.09.2022	3.2
7.	Honeycomb Breadboard with rigid support	22.11.2022	2.183
8.	Discriminator with DC/DC converter	15.01.2023	2.08
9.	High temperature-dependent Capacitance and Current measurement system (Homemade)	17.01.2023	1.90
10.	Probe sonicator	20.01.2023	1.49

#### 4.14.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Electronics Laboratory	Oscilloscope 1GHz, RF Signal generator 3GHz, Spectrum Analyzer, Function Generator,



Sl. No.	Name of Laboratory	Major equipment
		Programmable power supply, Caddo-71 PCB Designer.
2	Nanoscience Laboratory	UV-Vis. absorption spectrophotometer, Photoluminescence spectrofluorometer.
03	Carbon Nanotechnology Laboratory	Centrifuge, vacuum furnace, hot air oven, rotary vacuum evaporator, spin coater, bath sonicator and probe sonicator, diamond wheel saw, fume hood, etc.
04	Materials Science Laboratory	DTA-TGA Perkin Elmer, Autolab 302N Electrochemical workstation, Agilent LCR meter, High temperature electrical measurement setup.
05	Facility for the theoretical study	Two GPU-based HP workstations with different computational software
06	Optical Sensor Laboratory	E-Beam evaporation cum GLAD system (), Thermal evaporation cum GLAD system, VLS GLAD system, PerkinElmer UV-Vis spectrophotometer (Model No: LAMDA 365+), Photocurrent measurement system, Keithley make source meter unit (I-V Meter) (Model no: 2450), LCR Meter (Model No: IM3536), Helium Cryostat.
07	Low-Temperature Characterization Laboratory	1 tesla electromagnet, Closed Cycle He-Cryostat, Liq. N <sub>2</sub> Cryostat, Impedance Analyser (Hz to MHz & MHz to GHz) LCR meter, Keithley Electrometer, PH Multimeter, High Temp. furnace etc.
08	UG and PG Laboratories	The UG and PG laboratories are equipped with standard experimental setup B.Tech and MSc Physics student
09	Facility for research on Helium & Geothermal Exploration, and Earthquake Precursor Study and Environmental radioactivity	Rad 7 radon-222 semiconductor detector with aqua kit Alpha Guard ionisation chamber Radon detector Soil moisture, soil temperature detector
10	Facility for research on Water geochemistry, and photocatalyst for organic pollutant removal	Photocatalytic reactor, Muffle Furnace, Hot Air Oven, Ultrasonic Bath, Digital Balance, Wastewater treatment laboratory set up, Membrane set up for wastewater treatment, Multiparameter analyser for water

#### 4.14.6 PhD degree awarded till 2022-23

Eighty Seven.

#### 4.14.7 Any other relevant information

- Prof. P. Kumbhakar, Dept. of Physics, NIT Durgapur Delivered an Invited Talk as Eminent Speaker of Bengal Science Lecture (BSL) for 30th National Children's Science Congress (NCSC-2022) held on 26.09.2022, at DAV Model School Durgapur.

#### 4.14.8 Specialization

- Condensed Matter Physics
- Physics of Catalysis
- Theoretical High Energy Physics
- High Energy Physics
- Electronics
- Laser Application (Holography)
- Physical vapour deposition technique, Nanotechnology, Glancing Angle Deposition, Photoconductivity, Sensors and semiconductors
- Material Science
- Biophysics
- Theoretical Biology
- Non-equilibrium Statistical Mechanics
- Experimental Nonlinear Optics, Random Lasers, Energy Harvesting



- engineering of nanomaterials
- Condensed Matter Physics
- Electronics
- Physics of Living Systems
- Physics

#### 4.14.9 Proposed Plan for Research

- Density Functional Theory calculations to understand the electronic structure of bulk and nanomaterials and their electrochemical and photochemical behaviors toward the reduction/oxidation of small molecules involved in energy conversion and energy storage processes
- Flexible Energy Storage Device
- Experimental Physics
- Holographic Optical Elements, Photovoltaic Concentrator, Speckle Metrology,
  - RHIC-STAR experimental data taking and data analysis.
  - To gain a deeper understanding of various non-thermal and experimental background effects on RHIC-STAR cumulant measurements by performing phenomenological and simulation baseline studies.
- Flexible optoelectronics, Arsenic Sensors for water quality determination, Smart coating for window and space applications
- Energy Harvesting Materials
- Analyze sequence dependence of DNA unzipping, replication and transcription
- Characterizations and study of optical and nonlinear optical properties of semiconducting and metallic nanoparticles, quantum dots and 2D materials.
- Development of random laser for speckle free imaging applications.
- Synthesis of nanomaterial for degradation of organic pollutants in wastewater • Synthesis and characterization of nanostructured materials.
- Development of novel electrodes for sodium ion hybrid capacitor and battery, electrocatalysts for hydrogen and oxygen evolution, sensors etc.
- Nonlinear Dynamics, Helium & Geothermal exploration, Water geochemistry, Materials for water treatment
- Chaotic Cryptography and AI based Image Processing.

#### 4.14.10 Area of Research Interest

- Electronic Structure of Materials
- Physics of Photo- and Electro- Chemical Properties of Materials
- Electronic Structure Driven Catalytic Activity
- Z' Boson Phenomenology, B Meson Decays, CP Violation, Higgs Boson, Massive Neutrino, Physics Beyond Standard Model, Gravitation and Cosmology,
- High Energy Physics (Experiment & Phenomenology), Relativistic Heavy Ion Collision.
- Experimental Condensed Matter Physics
- Nuclear and Particle Physics
- Experimental Physics
- Holography, Holographic Optical Elements, Optical Interferometry, Photovoltaic Concentrator, Speckle Metrology, Laser Application
- Thin film and nanotechnology, optoelectronics, Sensors, III-V semiconductors
- Multiferroic Materials, Fuel Cell, Supercapacitor
- DNA information storage, evolutionary advantage, Markov Chain methods
- Nanoscience & Nanotechnology
- Nanophotonics
- Nonlinear Optics
- Laser Physics
- Ultrafast Phenomena
- Nano Gas Sensor
- Random Lasers
- Triboelectric Nanogenerator
- Electrochemistry
- metal oxide nanostructures, carbon nanomaterials like graphene, CNT and their composites
- Nonlinear Dynamics, Helium & Geothermal exploration, Water geochemistry, Materials for water treatment
- Synchronous communication systems, Nonlinear dynamics & chaos, Cryptography, Image processing.
- Nonlinearity and stochasticity in living systems, Reaction-Diffusion systems, Pattern formation, Statistical physics in living system dynamics





#### 4.14.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Sunkonnect Pte Ltd, Singapore	photo and electrocatalysis	joint research student, joint publication and possible patent

#### 4.14.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Rajiv Gandhi Institute of Petroleum Technology, Jais, India	CO2 Reduction	Prof. A. S. K. Sinha	Research
Central Electrochemical Research Insititute, Karaikudi, India	MXenes for Energy Generation	Dr. P. Murugan	Research
University of Oulu, Finland	Electronic structure of 2D materials	Dr. Hannu Pekka Komsa	Research
NIT Raipur	Research	Dr. B. K. Sahoo	Research
B. B. College, Asansol	High energy physics	Dr. A. Biswas	Joint Project, DST-SERB, Govt. of India.
T. D. B. College, Raniganj	Research	Dr. B. Sahoo	Research
KIIT University, Bhubaneswar	Research	Dr. S. K. Sahoo	Research
RHIC-STAR collaboration	STAR collaboration is composed of 74 institutions from 15 countries, with a total aound 450 collaborators. A variety of personnel participate in the collaboration, including students, university faculty and staff, national laboratory staff, and engineers.	Dr. Arghya Chatterjee, Dr. Sukadev Sahoo	The primary scientific objective of STAR is to study the formation and characteristics of the quark–gluon plasma (QGP), a state of matter believed to exist at sufficiently high energy densities. Detecting and understanding the QGP allows physicists to understand better the Universe in the seconds after the Big Bang, when the presently-observed symmetries (and asymmetries) of the Universe were established.
Burdwan University	Research	Prof. S . K. Pradhan	Joint Ph.D. work
Asansol Engineering College	Research	Dr. R Sinha	Joint Ph.D. work
IIT (ISM) Dhanbad	Optics	Prof. A. K. Nirala	Research
Nottingham University, Department of applied physics and astronomy	Research	Prof. Mohamad Henini	Research paper
Queens University Canada, Department of Physics and Chemistry, Canada	Research and Collaborative project	Prof. Nunzi	Project and reserach papper
Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of	Project and Research	Dr. A. Tameev	Project and Research



<b>Collaborating Institute Organization</b>	<b>Areas of collaboration</b>	<b>Faculty Members Involved</b>	<b>Collaboration Activities</b>
Science (IPCE RAS), Moscow, Russia			
Indian Institute of Technology Bombay	Research	Prof. Subhananda Chakrabarti	Research paper
NIT Agartala	Research	Dr. Mitra Barun Sarkar	Research Paper
NIT Nagaland	Reserach	DR. Chinnamuthu	Project and Research
CSIR-CGCRI	Multiferroic Materials	S Basu	Research & Development
Benaras Hindu University	Nanostructured materials	S Basu	Research & Development
The University of Burdwan	Nonlinear Optics, Random Laser	Prof. P. Kumbhakar (NIT Durgapur) and Prof. U. Chatterjee (BU)	Joint Research/ publication of paper
IIT Kharagpur	Nanotechnology	Prof. P. Kumbhakar (NIT Durgapur) and Dr. C. S. Tiwary (IIT KGP)	Joint Research/ Publication of paper
Jadavpur University	Nanotechnology	Prof. P. Kumbhakar (NIT Durgapur) and Prof. T. Ganguly (JU)	Joint Research/ publication of paper
University of Hyderabad	Photonics	Prof. P. Kumbhakar (NIT Durgapur) and Prof. Venugopal Rao Soma (Hyd. Univ.)	Joint Research/ publication of paper
Assam University	Nanotechnology & Photonics	Prof. P. Kumbhakar (NIT Durgapur) and Dr S. K. Ghosh (Assam Univ.)	Joint Research/ publication of paper
University of Calcutta	Nanotechnology	Prof. P. Kumbhakar (NIT Durgapur) and Prof. D. Chattopadhyay (CU)	Joint Research/ publication of paper
University of Tokyo	Nonlinear Optics	Prof. P. Kumbhakar (NIT Durgapur) and Prof. T. Kobayashi	Joint Research/ Publication of paper



Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
		(Tokyo Univ.)	
RK University Rajkot	Nanotechnology	Prof. P. Kumbhakar (NIT Durgapur) and Dr. S. Ghosh (R K Univ.)	Joint Research/ publication of paper
Jadavpur University	Sensor	Chakraborty, Amit Kumar	joint research paper
University of Calcutta	sensors	Chakraborty, Amit Kumar	joint research publicaton
National University of Singapore	materials for energy harvesting and storage	Chakraborty, Amit Kumar	Joint research paper, Co-organising International conference
SRM University, Andhra Pradesh	photoelectrocatalysis	Chakraborty, Amit Kumar	joint research paper, student exchange
Indian Institute of Technology Bombay	batteries and supercapacitors, clean water	Chakraborty, Amit Kumar	Joint research project, Joint research paper
VNIT Nagpur	integrated battery management system	Chakraborty, Amit Kumar	Joint research project
Tyumen State University ,Russia	Geothermal Power, Climate Change	Dr. Evgeniya Soldatova, Dr. Kankana Seal, Dr. Pavel Smrionav	Joint Publication, Joint Project Submission
East China University of Technology China	Geothermal Power, Water Geochemistry	Prof. Z Sun	Joint Publication, Joint Conference, Joint Research Project
The University of Burdwan	Research activity	Prof. T. Banerjee	Research work and publication
M.U.C. Women's College, Burdwan	Research activity	Dr. S. K. Garai	Research work, publication and Ph.D. Student supervision..
B.B. College, Asansol	Research activity	Dr. K. Mukherjee	Research work, publication and Ph.D. Student supervision
Tomsk Polytechnic University, Tomsk, Russia	Novel material for wastewater treatment	Dr. Natalia Guseva, Tomsk	Joint Publication, Joint Project Submission
Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Russia	Geothermal Power	.	Joint Project Submission
Far Eastern Federal University, Vladivostok, Russia	Material Science and Engineering	Prof. A. Taskin	Joint Publication
Federal University of Rio De Janeiro, Brazil	Water Pollution	Prof. Otto	Joint Publication, Joint Conference, Joint Research Project
Durban University of Technology, South Africa	Wastewater	Prof. Faizal Bux	Joint Publication, Joint Conference, Joint Research Project
IIT Kharagpur	Image Processing	S Bhattacharya	Publication

#### 4.14.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. S. Duttagupta, Prof. a. Basu, Prof. Bikash Sinha, Dr. Martin Chempchen	One-day conclave on "Science, Philosophy and Education	2022-11-04



Prof. A. Basu, Prof. S. Ghokley	Promotion of Green Technology on Rural Road Construction	2022-08-27
Prof. Sushanta Dattagupta	Physics Talk - "Centenary of the Saha Ionization Equation"	2022-09-20
Prof. Jean-Michel Nunzi	Advanced Photonic Devices	2023-03-14
Prof. Aleksei Tameev	Emerging Photoconductors: Organic and Perovskite Materials	2022-12-09

#### 4.14.14 Journal: Published in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Kumar Gaurav, Saumik Bhattacharya Yatindra Nath Singh and Sayantari Ghosh	To purchase or to pirate: Investigating the role of social influence on digital piracy contagion	Pramana – Journal of Physics	Volume:96 Issue No: Page No: Year:2022 Month:Sep
Santanu Dey, Manas Kumar Mandal, Subhamay Pramanik, Shubhadip Atta, Soumen Basu	Bi2O3-incorporated carbon-supported bismuth-silver (Bi@Ag/C) nanoparticle as an efficient and stable electrocatalyst for glucose electro-oxidation	Ionics	Volume:29 Issue No: Page No:1101-1113 Year:2023 Month:Mar
S. Biswas, S. Mahata, B. P. Nayak and S. Sahoo	Imprints of new physics in $\Lambda_b \rightarrow \Lambda^* l^+ l^-$ decay in non-universal $Z'$ model	International Journal of Modern Physics A	Volume:37 Issue No:09 Page No:2250044 Year:2022 Month:May
P. Maji, S. Mahata, S. Biswas and S. Sahoo	Lepton polarization asymmetry in $B_{(s,d)} \rightarrow \mu^+ \mu^-$ with new $Z'$ couplings	International Journal of Theoretical Physics	Volume:61 Issue No:06 Page No:162 Year:2022 Month:Jun
S. Biswas, S. Mahata, A. Biswas and S. Sahoo	Impact of Non-universal $Z'$ in the Lepton Flavour Violating $B(B_s) \rightarrow K^* (\phi) l_1^- l_2^+$ Decays	European Physical Journal C	Volume:82 Issue No:07 Page No:578 Year:2022 Month:Jul
S. Mahata, S. Biswas and S. Sahoo	Study of $B \rightarrow K_{0^*} (1430) l^+ l^-$ decays in non-universal $Z'$ models and in a model-independent way	European Physical Journal Plus	Volume:137 Issue No: Page No:1220 Year:2022 Month:Nov
Mandal N, Pramanik A, Dey A, Kumbhakar P, Kochat V, Gautam A R S, Glavin N, Roy A K, Ajayan P M, Tiwary C S	Synthesis of atomically thin yellow pearl: An impetus for nonlinear optical effect assisted light scattering application	Optical Materials	Volume:135 Issue No: Page No: 113325 Year:2023 Month:Jan
Pramanik A, Mondal K, Biswas S, Pal S K, Ghosh S K, Ganguly T, Kumbhakar P,	Sticky note paper-based plasmonic random laser for artifact-free imaging	Applied Physics B	Volume:128 Issue No: Page No:167 Year:2022 Month:Aug
M. K. Garai, M. K. Mandal & S. K. Garai	All optical programmable array logic unit using semiconductor optical amplifier-based polarization switch.	Journal of Modern Optics	Volume:69 Issue No: Page No:1171-1197 Year:2022 Month:Dec
A. Pathak, J. Karmakar, D. Nandi and M. K. Mandal	Feature enhancing image inpainting through adaptive variation of sparse coefficients	Signal, Image and Video Processing	Volume:17 Issue No: Page No:1189-1197 Year:2022 Month:Aug
Avishek Adhikary; Sandeep Kumar; Supriya Pal; Sudipta Ghosh; Hirok Chaudhuri; and Mrinal Kanti Mandal	Efficacy Evaluation of Silty-Sandy Soil and Chrysopogon zizanioides to Attenuate Doxycycline from Wastewater in a Constructed Wetland System	Journal of Environmental Engineering	Volume:149 Issue No:6 Page No:04023024 (1-12) Year:2023 Month:



Author(s) Name	Paper Name	Journal Name	Others Info
Saroj Khutia, Ankita Dawn, Kankana Seala, Hirok Chaudhuri, Chiranjit Maji, Suvashree Mukherjee	Age-dependent potential health risk assessment due to radioactive radon-222 in the environs of highly populated Durgapur industrial zone and nearby Bakreswar hot spring, India	Environmental Geochemistry and Health	Volume:45 Issue No:5727-5759 Year:2023 Month:
Kankana Seal, Hirok Chaudhuri, Sanhita Pal, Raj Ranjan Srivastava, Evgeniya Soldatova	A study on water pollution scenario of the Damodar river basin, India: assessment of potential health risk using long term database (1980-2019) and statistical analysis	Environmental Science and Pollution Research	Volume:29 Issue No:35 Page No:53320-53352 Year:2022 Month:
Kankana Seal, Hirok Chaudhuri	A novel understanding of morphological anisotropy features of nanorod units in brookite dominated triphase mesoporous TiO <sub>2</sub> and its excellent photocatalytic activity in phenol decomposition: The role of synthesis pH and surface hydroxylation	Surfaces and Interfaces	Volume:29 Issue No: Page No:101715 (1-24) Year:2022 Month:
T Chatterjee, P Chatterjee, AK Chakraborty, SK Pradhan, AK Meikap,	Template-free growth of copper-doped hydroxyapatite nanowhiskers and their use as uric acid electrochemical sensor	Materials Today Communications	Volume:33 Issue No: Page No:104870 Year:2022 Month:
A Sahu, P Chatterjee, AK Chakraborty	Non-enzymatic electrochemical sensing of glucose using phyto-extract modified reduced graphene oxide,	MRS Communication s	Volume:12 Issue No: Page No:902-909 Year:2022 Month:
P. Chatterjee, D Mukherjee, A Sarkar, AK Chakraborty,	Mn-doped CeO <sub>2</sub> -CNT nanohybrid for removal of water soluble organic dyes,	Applied Nanoscience	Volume:12 Issue No: Page No:3031-3043 Year:2022 Month:
Priya Chakraborty, Mohit Kumar Jolly, Ushasi Roy, Sayantari Ghosh	Spatio-temporal pattern formation due to host-circuit interplay in gene expression dynamics	Chaos, Solitons & Fractals	Volume:167 Issue No: Page No: Year:2023 Month:Feb
Srimanta Kundu, Ujjwal Maulik, Rahul Sheshanarayana and Sayantari Ghosh	Vehicle Smoke Synthesis and Attention-Based Deep Approach for Vehicle Smoke Detection	IEEE Transactions on Industry Applications	Volume:59 Issue No: Page No: Year:2023 Month:Jan
S. Atta, M. Halder, T. Chatterjee, R. Karmakar and A. K. Meikap	Influence of Neodymium doping in Tuning Microstructural, Optical and Magneto-dielectric properties of Nickel Ferrite Nanoparticles	Mater. Chm. Phys.	Volume:285 Issue No:1 Page No:126094(1-12) Year:2022 Month:Jun
T. Chatterjee, M. Ghosh, M. Maji, M. Ghosh, S. K. Pradhan, A. K. Meikap	Study of Microstructural and Electrical Properties of Silver Substituted Hydroxyapatite for Drug Delivery Applications	Mater. Today Commun.	Volume:31 Issue No:1 Page No:103360(1-14) Year:2022 Month:Jun
	Dielectric and Transport Properties of Cu-Substituted Bi-calcium Phosphate	Mater. Chem. Phys.	Volume:286



Author(s) Name	Paper Name	Journal Name	Others Info
T. Chatterjee, S. Atta, S. K. Pradhan and A. K. Meikap	Nanocomposites: Its Structural and Microstructural Evaluation		Issue No:1 Page No:126124(1-12) Year:2022 Month:Jul
R. Karmakar, A. K. Das, S. Atta and A. K. Meikap	The role of bias voltage in charge carrier transport mechanism of organic semiconductor	Mater. Today Commun.	Volume:. 31 Issue No:1 Page No:103775(1-12) Year:2022 Month:Jun
T. Chatterjee, P. Chatterjee, A. K. Chakraborty, S. K. Pradhan and A. K. Meikap	Template-free growth of copper-doped Hydroxy-apatite nanowhiskers and their use as uric acid electrochemical sensor	Mater. Today Commun.	Volume:33 Issue No:1 Page No:104870(1-11). Year:2022 Month:Dec
R. Karmakar, A. K. Das, S. Pramanik, P. K. Kuri and A. K. Meikap	Investigation of negative resistance regions in W-WO <sub>3</sub> nanoparticles and UV-B light detection properties of PVA-W-WO <sub>3</sub> flexible composite films	Appl. Phys. A	Volume:. 128 Issue No:12 Page No:1102(1-17). Year:2022 Month:Dec
T. Chatterjee, C. K. Raul, S. Mandal, S. K. Pradhan and A. K. Meikap	Effect of Surfactant-assisted Hierarchical Growth of Cupric Oxide-Hydroxyapatite Nanocomposite on the Dielectric and Electrical Transport Behavior	Physica B	Volume:650 Issue No: Page No:414560(1-9) Year:2023 Month:Feb
R. Karmakar, S. Sinha, A. K. Das, B. Dutta, S. Pramanik, P. K. Kuri and A. K. Meikap	Elucidation of Inter/Intra Molecular H-Bonding Mediated Charge Transportation Mechanism in Water Swelled, Hydrophilic Organic PVA-Co <sub>3</sub> O <sub>4</sub> Nanocomposite Films	Surfaces and Interfaces	Volume:36 Issue No:1 Page No:102567(1-15) Year:2023 Month:Feb
T. Chatterjee, M. Maji, S. Paul, M. Ghosh, S. K. Pradhan, and A. K. Meikap	Microstructural, Electrical and Mechanical Characterizations of Mesoporous Biocompatible Ternary Biphasic Calcium Phosphate Nanocomposites Synthesized by Green Synthesis Route with Morphological Hierarchy	Materials Chemistry and Physics	Volume:296 Issue No:1 Page No:127245(1-15) Year:2023 Month:Feb
S. Atta, M. Halder, S. Dey, C. K. Raul and A. K. Meikap	Magnetic and magnetocaloric effect of flexible PVA-NiNd <sub>x</sub> Fe <sub>2-x</sub> O <sub>4</sub> film and its application in EMI shielding	Current Applied Physics	Volume:47 Issue No:1 Page No:15-23 Year:2023 Month:Mar
M. S. Abdallah, A. Chatterjee, et al. [STAR Collaboration]	Pion, kaon, and (anti)proton production in U+U collisions at $\sqrt{s_{NN}} = 193$ GeV measured with the STAR detector	Phys. Rev. C	Volume:107 Issue No:2 Page No:24901 Year:2023 Month:Feb
M. S. Abdallah, ..., A. Chatterjee, et al. [STAR Collaboration]	Pattern of global spin alignment of $\phi$ and $K^0$ mesons in heavy-ion collisions	Nature	Volume:614 Issue No: Page No:244-248 Year:2023 Month:Jan
M. S. Abdallah, ..., A. Chatterjee, et al. [STAR Collaboration]	Differential measurements of jet substructure and partonic energy loss in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV	Phys. Rev. C	Volume:105 Issue No:4 Page No:044906 Year:2022 Month:Apr





Author(s) Name	Paper Name	Journal Name	Others Info
M. S. Abdallah, ..., A. Chatterjee, et al. [STAR Collaboration]	Higher-order cumulants and correlation functions of proton multiplicity distributions in sNN=3 GeV Au+Au collisions at the RHIC STAR experiment	Phys. Rev. C	Volume:107 Issue No:2 Page No:024908 Year:2023 Month:Feb
AD Paul, S Biswas, A Dalal, A Mondal, R Mahapatra	Impact of Stack Engineering on HfO <sub>x</sub> /Al: HfO <sub>x</sub> -Based Flexible Resistive Memory Devices and Its Synaptic Characteristics	IEEE Transactions on Electron Devices	Volume:69 Issue No:4 Page No:1842-1848 Year:2022 Month:Mar
Avijit Dalal, Madhuri Mishra, Subhananda Chakrabarti, Rajeev Kumar Gupta, Aniruddha Mondal	Characteristics of Mg doped TiO <sub>2</sub> thin film based deep UV photodetector	Vacuum	Volume:201 Issue No: Page No:111115 Year:2022 Month:Jul
Prashant B Chouke, Trupti Shrirame, Ajay K Potbhare, Aniruddha Mondal, Ankita R Chaudhary, Sudip Mondal, Sanjay R Thakare, Eugenie Nepovimova, Martin Valis, Kamil Kuca, Rohit Sharma, Ratiram Gomaji Chaudhary	Bioinspired metal/metal oxide nanoparticles: A road map to potential applications	Materials Today Advances	Volume:16 Issue No: Page No:100314 Year:2022 Month:Dec
Avijit Dalal, Dip Prakash Samajdar, Aniruddha Mondal	Hetero-radial MgO capped TiO <sub>2</sub> nanowire arrays as a deep UV and self-powered photodetector	Journal of Alloys and Compounds	Volume:928 Issue No: Page No:167120 Year:2022 Month:Dec
Kripasindhu Karmakar, Arka Dey, Subhendu Dhibar, Rajib Sahu, Subham Bhattacharjee, Priya Karmakar, Priyajit Chatterjee, Aniruddha Mondal, Bidyut Saha	A novel supramolecular Zn (II)-metallogel: an efficient microelectronic semiconducting device application	RSC advances	Volume:13 Issue No:4 Page No:2561-2569 Year:2023 Month:Jan
Avijit Dalal, Ankita Bebartha, Argha Deep Paul, Rabindranath Barman, Jean- Michel Nunzi, Alexey Tameev, Rajat Mahapatra, Aniruddha Mondal	Ion-Sensitive Three-Terminal Device as a Universal Hybrid Platform With TiO <sub>2</sub> Nanowires on the Channel	IEEE Sensors Journal	Volume:23 Issue No:3 Page No:1917-1924 Year:2023 Month:Feb
Subhendu Dhibar, Arka Dey, Avijit Dalal, Subham Bhattacharjee, Rajib Sahu, Rupam Sahoo, Aniruddha Mondal, Sk Meheebub Rahaman, Sandip Kundu, Bidyut Saha	An organic acid consisted multiresponsive self-healing supramolecular Cu (II)-metallogel: Fabrication and analysis of semiconducting device	Journal of Molecular Liquids	Volume:370 Issue No: Page No:121021 Year:2023 Month:Jan
Ankita Choudhury, Arka Dey, Chiranjib Ghosh, Avijit Dalal, Rajat Mahapatra, Saikat Biswas, Nilanjan Halder, Aniruddha Mondal	Positive temperature coefficient of resistance of Mg-GeO <sub>2</sub> nanowire array film	Journal of Applied Physics	Volume:133 Issue No:4 Page No:045302 Year:2023 Month:Jan
Sanjib Mondal, Avijit Dalal, Aniruddha Mondal	Al nanoparticles decorated Er: TiO <sub>2</sub> thin film based plasmonic photodetector	Ceramics International	Volume:49 Issue No:4 Page No:6289-6298 Year:2023 Month:Feb
Shadab Saifi, Gargi Dey, J. Karthikeyan, Ravi Kumar, D. Bhattacharyya, A.S.K. Sinha, and Arshad Aijaz	Coupling Single-Ni-Atom with Ni-Co Alloy Nanoparticle for Synergistically Enhanced Oxygen Reduction Reaction	Inorganic Chemistry	Volume:62 Issue No:21 Page No:8200 – 8209 Year:2022 Month:May
Anwesh Kumar, Hannu- Pekka Komsa, Diksha Praveen Pathak,	Origin of Enhanced Photocatalytic Activity in Direct Band Gap g-C <sub>3</sub> N <sub>4</sub> Nanoribbons with Tunable Electronic	The Journal of Physical Chemistry C	Volume:126 Issue No:46 Page No:19627 – 19636



Author(s) Name	Paper Name	Journal Name	Others Info
Balathanigaimani Marriyappan Sivagnanam, A. S. K. Sinha, and J. Karthikeyan	Properties for Water-Splitting Reaction: A First-Principles Study		Year:2022 Month:Nov
Dey, A, Pramanik, A, Biswas, S, Chatterjee U, Kumbhakar P	Tunable and low-threshold random lasing emission in waveguide aided Rhodamine- 6G dye incorporated silica embedded thin films	Journal of Luminescence	Volume:251 Issue No: Page No:119252 Year:2022 Month:Nov
Kumbhakar P, Jana I D, Basu S, Mandal, S, Banerjee, S, Roy, S, Gowda, C C, Chakraborty A, Pramanik A, Lahiri, P, Lahiri B	Utilization of DNA and 2D metal oxide interaction for an optical biosensor	Physical Chemistry Chemical Physics	Volume:25 Issue No:26 Page No:17143-17153 Year:2023 Month:May
A. Adhikari, J. Nath, D. Rana, S. De, M. Chakraborty, P. Kar, AK Chakraborty, D. Chattopadhyay	Electrochemical sensing of serotonin by silver decorated polypyrrole nanoribbon based electrode synthesized by sodium cholate as soft template	Materials Today Communications	Volume:31 Issue No: Page No:103361 Year:2022 Month:
S. Paramanik, A. Nag and S. Sahoo	Generalized uncertainty principle and delta function potential	Ukrainian Journal of Physics	Volume:67 Issue No:08 Page No:568 – 573 Year:2022 Month:Dec
Ranjita Sinha, Sandip Haldar, Soujanya Sengupta, Monalisa Halder, Piyali Saren, Chandan Kumar Raul, Soumen Basu, Ajit Kumar Meikap	Dielectric and Electric Modulus Study of Y <sub>0.85</sub> Gd <sub>0.15</sub> CrO <sub>3</sub> Nanoparticles	International Journal of Innovative Research in Physics	Volume:3 Issue No: Page No:1-8 Year:2022 Month:Jul
S. Pal, A. Mahanty, A. Pathak, J. Karmakar, H. Mondal and M. K. Mandal.	A novel image encryption technique with four stage bit-interspersing and a 4D- hyperchaotic system	ECTI Transactions CIT	Volume:17 Issue No: Page No:105- 117 Year:2022 Month:Dec
H. Mondal, A. Pathak, T. Banerjee and M. K. Mandal	Ring oscillators under nonlinear coupling: bifurcation and chaos	ECTI Transactions EEEC	Volume:21 Issue No: Page No:1-8 Year:2023 Month:Feb
Ankita Choudhury, Arka Dey, Aniruddha Mondal	Electrical characteristics of Mg doped GeO <sub>2</sub> NWs based device	Materials Today: Proceedings	Volume: Issue No: Page No: Year:2023 Month:Mar
M. Halder, S. Atta, R. Sinha and A. K. Meikap	Observation of Charge Conduction Mechanism of Manganese Ferrite - Poly (Vinyl Alcohol) Nano Composite Film above Room Temperature	J. Mater Sci: Mater Electron.	Volume:33 Issue No:26 Page No:21189-21198 Year:2022 Month:Sep
Taposhree Dutta, Neha Yadav, Yongling Wu, Gary J Cheng, Xiu Liang, Seeram Ramakrishna, Aoussaj Sbai, Rajeev Gupta, Aniruddha Mondal, Zheng Hongyu, Ashish Yadav	Electronic properties of 2D materials and their junctions	Nano Materials Science	Volume: Issue No: Page No: Year:2023 Month:Jun
J. Karmakar, S. Pal and M. K. Mandal	Hyper-chaos-based image encryption and cryptanalysis on a non-RGB channel	Int. J. Computer Applications in Technology	Volume:69 Issue No: Page No:206– 218 Year:2022 Month:Dec
M. Pal, S. Chakraborty, B. Sahoo and S. Sahoo	Theoretical study of the role of symmetry energy as well as its density slope and curvature on neutron star core crust transition density using finite range effective interaction	Physics of Particles and Nuclei Letters	Volume:19 Issue No:02 Page No:97- 107 Year:2022 Month:Apr
A. Adhikari, S Mukherjee, AK Chakraborty, S Biswas, A Basu,	Lac-extract doped polyaniline nano- ribbons as fluorescence sensor and	Journal of Photochemistry	Volume:431 Issue No: Page



Author(s) Name	Paper Name	Journal Name	Others Info
M. Chakraborty, S. Chattopadhyay, D. Das, D. Chattopadhyay,	molecular switch for detection of aqueous AsO <sub>4</sub> <sup>3-</sup> and Fe <sup>3+</sup> contaminants	and Photobiology A: Chemistry	No:114000 Year:2022 Month:
P. Chatterjee, MSK Ambati, AK Chakraborty, S Chakraborty, S Biring, ....G K Dalapati,	Photovoltaic/photo-electrocatalysis integration for green hydrogen: A review	Energy Conversion and Management	Volume:261 Issue No: Page No:1156481 Year:2022 Month:
A. Pandey, R. K. Das, A. K. Chakraborty, S. Shukla, S. Saxena	Nanodefects assisted removal of reactive dyes using biomass derived reduced 3D-OGFs	Journal of Cleaner Production	Volume:362 Issue No: Page No: 132257 Year:2022 Month:

4.14.15 Journal: Accepted for Publication in 2022-2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Dey A, Pramanik A, Biswas S, Chatterjee U, Kumbhakar P	Emission peak shifted incoherent random laser through the combined effects of coupling of surface plasmons in a triangular shaped silver nanostructure, microbubbles, and the waveguiding mechanism	Journal of the Optical Society of America B	Volume:40 Issue No:5 Page No:1039-1046 Year:2023 Month:Mar
Priya Chakraborty, and Sayantari Ghosh	Quantitative Modelling of Diffusion-driven Pattern Formation in microRNA regulated Gene Expression	The Eur. Phys. J. Plus	Volume: Issue No: Page No: Year:2023 Month:Mar

4.14.16 Journal: Published in Others in 2022-2023

NIL

4.14.17 Journal: Accepted in Others in 2022-2023

NIL

4.14.18 Conference: Published in 2022-2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
P. Biswas, C. O. Bapanapalle, A. R. Dixit, R. R. Sahoo, J. Ghosh and A. K. Meikap	Microstructural and tribo-mechanical investigation of as-cast Ti-Zr binary alloys	3775-3783	DOI/ISBN: <a href="https://doi.org/10.1016/j.matpr.2022.06.107">https://doi.org/10.1016/j.matpr.2022.06.107</a> Volume: Issue No: Page No:3775-3783 Year:2022 Month:Sep Presenter:CO-AUTHOR
Khandai S, Biswas S, Prasath R T A R, Kumbhakar P, Roy N K	Experimental Study of Dielectric and Physical Properties of Blended Coconut Oil and Mineral Oil with Graphene Oxide Nanomaterial	IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)	DOI/ISBN: 10.1109/CATCON56237.2022.10077629 Volume: Issue No: Page No:408-411 Year:2022 Month:Dec Presenter:CO- AUTHOR
Khandai S, Jasper D, Adhikari K, Kumbhakar P, Kumbhakar P, Roy N K	Investigation of dielectric properties of blended ester oils and dielectric fluids used in transformer at different temperatures	AIP Conference Proceedings	DOI/ISBN: <a href="https://doi.org/10.1063/5.0117874">https://doi.org/10.1063/5.0117874</a> Volume: Issue No: Page No:2640 Year:2022 Month:Sep Presenter:CO-AUTHOR
S. Pal, A. Pathak, A. Mahanty, H. Mondal and M. K. Mandal	Color Image Encryption using Hybrid Three-Scroll Unified Chaotic Attractor and 6D Hyperchaotic System	4th Int. Conf. on Communication and Intelligent Systems (ICCIS 2022)	DOI/ISBN: <a href="https://doi.org/10.1007/978-981-99-2100-3_48">https://doi.org/10.1007/978-981-99-2100-3_48</a> Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:SELF



Author(s) Name	Paper Name	Conference Name	Others Info
Shikhar Mohan, Saumik Bhattacharya, Sayantari Ghosh	Attention W-Net: Improved Skip Connections for Better Representations	International Conference of Pattern Recognition	DOI/ISBN: <a href="https://doi.org/10.1007/978-3-031-37731-0">https://doi.org/10.1007/978-3-031-37731-0</a> Volume: Issue No: Page No: Year:2022 Month:Aug Presenter:CO- AUTHOR
B. Dutta, R. Karmakar, S. Sinha and A. K. Meikap	Observation of constant phase zone in Graphene Oxide-PVDF nanocomposite films	Proceedings of the 66th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:371-374 Year:2022 Month:Dec Presenter:CO-AUTHOR
R. Karmakar, A. K. Das, B. Dutta, S. Sinha and A. K. Meikap	Tuning electrical transportation dynamics of PVDF-Hematite flexible film under biasing voltage	Proceedings of the 66th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:395-398 Year:2022 Month:Dec Presenter:CO-AUTHOR
T. Chatterjee, S. Paul, S. K. Pradhan and A. K. Meikap	Mechanical and electrical behavior of green- routed silver-biphasic calcium phosphate nanocomposites	Proceedings of the 66th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:399-402 Year:2022 Month:Dec Presenter:SELF
C. K. Raul, M. Halder, S. Dey and A. K. Meikap	Development of MWCNT supported Gold- Cobalt bimetallic anode electrocatalyst for direct borohydride fuel cell	Proceedings of the 66th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:496-499 Year:2022 Month:Dec Presenter:CO-AUTHOR
Rahul Mandal, Mayukh Mandal, Abhijit Ghosh and A.K. Nirala	Double Aperture Speckle Interferometer using Single Holography Imaging Configuration	Conference on Optics, Photonics & Quantum Optics (COPaQ 2022)	DOI/ISBN: Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:

#### 4.14.19 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
S. Dandapathak, A. Pathak, S. Pal, J. Karmakar, H. Mondala and M. K. Mandal	Studies on Multi-Scroll Chaotic Attractors	8th Int. Conf. on Nanoelectronics, Computational Intelligence & Communication Systems (NCCS-2022)	DOI/ISBN: Will be given after publication Volume: Issue No: Page No: Year:2022 Month:Dec Presenter:CO-AUTHOR

#### 4.14.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Sudip Mondal, Manjiri S Nagmote, Suraj V Kombe, Barun K Dutta, Trimurti L Lambat, Prashant B Chouke, Aniruddha Mondal		Biogenic Sustainable Nanotechnology	Ecofriendly microorganism assisted fabrication of metal nanoparticles and their applications	Publisher: Elsevier Publication Date: 2022-01-01
A. K. Chakraborty	G K Dalapati, WKS Terence, S. Kundu, S. Zhuk	Sulfide and Selenide Based Materials for Emerging Applications		Publisher: Elsevier (ISBN: 9780323998604) Publication Date: 2022-06-16
A. K. chakraborty	A. Sarkar and P. Chatterjee	Sulfide and Selenide Based Materials for Emerging Applications	Sulfides and selenides as electrodes for dye sensitized solar cells	Publisher: Elsevier (ISBN: 9780323998604) Publication Date: 2022-06-16



Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
A. K. Chakraborty	N. Chakrabarty	Sulfide and Selenide Based Materials for Emerging Applications	Sulfides and selenides as electrodes for supercapacitor	Publisher: Elsevier (ISBN: 9780323998604) Publication Date: 2022-06-16
A. K. Chakraborty	R. Madhu, G. K. Dalapati, T. K. S. Wong, S. Zhuk, S. Kundu	Sulfide and Selenide Based Materials for Emerging Applications	Energy sustainability and importance of new materials	Publisher: Elsevier (ISBN: 9780323998604) Publication Date: 2022-06-16
Pathik Kumbhakar	Subrata Biswas	The Science of Nanomaterials: Basics and Applications	Optical Properties of Nanostructured Materials and Their Sensing Applications	Publisher: Apple Academic Press Publication Date: 2022-12-29

#### 4.14.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Symposium on “Forefront Areas of Research in Astronomy, Astrophysics & Space Science”	Indian Centre for Space Physics, Kolkata	2022-09-18	2022-09-18	India
66th DAE Solid State Physics Symposium (DAE-SSPS-2021)	DAE & BRNS	2022-12-18	2022-12-22	India
Workshop on Signatures of Non-Equilibrium Fluctuations in Life	ICTP	2023-05-15	2023-05-19	ITALY
Invited Seminar	IIT Goa	2023-03-09	2023-08-10	India
Invited Speaker	Central University of South Gaya, Bihar	2023-03-20	2023-03-22	India
“Emerging Trends and Application of Green Technologies for Sustainable Development (Green Tech - 2022)”	Haldia Institute of Technology, West Bengal, India.	2022-11-09	2022-11-10	India
8th Int. Conf. on Nanoelectronics, Computational Intelligence & Communication Systems (NCCS-2022)	BIT Mesra Ranchi	2022-12-17	2022-12-18	India
4th Int. Conf. on Communication and Intelligent Systems (ICCIS 2022)	NIT Delhi	2022-12-19	2022-12-20	India

#### 4.14.22 Ph.D. Supervisor

Topic Name	Scholar	Supervisor	Status	Status Date
Possible Signatures of New Physics in Rare Decays of b Hadrons in the Framework of Non-Universal Z <sup>0</sup> Model	SWAGATA BISWAS	Dr. S. SAHOO	DEGREE AWARDED	2023-01-04
Theoretical study of some properties of finite nuclei and core-crust transition density of neutron stars with finite range effective interaction	MAHADEB PAL	Dr. S. SAHOO	DEGREE AWARDED	2023-02-08





Topic Name	Scholar	Supervisor	Status	Status Date
Development and Characterization of Hydroxyapatite and Green Synthesized Noble metal Nanocomposites for Gas sensing Applications	Tuli Chatterjee	A K Meikap & S K Pradhan	DEGREE AWARDED	2023-03-31
Development and Characterization of Polymer-Multiferroic Nanocomposites for Enhance Magneto Dielectric Behavior	Shubhadip Atta	A K Meikap	ONGOING	-
Development of metal-oxide based polymer nanocomposites for opto-electronics application	Riju Karmakar	A K Meikap	ONGOING	-
Development and characterization of functionalized carbon nanotube polymer nanocomposites having enhanced dielectric properties for charge storage device	Chandan Kumar Raul	A K Meikap	ONGOING	-
Development of ferroelectric polymer based Nanocomposites for solid state fractional order capacitors and memory device applications	Bilwadal Dutta	A K Meikap	ONGOING	-
Experimental Condensed Matter Physics	Kripasindhu Kumar	A K Meikap & R Sinha	ONGOING	-
Studies of optoelectronic properties of low dimensional GeO <sub>2</sub> and Ga <sub>2</sub> O <sub>3</sub>	Ankita Choudhury	Dr. Soumik Das, Dr. Aniruddha Mondal	ONGOING	-
Low-Level Radioactivity Measurement using background suppression technique	Biswajit Saha	Dr. Soumik Das, Dr. Aniruddha Mondal	ONGOING	-
Holographic optical elements	Rahul Mandal	Dr. Abhijit Ghosh	ONGOING	-
Holography	Yashwinder	Dr. Abhijit Ghosh	ONGOING	-
Studies on MgO/TiO <sub>2</sub> Heterostructure Nanowires based optoelectronic devices and hybrid materials as ion-sensors	Avijit Dalal	Dr. Aniruddha Mondal	SUBMITTED	2023-06-02
Studies on eco-friendly hybrid perovskites synthesized via physical vapour deposition for optoelectronic applications	Iman Biswas	Dr. Aniruddha Mondal	ONGOING	-
Investigation on climate science data using statistical physics and nonlinear analysis	Miss Debapriya Nandi	Hirok Chaudhuri and Sayantari Ghosh	ONGOING	-
Investigation on bio-physical data using statistical physics and nonlinear analysis	Mr. Premanshu Sekhar Dey	Hirok Chaudhuri	ONGOING	-
Studies on Design and Analysis of All Optical Logic Gates and Processors Utilizing Nonlinear Properties of Semiconductor Optical Amplifiers.	Kajal Maji	Dr. M. K. Mandal & Dr. K. Mukherjee	SUBMITTED	2023-01-09
Studies on some all optical logic processors effective for WDM-based data communication system	Manas Kumar Garai	Dr. M. K. Mandal & Dr. S. K. Garai	ONGOING	-
Studies on Sparse Representation for Data Processing and Applications	Arghya Pathak	Dr. M. K. Mandal	ONGOING	-
Studies on Data Encryption Algorithm based on Hyperchaotic System.	Subhashish Pal	Dr. M. K. Mandal	ONGOING	-
NASICON type electrodes for sodium ion hybrid capacitor	Dr. Sandip De (Post-doc)	Amit K. Chakraborty	DEGREE AWARDED	2023-03-30





Topic Name	Scholar	Supervisor	Status	Status Date
Resource competition in Biological Systems	Priya Chakraborty	Syantari Ghosh	ONGOING	-
Social contagions: A Graph-Theoretical Treatment	Dibyajyoti Mallick	Syantari Ghosh	ONGOING	-
Treatment Planning for Brachytherapy: AI/ML Approach	Suresh Das	Syantari Ghosh	ONGOING	-
Studies on Development of Some Luminescent and Scatterer Nanoparticles for Application in Optical Energy Harvesting	Mr. Arindam Dey	P. Kumbhakar	ONGOING	-
Investigations on Syntheses, Optical, Catalytic Properties of Some MoSe <sub>2</sub> Based Nanocomposite Materials and Energy Harvesting Applications	Mr. Rashbihari Layek	P. Kumbhakar	ONGOING	-
Radiation Dose Estimation using Radiation Detector	Pijush Kanti Jana	Dr. Soumik das	ONGOING	-

#### 4.14.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Some novel phenomenologies of Multi Higgs Doublet Models and higher dimensional operators in the light of Naturalness	Dr. A. Biswas & Dr. S. Sahoo	DST-SERB	1830000.0	2021
Development and characterization of functionalized carbon nanotubes-polymer nanocomposite having enhanced dielectric properties for Charge storage device	Dr. A. K. Meikap	DST&BT-WB	1446000.0	2019
Universal advanced low-cost nano-hybrid platform for air pollution, water, and bio- fluids	Dr. Aniruddha Mondal & Dr. Rabindranath Barman	SPARC (IIT KGP)	5846065.0	2019
Titanium dioxide (TiO <sub>2</sub> )/VO <sub>2</sub> NWs heterostructure as a stable optical switch	Dr. Aniruddha Mondal	DST-SERB	4919992.0	2021
Thermo-Chromic Variable Emittance Coating	Dr. Aniruddha Mondal	ISRO	2178000.0	2021
High Throughput Density Functional Calculations to Develop Electrochemically Active Cluster Compounds for Multifarious Applications.	Dr. Karthikeyan Jeyakumar	Department of Science and Technology, India	3500000.0	2020
Computational quantification of mutagenic potential of palindromic sequences in prokaryotic and eukaryotic genomes	Hemachander Subramanian	SERB	1857900.0	2021
A model for determination of DNA sequence from experimental data of DNA double-strand unzipping kinetics	Hemachander Subramanian	SERB	600000.0	2022
Synthesis of Semiconductor and Metal Nanostructures and the Investigation of Their Role as Active or Passive Scatterer in Random Laser Generation	P. Kumbhakar	WBDSTBT	1450000.0	2019



Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Development of Some 2D Transition Metal Dichalcogenide Semiconductor Nanostructures and Nanocomposites For Photocatalytic Dye Degradation, Light Energy Harvesting and Hydrogen Production	P. Kumbhakar	CSIR, INDIA	1940000.0	2020
Sustainable Technology for smart off-Grid Renewable Energy Transformation and Electrochemical Storage Management	Chakraborty, Amit Kumar	SERB (DST)	13800000	2022
Investigating Cellular Trade-offs and Host- Circuit Interplay in Synthetic Biology	Syantari Ghosh	DST-INSPIRE	3500000.0	2019

#### 4.14.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Study of quantum Hall effect, high energy physics phenomena and mechanical properties of graphene	Dr. S. Sahoo	CSIR	2023

#### 4.14.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Sukadev Sahoo	International Journal of Modern Physics A	World Scientific	2022-05-30
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-02-05
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-03-11
Ajit Kumar Meikap	Ceramic International	Elsevier	2022-08-06
Ajit Kumar Meikap	Ceramic International	Elsevier	2023-01-08
Ajit Kumar Meikap	Chemical Physics Letters	Elsevier	2022-11-13
Ajit Kumar Meikap	Diamond and Relater Materials	Elsevier	2022-09-17
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2022-04-13
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2022-09-17
Ajit Kumar Meikap	Journal of the Indian Chemical Society	Elsevier	2022-09-03
Ajit Kumar Meikap	Journal of Materials Science: Materials in Electronics	Spinger	2022-07-24
Ajit Kumar Meikap	Journal of Inorganic and Organometallic Polymers and Materials	Spinger	2022-06-18
Ajit Kumar Meikap	Journal of Physics D: Applied Physics	IOP	2022-12-07
Ajit Kumar Meikap	Materials Research Bulletin	Elsevier	2022-07-14
Ajit Kumar Meikap	Materials Research Bulletin	Elsevier	2022-08-19
Ajit Kumar Meikap	Materials Research Bulletin	Elsevier	2023-02-17
Ajit Kumar Meikap	Materials Science & Engineering B	Elsevier	2022-08-06
Ajit Kumar Meikap	Materials Science & Engineering B	Elsevier	2023-01-18
Ajit Kumar Meikap	Physica B	Elsevier	2022-07-07
Ajit Kumar Meikap	Polymer for Advanced Technologies	John Wiley	2022-09-13
Ajit Kumar Meikap	Materials Today Physics	Elsevier	2022-05-04
Ajit Kumar Meikap	Physica Scripta	IOP	2022-05-23
Karthikeyan J	Iranian Journal of Science	Springer	2023-03-04
Pathik Kumbhakar	Dalton Transactions	RSC	2022-04-24



Reviewer	Name of the Journal	Publisher	Date of Final Review
Pathik Kumbhakar	ACS Sustainable Chemistry & Engineering	ACS	2022-04-27
Pathik Kumbhakar	JOSA B	OPTICA	2022-05-10
Pathik Kumbhakar	Dalton Transactions	RSC	2022-06-27
Pathik Kumbhakar	Journal of Luminescence	Elsevier	2022-07-15
Pathik Kumbhakar	Nanotechnology	IOP	2022-07-20
Pathik Kumbhakar	Scientific Report	Nature	2022-07-28
Pathik Kumbhakar	Optical Materials	Elsevier	2022-08-07
Pathik Kumbhakar	Opt Express	OPTICA	2022-08-09
Pathik Kumbhakar	ACS Measurement Science Au	ACS	2022-08-21
Pathik Kumbhakar	Opt Express	OPTICA	2022-09-21
Pathik Kumbhakar	ACS Omega	ACS	2022-10-17
Pathik Kumbhakar	ACS Sustainable Chemistry & Engineering	ACS	2022-10-18
Pathik Kumbhakar	Indian Journal of Physics	Springer	2022-10-26
Pathik Kumbhakar	ACS Omega	ACS	2022-12-20
Pathik Kumbhakar	Optics Continuum	OPTICA	2023-02-22
Syantari Ghosh	Physical Biology	IOP	2022-07-13
Syantari Ghosh	Scientific Reports	Nature	2022-08-26
Pathik Kumbhakar	Nature Communications	Nature Portfolio	2022-10-06

#### 4.14.26 Review of Books

NIL

#### 4.14.27 Participation in National Committees/Visits

NIL

#### 4.14.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Ajit Kumar Meikap	Comprehensive examination and DAC 2 meeting	CMERI, Durgapur	2022-07-21	2022-07-21
Ajit Kumar Meikap	Project presentation and Grand Viva Examination (2022) of PG 4th semester	Kazi Nazrul University, Asansol	2022-08-04	2022-08-05
Ajit Kumar Meikap	Meeting of Board of Research Studies in Physics	Kazi Nazrul University, Asansol	2022-11-03	2022-11-03
Ajit Kumar Meikap	Ph.D. Viva-voc examination	Kazi Nazrul University, Asansol	2022-09-14	2022-09-14
Arghya Chatterjee	MSc Physics 1st Semester Examination 2023 (Quantum Mechanics- I)	Kazi Nazrul University	2023-02-13	2023-03-09
Mrinal Kanti Mandal	JEE Main test items development for 2023	NTA New Delhi	2022-12-01	2022-12-04
Amit Kumar Chakraborty	M.Sc. Project Seminar	Visvabharati University	2022-04-01	2023-03-31
Pathik Kumbhakar	M. Sc. 4 th Semester Examination, 2022 (2020-2022) (CBCS)	The University of Burdwan	2022-05-23	2022-05-23
Pathik Kumbhakar	PhD thesis	Sidho-Kanho-Birsha University	2022-07-12	2022-07-12
Pathik Kumbhakar	PhD thesis	UNIVERSITY OF CALCUTTA	2022-11-13	2022-11-13
Pathik Kumbhakar	PhD Viva-voce	Visvesvaraya Technological	2023-02-15	2023-02-15



Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
		University, Karnataka, India		
Pathik Kumbhakar	PhD thesis	Jadavpur University	2022-08-20	2022-08-20
Pathik Kumbhakar	PhD thesis review and Oral Examination	Anna University	2022-06-29	2022-06-29

#### 4.14.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Ajit Kumar Meikap	Recruitment of faculty of the Department of Physics	NIT Jamshedpur	2023-08-16	2023-08-18
Ajit Kumar Meikap	Recruitment of faculty of the Institute	NIT Manipur	2022-09-08	2022-09-12
Ajit Kumar Meikap	Selection of upgradation from JRF to SRF of UGC Scholars	Kazi Nazrul University, Asansol	2022-11-30	2022-11-30
Mrinal Kanti Mandal	Subject Expert for Teacher selection committee	DAV Model School	2023-03-26	2023-03-27
Amit Kumar Chakraborty	JRF selection in Physics	BITS Pilani, Pilani	2022-04-01	2023-03-31
Amit Kumar Chakraborty	Senior scholar selection	JBNSTS, Kolkata	2022-04-01	2023-03-31
Pathik Kumbhakar	Screening Committee for Faculty	NIT Manipur	2022-09-10	2023-09-12

#### 4.14.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Karthikeyan J	LaTeX FOR SCIENTIFIC WRITING	E-Workshop	Coimbatore (Online mode)	2022-11-08	2022-11-09
Pathik Kumbhakar	30th District Level National Science Congress (NCSC- 2022)	Bengal Science Lecture (BSL)	DAV Model School Durgapur	2022-09-26	2023-09-26
Pathik Kumbhakar	West Bengal State Science & Technology Congress	West Bengal State Science & Technology Congress	The University of Burdwan	2023-01-06	2023-01-06
Mrinal Kanti Mandal	Data Compression, Secure Communication and Storage	Seminar on Solitons and its Applications in Biophysics and Telecommunication	Durgapur Govt. College	2023-01-28	2023-01-28
Mrinal Kanti Mandal	Sparse representation: a significant technique of data processing and applications	Webinar lecture series of IETE Burdwan Sub-Centre	IETE Burdwan Sub-centre	2022-12-12	2022-12-12
Amit Kumar Chakraborty	Metal oxide nanostructures for Supercapacitors	2nd National Conference on Advanced Nanomaterials and Applications	Central University of South Gaya, Bihar	2023-03-20	2023-03-22

#### 4.14.31 Session Chair/Convenor



Name of the Faculty	Programme	Place	Session	From Date	To Date
Sayantari Ghosh	COMSYS 2022	IIT Ropar	Computational Biology & Biophysics	2022-12-19	2022-12-21

#### 4.14.32 Patents

NIL

## 5. Centers

### 5.1 Center for Advanced Research on Energy (CARE)

#### 5.1.1 Information regarding Center:

In the wake of environmental concerns and the global uproar about rapidly-declining reserves of fossil fuels the development of alternative fuels is crucial for the sustenance and development of human civilization. Climate change, pollution, and energy insecurity are significant problems, and addressing them requires major changes to energy infrastructures. Renewable energy technologies are essential contributors to the energy supply portfolio, as they contribute to world energy security, reduce dependency on fossil fuels, and provide opportunities for mitigating greenhouse gases. Climate-disrupting fossil fuels are being replaced by clean, climate-stabilizing, non-depletable sources of energy. Today, renewables are seen not only as sources of energy, but also as tools to address many other pressing needs, including: improving energy security; reducing the health and environmental impacts associated with fossil and nuclear energy; mitigating greenhouse gas emissions; improving educational opportunities; creating jobs; reducing poverty; and increasing gender equality. Renewables have entered the mainstream.

Due to the growing environmental concerns and depleting reserves of fossil fuels along with their expensive extraction and processing, more emphasis is being laid on finding alternative fuels which are non-polluting and renewable/abundant. Solar energy, being the most abundant of the renewable energy sources, is being sought after to cater to the increasing global power demand in order to minimise environmental damage. The average solar power received by the earth's surface stands at 173000 terawatts. This enormous amount of energy can act as source of energy if we can successfully convert and store it as electrical energy as per our requirement. One can achieve this by photovoltaic devices which can convert the solar photons into electrons to create a current or can hydrolyse water (another abundant resource) by the means of a photo-catalyst through photo-elctro-chemical water splitting. Both these approaches have enormous potential as alternative and renewable energy technology for the future generation.

In view of the above, and due to rapid urbanisation of Indian economy, the demand for alternative energy has been ever increasing in India. Durgapur being an industrial city, and due to Govt. of India's look east policy, need for developing technologies that can provide energy in a sustainable way for long term economic growth of the eastern India, it is high time that researchers at NIT Durgapur, take proactive role in transforming this growth process within the region. It is with these objectives, that a group of researchers as underlined below from several departments of NIT Durgapur, a premier technological institute, have come together to work jointly to develop technologies that can contribute significantly to the sustainable growth of the eastern region of India.

To establish a **Center for Advanced Research on Energy (CARE)** at NIT Durgapur is to promote multidisciplinary activities focused to various facets of energy technology and systems in the form of research, teaching and consultancy. The research activities in the centre will be in the form of research-based projects funded by various national and international funding agencies. Faculty members from various departments of the institute will be associated with the centre for the promotion of interdisciplinary research for sustainable energy. To support the research work in the projects, the centre will start academic programmes - Doctor of Philosophy (PhD) and M. Tech by Research.



### 5.1.2 Centre at a glance

- To carry out advanced interdisciplinary research activities in the area of energy to the needs of the society.
- To conduct training programmes in the related areas for professional skill development.
- To facilitate incubation of business ideas from students and mentor them to develop as entrepreneurs in relevant areas.
- To introduce post graduate courses in energy with certain specializations that will focus on emerging areas of energy devices Design and Development, sensors, smart materials, etc.
- To provide a platform for interaction between industry fraternity with scientists and management experts from neighbouring institutions interested to work in identified topics by organizing regular seminar series.
- To provide customized/flexible PhD Program to student(s) of any department of the institute on specific problems in energy.
- To enter into collaborative research engagements with Extra-mural funding agencies and Industrial Organizations for better understanding of issues of scientific and technological management between different stakeholders.

### 5.1.3 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Prof. Parimal Acharjee, EE	Professor	parimal.acharjee@ee.nitdgp.ac.in
Prof. Kaustav Aikat, BT	Professor	kaustav.aikat@bt.nitdgp.ac.in
Prof. Atul Kumar Banik, CE	Professor	atul.banik@ce.nitdgp.ac.in
Prof. Tapas Kumar Saha, EE	Professor	tapas.saha@ee.nitdgp.ac.in
Prof. S. N. Mahato, EE	Professor	sankar.mahato@ee.nitdgp.ac.in
Dr. A. Mondal, PH	Associate Professor	aniruddha.mondal@phy.nitdgp.ac.in
Dr. J. Dey, EE	Associate Professor	jayati.dey@ee.nitdgp.ac.in
Dr. T. K. Bera	Assistant Professor	tusharkanti.bera@ee.nitdgp.ac.in

### 5.1.4 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2022-23) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
		Ongoing	Completed			
22	27	06	02	05	03	NIL

### 5.1.5 Workshops/Seminars Organised (2022-23)

NIL.

### 5.1.6 Doctoral Programme (No. Only)

Ongoing	01
Completed	NIL

### 5.1.7 Facilities available

- High speed Internet facility with Wi-Fi connectivity.
- Workshop for any fabrication, model making requirements and design software.
- Simulation software.





- Computers with necessary software
- Solar Simulator
- Water and Electricity for 24 hours
- Hardware and software laboratories
- Library – books, journals (Hardcopy), unlimited journals, conference papers download, plagiarism Checking facility.

### 5.1.8 Equipment

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Solar Simulator I-V System with IPCE	23-03-2022	4803387.06

### 5.1.9 Future Plans

#### Future Plans are as follows:

- ❖ Introduce post graduate courses on energy with certain specializations that will focus on emerging areas of energy devices, design and development, sensors, smart materials, etc.
- ❖ Start PhD Program to student(s) on specific problems on energy.
- ❖ Purchase Equipment which will be multi-disciplinary. Experimental set-up for PG course will be developed. Those purchased equipment will be helpful and useful for PG students, PhD scholars to perform multidisciplinary research.
- ❖ Conduct workshop, seminar, Conference and training programmes in the related areas for professional skill development.
- ❖ Collaborative research engagements with Extra-mural funding agencies and Industrial Organizations for better understanding of issues of scientific and technological management between different stakeholders.
- ❖ Promote multidisciplinary activities focused to various facets of energy technology and systems in the form of research, teaching and consultancy.

## 5.2 Centre of Biomedical Engineering & Assistive Technology (BEAT)

### 5.2.1 Centre at a glance

The Centre of Biomedical Engineering & Assistive Technology (BEAT) is focused on specific research to solve complex biomedical problems that are crucial to human welfare and society, in general. It invites /aims at multidisciplinary perspective that include engineering sciences, physical sciences mathematical, and biological sciences. This centre is determined to enhance interdisciplinary engineering education & research, training of paramedical and medical skills of personnel in the field /application. The thematic focus areas for research under the BEAT are:

- Biomaterials & Biofabrication,
- Biomechanics & Biomechanical Engineering,
- Biomedical Devices, Bio-Instrumentation & Bio-sensors,
- Assistive Technology & Rehabilitation Engineering.
- At present, the center is having one professional category and one full-time PhD /research scholar supported by Institute fellowship, who are working in the interdisciplinary domain under the guidance of multiple Faculty members from different academic departments.

### 5.2.2 Faculty & Staff details

Name	Designation	Areas of Research Interest	Email id (Institute & other id)
Monidipa Ghosh	Asso Professor	Molecular Immunology, Biosensor development, Host-pathogen interaction	monidipa.ghosh@bt.nitdgp.ac.in
Supriya Bera	Asso Professor	Phase Transformation, Materials Characterization, Biomaterials,	supriya.bera@mme.nitdgp.ac.in
Manab Mallik	Asstt Professor	Structure property correlation of Biomaterials	manab.mallik@mme.nitdgp.ac.in
Madan M. Ghosh	Asso Professor	Simulation for Designing Structural Materials Nanomaterials - Nanoparticles, Nanocomposites	madanmohan.ghosh@mme.nitdgp.ac.in



Name	Designation	Areas of Research Interest	Email id (Institute & other id)
Tushar K. Bera	Asstt Professor	Biomedical Instrumentation, Sensors and Actuators, Medical Electronics, EIHM	tusharkanti.bera@ee.nitdgp.ac.in
Ashis K. Dhara	Asstt Professor	Computer-aided Diagnosis System, AI & Machine Learning, Deep Learning in Med Image Analysis.	ashis.dhara@ee.nitdgp.ac.in
Suman Halder	Asstt Professor	Biomedical Instrumentation, Biomedical Modeling	suman.halder@ee.nitdgp.ac.in
Chiranjib Koley	Professor	Signal Processing, Pattern Recognition, Soft Computing, Process Control & Instrumentation	chiranjib.koley@ee.nitdgp.ac.in
NB Hui	Professor	Robotics, Soft Computing, Multi Agent Systems, Design Optimization	nirmal.hui@me.nitdgp.ac.in
K Khan	Asso Professor	Composite materials, bimodular composite, Finite element method, Functionally graded materials	kallol.khan@me.nitdgp.ac.in
SS Roy	Professor	Additive Manufacturing & 3D Printing, CAD/CAM, Robotics	shibendu.roy@me.nitdgp.ac.in
RN Barman	Asstt Professor	Computational Fluid Dynamics (CFD), Modeling and Simulation	rn.barman@me.nitdgp.ac.in
Bibhash Sen	Asso Professor	Embedded System & its application in medical science, Assistive Technology	bibhash.sen@cse.nitdgp.ac.in
Mamata Dalui Chakraborty	Asstt Professor	Intelligent Biomedical Devices, Assistive Technology	mamata.dalui@cse.nitdgp.ac.in
Suchismita Roy	Professor	FPGA based Embedded System design	suchismita.roy@cse.nitdgp.ac
Aniruddha Mondal	Asso Professor	Fabrication of 1d metal oxide semiconductor nanostructure, hybrid semiconductor detectors, Bio sensor	aniruddha.mondal@phy.nitdgp.ac.in
Nilanjan Chattaraj	Asstt Professor	Smart materials based devices and Structronic Systems, Electromechanical systems, Flexible-Mechatronics System Engineering	nilanjan.chattaraj@ece.nitdgp.ac.in
Diptesh Das	Asso Professor	Passive, Semi-active and Hybrid Vib Control, AI and Soft Computing Offshore Struct. Engineering	diptesh.das@ce.nitdgp.ac.in
Dakshina Ranjan Kisku	Associate Professor	Biometrics, Machine Learning, Deep Learning, Image Processing, Pattern Classification, Affective Computing	drkisku@cse.nitdgp.ac.in
Debashis Nandi	Professor	Image Processing, Medical Imaging, Communication Security, Chaos and Security, Bio-inspired Optimization, Deep Learning in Computer Vision	debashis@cse.nitdgp.ac.in
Amiya K. Samanta	Professor	Comp. & exp. Mechanics, simulation of composite structures, innovative materials.	amiyak.samanta@ce.nitdgp.ac.in

### 5.2.3 R&D Activities

### 5.2.4 Papers/Projects/Books/Book Chapters/Patents:

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2022-23) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
		Ongoing	Completed			
0	0	0	--	0	-	0



### 5.2.5 Workshops/Seminars Organised (2022-23)

### 5.2.6 Doctoral Programme (Number Only)

Ongoing	02
Completed	NIL

### 5.2.7 Facilities available

### 5.2.8 Equipment

### 5.2.9 Future Plans

Centre of Biomedical Engineering & Assistive Technology (BEAT) wishes to widen its research perspective in the thematic areas along with the following future plans

- Sponsored R&D project proposal submission.
- Initiate procurement of equipment and setting up of dedicated laboratory under HEFA proposal as soon as lab area /space in Utkarsh Bhavan is received /handed over.
- Floating proposal for interdisciplinary MTech programme in BME.

## 5.3 Centre for Research on Environment and Water (CREW)

Ministry of Education, GoI through HEFA has approved the fund of Rs. 4 Crore to set up a Centre for Research on Environment and Water (CREW) at NIT Durgapur. This centre will be equipped with high valued analytical instruments with an aim to develop expertise to assist industries and municipal bodies in developing and implementing evaluation, remediation and management strategies for pollution related issues using sole and/or integrated treatment strategies and develop technologies to convert waste to value added products. As Durgapur is a rapidly developing city with a burgeoning population, increasing use of fossil fuels and generation of municipal wastes are associated with its development. In this localized scenario as well as in the national scenario, a state of the art centre for studies and research on such environmental issues is extremely relevant. As the Centre is interdisciplinary in nature and made by multiple departments like Earth and Environmental Studies, Physics, Chemistry, Mathematics, Chemical Engineering, Biotechnology, Civil Engineering, Mechanical Engineering, Management Studies and Computer Science and Engineering to implement for ensuring total environmental compliance by industrial houses and municipal bodies. Finally, UG, PG students and research scholar are benefitted through such advanced centre for their better understanding with their interdisciplinary curriculum.

### 5.3.1 Centre at a glance

A centre with a multidisciplinary approach towards advanced research on environment and water in an institute of national importance, such as National Institute of Technology Durgapur can play a very effective role in this regard. Such a centre would need precision high value analytical instruments for this activity. The centre would aim to develop the expertise to assist industry and civic administrations in developing and implementing evaluation, remediation or management strategies for contamination issues and develop technologies to convert wastes to value-added products wherever feasible. Hybrid treatment technologies encompassing chemical, biological and physico-chemical treatment schemes would be a viable and practical option to substitute inadequate conventional treatment systems. As the Centre is interdisciplinary in nature and made by multiple departments like Department of Earth and Environmental Studies, Physics, Chemistry, Mathematics, Chemical Engineering, Biotechnology, Civil Engineering, Mechanical Engineering, Management Studies and Computer Science & Engineering to implement for ensuring total environmental compliance by industrial houses and municipal bodies.

### 5.3.2 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Dr. Rajnarayan Saha	Professor and Coordinator	rajnarayan.saha@ch.nitdgp.ac.in
Dr. Hirok Chaudhuri	Associate Professor and Joint Coordinator	<a href="mailto:hirok.chaudhuri@phy.nitdgp.ac.in">hirok.chaudhuri@phy.nitdgp.ac.in</a>
Dr. Sandip Mondal	Assistant Professor and Joint Coordinator	sandip.mondal@ees.nitdgp.ac.in
Dr. Kalyan Adhikari	Professor	<a href="mailto:kalyan.adhikari@ees.nitdgp.ac.in">kalyan.adhikari@ees.nitdgp.ac.in</a>



Name	Designation	Email id (Institute & other id)
Dr. Apurba Dey	Professor (HAG)	<a href="mailto:apurba.dey@bt.nitdgp.ac.in">apurba.dey@bt.nitdgp.ac.in</a>
Dr. Kaustav Aikat	Professor	<a href="mailto:kaustav.aikat@bt.nitdgp.ac.in">kaustav.aikat@bt.nitdgp.ac.in</a>
Dr. Dalia Dasgupta Mandal	Professor	<a href="mailto:dalia.dasgupta@bt.nitdgp.ac.in">dalia.dasgupta@bt.nitdgp.ac.in</a>
Dr. Surabhi Chaudhuri	Professor	<a href="mailto:surabhi.chaudhuri@bt.nitdgp.ac.in">surabhi.chaudhuri@bt.nitdgp.ac.in</a>
Dr. Sufia Kazy	Associate Professor	<a href="mailto:sufia.kazy@bt.nitdgp.ac.in">sufia.kazy@bt.nitdgp.ac.in</a>
Dr. Parimal Pal	Professor (HAG)	<a href="mailto:parimal.pal@che.nitdgp.ac.in">parimal.pal@che.nitdgp.ac.in</a>
Dr. Tamal Mandal	Professor	<a href="mailto:tamal.mandal@che.nitdgp.ac.in">tamal.mandal@che.nitdgp.ac.in</a>
Dr. Susmita Dutta	Professor	<a href="mailto:susmita.dutta@che.nitdgp.ac.in">susmita.dutta@che.nitdgp.ac.in</a>
Dr. Gopinath Halder	Professor	<a href="mailto:gopinath.halder@che.nitdgp.ac.in">gopinath.halder@che.nitdgp.ac.in</a>
Dr. Mrinal Kanti Mondal	Associate Professor	<a href="mailto:mrinalkanti.mandal@che.nitdgp.ac.in">mrinalkanti.mandal@che.nitdgp.ac.in</a>
Dr. Bimal Das	Assistant Professor	<a href="mailto:bimal.das@che.nitdgp.ac.in">bimal.das@che.nitdgp.ac.in</a>
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Dr. Soumen Basu	Associate Professor	<a href="mailto:soumen.basu@phy.nitdgp.ac.in">soumen.basu@phy.nitdgp.ac.in</a>
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Dr. Jitamanyu Chakrabarty	Associate Professor	<a href="mailto:jitamanyu.chakrabarty@ch.nitdgp.ac.in">jitamanyu.chakrabarty@ch.nitdgp.ac.in</a>
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Dr. Tanmoy Kr. Saha	Assistant Professor	<a href="mailto:tanmoy.saha@ch.nitdgp.ac.in">tanmoy.saha@ch.nitdgp.ac.in</a>
Dr. Sujoy Saha	Assistant Professor	<a href="mailto:sujoy.saha@cse.nitdgp.ac.in">sujoy.saha@cse.nitdgp.ac.in</a>
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Dr. Mousumi Roy	Professor	<a href="mailto:mousumi.roy@dms.nitdgp.ac.in">mousumi.roy@dms.nitdgp.ac.in</a>
Dr. Parag Kumar Guhathakurta	Assistant Professor	<a href="mailto:paragkumar.guhathakurta@cse.nitdgp.ac.in">paragkumar.guhathakurta@cse.nitdgp.ac.in</a>
Dr. Subhas Rana	Associate Professor	<a href="mailto:subhas.rana@me.nitdgp.ac.in">subhas.rana@me.nitdgp.ac.in</a>
Dr. Arup Kumar Mandal	Assistant Professor	<a href="mailto:arup.mandal@mme.nitdgp.ac.in">arup.mandal@mme.nitdgp.ac.in</a>
Dr. Soumik Das	Assistant Professor	<a href="mailto:soumik.das@phy.nitdgp.ac.in">soumik.das@phy.nitdgp.ac.in</a>
Dr. Nilanjan Chattaraj	Assistant Professor	<a href="mailto:nilanjan.chattaraj@ece.nitdgp.ac.in">nilanjan.chattaraj@ece.nitdgp.ac.in</a>
Dr. Nibedita Mahata	Assistant Professor	<a href="mailto:nibedita.mahata@bt.nitdgp.ac.in">nibedita.mahata@bt.nitdgp.ac.in</a>
Dr. Sudipta Mondal	Assistant Professor	<a href="mailto:sudipta.mondal@bt.nitdgp.ac.in">sudipta.mondal@bt.nitdgp.ac.in</a>

### 5.3.3 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2022-23) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
		Ongoing	Completed			
04	05	NIL	1	2	NIL	NIL

### 5.3.4 Workshops/Seminars Organised

NIL

### 5.3.5 Doctoral Programme (No. Only)

Ongoing	01
Completed	NIL



### 5.3.6 Facilities available

Centre procured Geotechnical Centrifuge and AlphaGuard Radon Monitor

### 5.3.7 Equipment

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Geotechnical Centrifuge	20.12.2022	Rs.32,93,290/-

### 5.3.8 Future Plans

Development of low-cost technological solutions of industrial effluent treatment, particulates and gaseous emission control system and solid waste management system.

Precise assessment of contamination and transport mechanism of contaminants in soil and groundwater system and development of control mechanism.

Development of low cost highly sensitive environmental monitoring equipment, particularly electronic sensors with data logger.

Development of strategies to monitor environmental radioactivity and to provide feasible solutions.

Development of processes for bioremediation of wastes to convert them to harmless/less harmful forms or to yield value-added products

Direct interfacing with industries to solve their specific pollution control problems

## 5.4 IoT and Intelligent Systems (IoTIS)

Centre of Excellence on IoT and Intelligent Systems (IoTIS), funded by Higher Education Financing Agency (HEFA), MoE, Govt. of India.

### 5.4.1 Centre at a Glance

The proposed 'Centre of Excellence for Advanced Research on IoT and Intelligent Systems' (IoTIS) will focus on advanced interdisciplinary research activities in the area of Internet of Things (IoT) and assistive technologies related to Intelligent Systems to cater to the needs of the society. Another goal of IoTIS is to meet the challenges of the nation by encouraging research and entrepreneurship in interdisciplinary areas, encompassing engineering, sciences, and social sciences. IoTIS also aims to reach out to universities, research institutions and industrial organizations with periodic continuing-education programs for proper utilization of national resources. As far as academic programs are concerned, the centre will be offering Masters, and PhD programs in Advanced Networking and Intelligent Systems. Going forward, the centre seeks collaboration with national and international institutes and partnership with social institutions and industries to realize its goals.

### 5.4.2 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Prasenjit Choudhury	Asso Prof	pchoudhury@cse.nitdgp.ac.in
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Subrata Nandi	Professor	snandi@cse.nitdgp.ac.in
Sujoy Saha	Asst prof	ssaha@cse.nitdgp.ac.in
Chiranjib Koley	Professor	ckoley@ee.nitdgp.ac.in
Subhrabrata Choudhury	Professor	schoudhury@cse.nitdgp.ac.in
Anirban sarkar	Asso Prof	asarkar@cse.nitdgp.ac.in
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### 5.4.3 R&D activities

### 5.4.4 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2022-23) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
		Ongoing	Completed			
06	02	NIL	NIL	NIL	NIL	NIL

### 5.4.5 Workshops/Seminars Organised

NIL

### 5.4.6 Doctoral Programme (No. Only)

Ongoing	NIL
Completed	NIL

### 5.4.7 Facilities available

At Present, an Eye tracker software is procured which is being utilised in association with EEG for studying cognitive load. Permission for purchase of some other equipments have been obtained and the process is initiated. However, the facilities for IoT test beds require permananet space which is likely to be available with the handover of the HEFA CoE buliding. Currently, faculty members of the team are working on the related problems using the general facilties (including sponsored or RIG related projects) available in the Institute.

### 5.4.8 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Eye tracker device	05.01.2021	9 lakhs

### 5.4.9 Future Plans

- To create facility and test-bed for carrying out advanced interdisciplinary research activities in the area of Internet of Things (IoT) and related Intelligent Systems (and Smart Systems) to cater to the needs of the industry and society (in general).
- Conducting training programmes and Master degree level courses in the related areas for professional skill development.
- Generating Intellectual Properties (IP) in terms of patents and high quality technical publications.
- Conducting consultancy works for industries covering, but not limited to, transportation, manufacturing, healthcare, agriculture etc.
- Helping and guiding start-ups in relevant areas.
- Using this as a general research facility to take up new research projects from industry and other bodies.

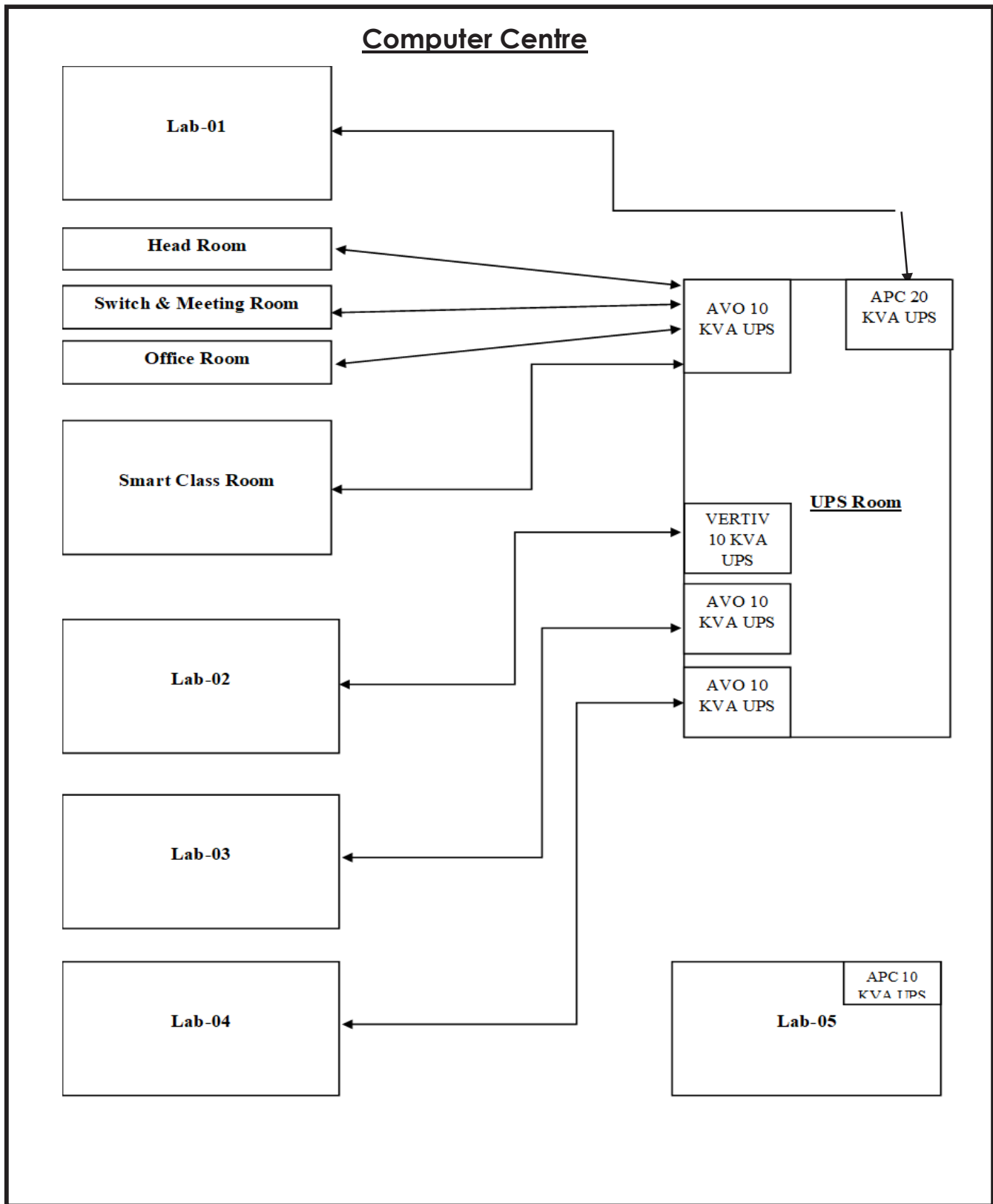




## 6. Centralised Services

### 6.1 Computer Centre

Name of the Lab	Area of the Lab	Number of System	Configuration of the System	Software Used
LAB-01	40X24 sq.ft	Total capacity 68 Nos. system. System present 68 Nos. CCTV -- 02 Nos. Projector -- 01 No. APC 20 KVA UPS – 01 No. (PC-001 to PC-068)	Acer Veriton - Intel core i5-8500; 3.0 GHz; 1TB HDD; 16 GB RAM. -- 68 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Mars, Codeblock, MySql, Xampp, Office365
LAB-02	34X24 sq.ft	Total capacity 44 Nos. system. System present 41 Nos. CCTV -- 02 Nos. Projector -- 01 No. VERTIV 10 KVA UPS – 01 No. (PC-069 to PC-112)	Acer Veriton - Intel core i5-8500; 3.0 GHz; 1TB HDD; 16 GB RAM. --10 Nos. HP Pro TWR 400 G9 - Intel core i5-12500; 3.0 GHz; 1TB HDD, 8 GB RAM. -- 31 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-03	34X24 sq.ft	Total capacity 44 Nos. system. System present 44 Nos. CCTV -- 02 Nos. Projector -- 01 No. APC 10 KVA UPS – 01 No. (PC-113 to PC-156)	HP Pro TWR 400 G9 - Intel core i5-12500; 3.0 GHz; 1TB HDD, 8 GB RAM. -- 44 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-04	34X24 sq.ft	Total capacity 44 Nos. system. System present 34 Nos. CCTV -- 02 Nos. Projector -- 01 No. AVO 10 KVA UPS – 01 No. (PC-157 to PC-200)	HP Elite Desk 800G – Intel core i5; 3.5 GHz; 500GB HDD 8 GB RAM. -- 34 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-05	36X15 sq.ft	Total capacity 36 Nos. system. System present 27 Nos. CCTV -- 01 No. APC 10 KVA UPS – 01 No. (PC-201 to PC-236)	Lenovo Thinkcentre Intel core i5 Vpro, 3.3 GHz; 6GB RAM. - -04 Nos. HP Elite Desk 800G – Intel core i5; 3.5 GHz; 500GB HDD 8 GB RAM. -- 23 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-06	23X15 sq.ft	IOTIS Project Lab.		
Smart Class Room	24X23 sq.ft	Total capacity 36 Nos. system. System procurement under process. CCTV -- 01 No. Projector -- 01 No. AVO 10 KVA UPS – 01 No.		





## 6.2 Library

### 6.2.1 About Us

The Central Library is one of the important central facilities of the Institute supports the study, teaching, research, and community to enhance their knowledge and skillsets. It is housed in a separate building having three floors on a plinth area of 1000 sq. mtrs. The library has a collection of 1,92,036 volumes, which includes text-books, reference books & bound volumes of Journals, Standards etc. The library subscribes to about 125 current e-Journals and a few e-Services. Library operations have been automated with the help of an integrated opensource library management software package, KOHA. The book database is accessible through OPAC (Online Public Access Catalogue). It has good collection of reference books for all branches of the Institute. It has a good collection of electronic resources in its Digital Library.

Library has introduced Wi-Fi facility in the reading halls to access e-resources. It has also some Audio-Visual equipment like Direct Projectors, Multimedia Projectors, Studio recording, color copier etc.

The library is an institutional member of DELNET (Developing Library Network), and NPTEL (National Programme on Technology Enhanced Learning). It is also a beneficiary member of eSS (e-SodhSindhu) previously known as INDEST-AICTE (Indian National Digital Library in Engineering, Science & Technology) which provides Desktop Access to high quality e-resources (online journals and databases).

### 6.2.2 Facilities & Teaching and Learning Resources

Central Library extends various facilities to the students, faculties and researchers. The UG/PG students are supported with the Book-Bank, which allows them to borrow 6 (six) books in each semester. Moreover, they can also borrow reference books (limited in numbers). The Research Scholars can borrow more books for their references. Faculties and staff are also avail this facility.

Central Library has been subscribing various e-services which include e-Journals and e-Database and e-Services. All the electronic services are licensed on the Institute IP, hence users can access those services seamlessly within the local network. We also provide off-campus access through INFLIBNET portal.

### 6.2.3 Access to the Resources

Central Library is providing two types of services – the circulation and online service. The circulation includes all print book, reference books and study materials. The students of the institute, faculties and staff can avail the circulation facility. There is a collection of ‘children book’. This facility is availed by the employees of the institute.

All online services are available on the Institute local network. There is no user login required. However, some e-Services are login based – iThenticate, Grammarly, etc.

The users can avail the reading room facility during the library hour. The reading room is wifi enable and temperature controlled.

### 6.2.4 Studio (Lecture Recording System)

Central library has recently developed a studio for learning material development. The studio is equipped with interactive devices like digital board, Wacom, 50 seater student capacity, faculty and student microphones, etc. The studio is also supported with the editorial team. The editorial office is equipped with the required devices and the software to produce the final product. The studio can be used to produce teaching learning contents for the NPTEL and MOOC courses.

### 6.2.5 E-Journals/Databases through e-ShodhSindhu

The following resources are available from the e-ShodhSindhu (2020 onwards)

Sl. No.	Name of Resource	Sl. No.	Name of Resource
1	ACM Digital Library	9	JSTOR
2	American Institute of Physics	10	MathSciNet
3	American Physical Society	11	Oxford University Press
4	ASCE Journals Online	12	Project Muse
5	ASME Journals Online	13	Springer Link 1700 Collection
6	Economic & Political Weekly	14	Nature Journal
7	Institute for Studies in Industrial Development (ISID) Database	15	Web of Science Lease Access
8	JGate Plus (JCCC)	16	Urkund, PDS Software

Apart from the s-ShoodhSindhu, the Institute subscribes the following journals and resources.



Sl. No.	Name of Resource	Sl. No.	Name of Resource
1	American Chemical Society (ACS)	8	PNAS Tier – 3
2	Emerald - 310 Journals Package	9	Royal Society of Chemistry (RSC Gold EA)
3	IEEE (IEL Online) Level-2	10	Sage iMcChe - Material Science & Engineering & Management & Org. Studies
4	ASTM Standards	11	Taylor and Francis (4 Subject Collection)
5	Elsevier -Science Direct (11 Subject Collection)	12	Wiley Online (100 Journals)
6	Indian Standards (BIS Code)	13	American Concrete Institute (ACI) journals
7	SAE Journal	14	Institute of Physics (IOP) journals
		15	AMS (American Mathematical Society)

Sl. No.	Name of Database/Tools
1	SCOPUS Database
2	EPWRF Database
3	Scifinder Database
4	iThenticate (Anti-plagiarism/ Similarity measure tool)
5	Grammarly (Writing support tool)
6	IEEE SWEBOK Course Content
7	PROWESS Database (CMIE)

### 6.2.6 e-Books

Central Library has a rich collection of e-Books and backfiles. All this resources are perpetual licensed.

#### **Backfiles of e-journals (From Vol.1 Issue 1 to till date)**

1. **Elsevier Backfiles Collection:** Engineering & Technology (164 titles) and Chemical Engineering (36 titles)
2. **Royal Society of Chemistry (RSC Gold):** Archive 1841-2007
3. **Emerald Backfiles Collection:**
  - a) Accounting and Economics – 1974-2006 (27 Journals)
  - b) Marketing -1967-2006 (18 Journals)
  - c) HR Learning and Organisational Studies -1952-2006 (28 Journals)
  - d) Operational Logistics and Quality – 1971-2006 (22 Journals)
  - e) Public Policy and Environment -1899-2006 (10 Journals)

#### **Library subscribes e-Books from different leading publishers:**

Institute library has more than 18000 e-book collection of different publishers. Detail areas below:

1. Oxford e-Book collection for Mathematics and Physics
2. Springer e-Book Collection, LNCS (Lecture Note in Computer Science) from 1973 to 2022
3. Elsevier e-Books
4. CRC Press
5. Pearson (1<sup>st</sup> Year Collection), three years' perpetual license

#### **Print Collections**

Central Library has adequate collection of print materials. The details are shown below:



<b>a)- Collection (as on 31 March 2022)</b>	General Book	1,24,487
	Book Bank	41,261
	Bound Vol. of Journals	7744
	SC/ST	4244
	BIS Code	5072
	Gift	5125
	Misc.	557
	TEQIP Books	3546
<b>Total Collection</b>		<b>192036</b>

### 6.2.7 Library Hours

- 8:30 A.M to 9:00 P.M. (Weekdays)
- 9:00 AM to 5:00 P.M. (Weekends)
- However, the library timing increases up to midnight during the examination. During vacations 8:30 A.M. to 5:30 P.M. (Institute holidays remain close).

### 6.2.8 In Charge

There is the Professor in Charge of Central Library and the Chairman of Library Committee. The Professor in Charge is Jaydeep Howlader, Department of Computer Science, and the Chairman is Prof. Apurba Dey, Department of Biotechnology.

## 6.3 SRCC

### 6.3.1 Projects

Research Projects	Completed		Ongoing	
	No.	Value	No.	Value
	55	36,36,159	94	5,83,29,573

### 6.3.2 Consultancy

Consultancy & Testing Projects	Total no. of consultancy and testing projects	Total value of Consultancy and testing
	151	Rs. 2,10,43,279.50

## 6.4 Career Development Center (CDC)

### 6.4.1 Placement

Career Development Center of the institute provides employment opportunities to the final year students and training to the 3rd year students after 6th semester. 640 UG students have been placed in the session 2022-2023. Apart from that few students have opted for higher studies in various IITs and IISc. 189 companies visited the campus including MICROSOFT, ORACLE, GOLDMAN SACHS, J.P. MORGAN, AMDOCS, IBM, L&T, TCS, CESC, HSBC, PWC, RELIANCE JIO, HERO MOTOCORP, VEDANTA, JOHN DEERE, BPCL, RELIANCE INDUSTRIES. 106 companies visited the campus for M.Tech courses and 139 no of students have been placed in the academic session 2022-2023. Rest of the students have gone for higher studies. 10 companies visited for MBA and 16 students have been placed out of total eligible strength of 17. 18 companies visited for M.SC and 18 students have been placed out of total eligible strength of 90.

### Training and Allied Activities

Industrial Training/ Vocational Training is provided to the students of 3rd year after passing 6th semester. Annexure-III provides the list of companies for each individual branch.



Along with training the department organizes seminars entitled from classroom to boardroom by reputed global players such as TCS, Wipro and IBM. Student’s development activities such as communication and interpersonal skills by reputed organizers are also conducted. Each year 5 no of students go for Internship in CERN (European Council for Nuclear Research, Switzerland). Foreign universities like ANUS, Singapore also allows NIT students for internship.

The UG & PG statistics for placement respectively are:

**PLACEMENT RECORDS (Up to 30.06.2023)**  
**B.TECH: 2022-23**  
**[0- Considered but not selected, (-) Not considered.]**

Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								
		BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
Sharing slot										
1	TCS Ninja	7	6	5	13	8	1	17	19	76
2	Infosys	0	0	0	0	0	0	0	0	0
Branch wise core sector										
1	TCS Digital	0	0	0	3	0	0	2	0	5
2	Trilogy Innovations	0	0	0	0	0	0	0	0	0
3	Microsoft	-	-	-	23	7	5	-	-	35
4	Fanatics	-	-	-	0	-	-	-	-	0
5	Ashok Leyland	-	-	-	-	-	1	1	-	2
6	Mathworks	-	-	-	2	0	0	0	-	2
7	Qualcomm	-	-	-	3	2	0	-	-	5
8	J.P. Morgan	-	-	-	19	6	8	2	-	35
9	Schneider Electric	-	-	-	0	0	0	5	-	5
10	Steradian Semiconductor	-	-	-	-	0	1	-	-	1
11	Wells Fargo	-	-	-	15	2	-	-	-	17
12	PwC	-	-	16	6	3	4	24	-	53
13	Oracle	-	-	-	9	2	2	1	-	14
14	Delhivery	-	3	1	2	-	-	3	2	11
15	Mavenir Systems	-	-	-	0	0	-	-	-	0
16	Byju's	-	-	-	6	1	2	-	-	9
17	Increff	0	1	0	0	0	1	2	0	4
18	Infosys (SP)	-	-	-	0	0	0	-	-	0
19	Brane Enterprise	-	-	-	0	0	0	-	-	0
20	John Deere	-	-	-	4	2	-	0	-	6
21	Uber	-	-	-	1	2	0	-	-	3
22	Cashfree	-	-	-	1	-	-	-	-	1
23	Publicis Sapient	-	-	-	9	4	-	-	-	13





Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								TOTAL
BT	CE	CHE	CSE	ECE	EE	ME	MME			
24	Signify	-	-	-	3	-	-	-	-	3
25	Natwest Group	-	-	-	5	2	1	0	-	8
26	Carrier Corporation	-	-	-	0	1	-	-	-	1
27	Merilytics	-	0	0	0	1	0	0	-	1
28	Tata Projects	-	1	-	-	0	0	2	-	3
29	Sigmoid Analytics	-	-	-	2	2	0	-	-	4
30	TCS(R&I)	-	-	-	0	0	0	-	-	0
31	Tata Elxsi	-	-	-	0	0	0	-	-	0
32	WTW	-	-	-	1	-	-	-	-	1
33	Futures First	0	0	0	0	0	0	0	0	0
34	Genpact	-	-	-	0	3	3	-	-	6
35	Maq Software	-	-	-	0	-	-	-	-	0
36	Shipsy	-	-	-	0	0	0	-	-	0
37	Accenture	8	1	4	0	2	5	6	7	33
38	IBM	-	-	-	0	3	0	-	-	3
39	Blackbuck	0	0	0	0	0	0	1	0	1
40	ICICI Bank	9	3	5	4	2	3	9	12	47
41	OFSS	-	-	-	0	0	0	4	-	4
42	Bosch Limited	-	-	0	-	0	0	0	-	0
43	Deloitte	-	4	0	3	1	4	6	-	18
44	ITC Limited	-	-	1	-	-	0	1	-	2
45	Visa	-	-	-	0	0	1	-	-	1
46	NRI Fintech	-	-	-	0	1	-	2	-	3
47	HSBC	2	0	0	0	1	0	0	0	3
48	Samsung Semiconductor	-	-	-	3	6	3	-	-	12
49	Axis Bank	0	0	0	5	0	0	0	0	5
50	Comviva	-	-	-	0	0	0	-	-	0
51	PayU	-	-	-	1	0	0	-	-	1
52	Chqbook	-	-	-	0	-	-	-	-	0
53	Morphle Labs	-	-	-	-	0	0	0	-	0
54	Tartan	-	-	-	0	0	0	1	-	1
55	The Math Company	-	-	-	0	-	-	-	-	0
56	Alstom Transport	-	-	-	1	0	2	5	-	8



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								
		BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
57	GSK	0	-	-	1	0	0	-	-	1
58	Tech Mahindra	-	-	-	0	0	-	-	-	0
59	CGI	-	-	-	0	2	3	-	-	5
60	Talent Recruit	-	-	-	0	0	0	2	-	2
61	Teradata	-	-	-	0	-	-	-	-	0
62	Siemens	-	-	-	0	0	1	1	-	2
63	ABB	-	-	-	0	0	-	-	-	0
64	EXL Service	1	5	1	0	0	0	2	7	16
65	Amdocs	-	-	-	3	1	-	-	-	4
66	Quantiphi	1	2	2	1	0	1	1	2	10
67	Jio Platform(1)	-	-	-	2	4	-	-	-	6
68	Arcesium	-	-	-	0	0	0	-	-	0
69	Media Net	-	-	-	0	0	0	-	-	0
70	Daimler India	-	-	-	0	-	2	0	-	2
71	Discovery	-	-	-	0	-	-	-	-	0
72	Samsung R&D (Noida)	-	-	-	0	0	-	-	-	0
73	Jio Platform(2)	-	-	-	0	0	-	-	-	0
74	Park+	-	-	-	0	0	0	-	-	0
75	Reliance Retail	-	4	-	0	0	0	0	-	4
76	BPCL	-	-	4	2	-	5	5	-	16
77	Hero MotoCorp	-	-	-	-	-	1	2	-	3
78	GreyB	1	-	0	0	0	0	2	1	4
79	ARM Embedded	-	-	-	0	0	-	-	-	0
80	Net Cracker	-	-	-	0	1	0	-	-	1
81	Zscaler	0	0	0	0	0	0	1	0	1
82	EY GDS	-	-	-	0	0	1	-	-	1
83	TresVista	0	1	0	0	0	0	0	1	2
84	Spinny	-	-	-	0	0	-	-	-	0
85	Tide	-	-	-	1	-	-	-	-	1
86	Saint Gobain	-	0	0	0	0	0	0	-	0
87	Larsen & Toubro	-	4	5	0	0	2	4	0	15
88	WSP India	-	-	-	0	0	-	-	-	0
89	Mirketa	-	-	-	0	0	-	-	-	0
90	Tata Power	-	0	-	0	0	0	0	-	0



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								
		BT	CE	CH E	CSE	EC E	EE	ME	MME	TOTAL
91	Fynd	-	-	-	1	0	-	-	-	1
92	Maruti Suzuki	-	-	-	-	0	2	5	-	7
93	Nation with Nam0	0	0	0	0	0	0	0	0	0
94	Vesuvius	-	-	0	-	-	-	1	0	1
95	Vikram Solar	-	0	-	-	0	0	0	0	0
96	Piramal Group	-	-	-	0	0	0	-	-	0
97	Tata Metaliks	-	-	-	-	-	0	0	1	1
98	NexTurn	0	0	0	0	0	0	0	0	0
99	Fractal Analytics	1	0	1	0	0	0	1	1	4
100	Thyssenkrupp	-	1	0	-	1	0	3	0	5
101	Reliance Industries	-	-	10	3	-	1	6	5	25
102	Haldia Petrochemicals	-	-	3	-	-	0	1	-	4
103	Strand Life Science	1	-	-	0	-	-	-	-	1
104	Winjit Technologies	-	-	-	0	0	-	-	-	0
105	JSW Group	-	1	2	0	0	0	0	2	5
106	Rapido Bike	-	-	-	0	-	-	-	-	0
107	Edfora Infotech	-	-	-	0	0	0	-	-	0
108	Accolite Digital	-	-	-	0	0	0	-	-	0
109	Kanerika Softwares	-	-	-	0	1	-	-	-	1
110	Aakash Byju's	1	0	0	0	0	0	0	0	1
111	Aditya Birla	-	-	-	-	-	-	3	4	7
112	Hexaware Technologies	-	-	-	1	0	0	-	-	1
113	Invesco	-	-	-	0	1	-	-	-	1
114	MCPI	-	-	0	0	-	0	0	-	0
115	Berger Paints	-	-	0	-	-	-	-	-	0
116	Tredence Analytics	1	0	1	0	0	0	0	1	3
117	GoKwik	-	-	-	0	-	-	-	-	0
118	Brigosha Technologies	-	-	-	0	0	0	-	-	0
119	SSWL	-	-	-	-	-	-	0	-	0
120	Schlumberger	-	-	-	-	1	-	-	-	1
121	Adani Group	-	2	0	-	0	0	1	2	5
122	M.N. Dastur	-	1	1	-	0	0	0	1	3
123	Ganit Business	0	0	0	0	0	0	0	0	0
124	Hindustan Construction	-	5	-	-	-	-	-	-	5



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								
		BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
91	Fynd	-	-	-	1	0	-	-	-	1
92	Maruti Suzuki	-	-	-	-	0	2	5	-	7
93	Nation with Namu	0	0	0	0	0	0	0	0	0
94	Vesuvius	-	-	0	-	-	-	1	0	1
95	Vikram Solar	-	0	-	-	0	0	0	0	0
96	Piramal Group	-	-	-	0	0	0	-	-	0
97	Tata Metaliks	-	-	-	-	-	0	0	1	1
98	NexTurn	0	0	0	0	0	0	0	0	0
99	Fractal Analytics	1	0	1	0	0	0	1	1	4
100	Thyssenkrupp	-	1	0	-	1	0	3	0	5
101	Reliance Industries	-	-	10	3	-	1	6	5	25
102	Haldia Petrochemicals	-	-	3	-	-	0	1	-	4
103	Strand Life Science	1	-	-	0	-	-	-	-	1
104	Winjit Technologies	-	-	-	0	0	-	-	-	0
105	JSW Group	-	1	2	0	0	0	0	2	5
106	Rapido Bike	-	-	-	0	-	-	-	-	0
107	Edfora Infotech	-	-	-	0	0	0	-	-	0
108	Accolite Digital	-	-	-	0	0	0	-	-	0
109	Kanerika Softwares	-	-	-	0	1	-	-	-	1
110	Aaakash Byju's	1	0	0	0	0	0	0	0	1
111	Aditya Birla	-	-	-	-	-	-	3	4	7
112	Hexaware Technologies	-	-	-	1	0	0	-	-	1
113	Invesco	-	-	-	0	1	-	-	-	1
114	MCPI	-	-	0	0	-	0	0	-	0
115	Berger Paints	-	-	0	-	-	-	-	-	0
116	Tredence Analytics	1	0	1	0	0	0	0	1	3
117	GoKwik	-	-	-	0	-	-	-	-	0
118	Brigosha Technologies	-	-	-	0	0	0	-	-	0
119	SSWL	-	-	-	-	-	-	0	-	0
120	Schlumberger	-	-	-	-	1	-	-	-	1
121	Adani Group	-	2	0	-	0	0	1	2	5
122	M.N. Dastur	-	1	1	-	0	0	0	1	3
123	Ganit Business	0	0	0	0	0	0	0	0	0
124	Hindustan Construction	-	5	-	-	-	-	-	-	5



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech								
		BT	C E	CH E	CS E	ECE	EE	ME	MME	TOTAL
125	LatentView Analytics	0	0	0	0	0	0	0	0	0
126	Varroc Group	-	-	-	0	0	0	0	-	0
127	C-DAC	-	-	-	0	0	0	0	0	0
128	Bennett Coleman	-	-	-	-	-	0	0	-	0
129	Just Dial	0	0	0	0	0	0	0	0	0
130	Afcons Infrastructure	-	2	-	-	-	-	-	-	2
131	Physics Wallah	0	2	0	0	0	0	0	0	2
132	Nineleaps	1	0	0	0	0	0	0	0	1
133	Shakambhari Ispat	-	-	-	-	-	0	1	4	5
134	Centuryply	-	-	0	-	-	1	2	-	3
135	Napier Healthcare	-	-	-	0	1	-	-	-	1
136	Bajaj Auto	-	-	-	-	0	-	-	-	0
137	South Indian Bank	0	0	0	0	0	0	0	0	0
138	KEC International	-	4	-	-	-	1	3	-	8
139	Cyfuture	0	0	0	0	0	0	0	0	0
140	IDBI Bank	-	-	-	2	2	-	-	-	4
141	ITD Cementation	-	2	-	-	-	1	0	-	3
142	Dhurin	-	-	-	0	-	-	-	-	0
143	Indraprastha Gas	-	-	-	-	-	-	4	-	4
144	Cubastion	-	-	-	0	0	-	-	-	0
145	Tata Motors	-	-	-	0	0	0	0	-	0
146	Godrej & Boyce	-	0	-	-	0	0	0	-	0
147	HDFC Bank	-	-	-	0	1	2	-	-	3
148	Suzuki Motors	-	-	-	-	-	1	1	0	2
149	HMEL	-	0	0	-	0	0	1	0	1
150	Super Smelters	-	-	-	-	-	0	0	2	2
151	Tata BlueScope	-	-	-	-	0	0	0	0	0
152	Danieli	-	-	-	-	0	1	-	0	1
153	PRADAN	3	0	0	0	0	0	0	0	3
154	Jindal Stainless	-	-	0	0	0	0	0	2	2
155	Bharat Electronics	-	-	-	6	5	3	3	-	17
156	Hitachi Energy	-	-	-	-	-	1	-	-	1
157	Linde	-	-	0	0	-	0	0	-	0
158	Matix Fertilisers	-	-	1	-	-	-	-	-	1



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED (BRANCH WISE)								
		B.Tech							ME	MME
BT	CE	CH E	CSE	EC E	EE					
159	Tata Power DDL	-	-	-	-	-	0	-	-	0
160	Aakash Institute	0	0	0	0	0	0	0	0	0
161	Chryso	-	0	-	-	-	-	-	-	0
162	AM/NS	-	0	-	-	-	0	0	-	0
163	Mphasis	-	-	-	1	1	0	-	-	2
164	Tata Chemicals	-	0	0	-	-	0	1	-	1
165	SMS India	-	-	-	-	0	0	0	0	0
166	Mahindra & Mahindra	-	-	-	0	0	0	3	-	3
167	Azure Power	-	-	-	-	-	1	-	-	1
168	Gainwell Commosales	-	-	-	-	-	0	0	-	0
169	Deepak Group	-	0	0	0	0	0	1	-	1
170	Rise & Shine	1	0	0	0	0	0	0	1	2
171	Sri Chaitanya Group	0	0	0	0	0	0	0	0	0
172	Essar Oil and Gas	-	-	1	-	-	-	0	-	1
173	Maheshwari Mining	-	-	1	-	-	-	-	-	1
174	GR Infraprojects	-	0	-	-	-	-	-	-	0
175	Daikin Airconditioning	-	-	-	-	-	-	0	-	0
176	Electrosteel Castings	-	0	-	-	-	0	0	0	0
177	Interra Systems	-	-	-	0	0	-	-	-	0
178	FIITJEE	1	0	0	1	0	0	0	0	2
179	Tata Power SODL	-	-	-	-	-	0	-	-	0
180	Mihup Communications	0	0	1	0	0	0	1	0	2
181	Oceanergy	-	0	-	-	-	-	-	-	0
182	Synapse Design	-	-	-	-	0	0	-	-	0
183	VISA Special Steel	-	-	-	-	-	0	-	0	0
184	S.K. Samanta & Co.	-	2	-	-	-	1	2	-	5
185	Tata Technologies	-	-	-	-	0	-	-	-	0
186	Prodigal SoftTech India	-	-	1	-	-	-	-	-	1
187	Team Computers	0	0	0	0	0	0	0	0	1
	Eligible Students	56	61	66	175	86	87	163	62	756
	Total Placed	38	50	55	150	76	78	137	56	640
	Percentage Placed	67.86	81.97	83.33	85.71	88.36	89.66	84.05	90.32	84.66
	Double Jobs	2	7	12	19	10	1	21	21	93





**M.TECH: 2022-23**

[0- Considered but not selected, (-) not considered]

		NUMBER OF STUDENTS PLACED (BRANCH WISE)																				
S I . N o .	COMP ANY	M.Tech & MSW Specialization																				
		B T	CE	C H E	CSE	ECE	EE	ME	M E	H SS	P H Y	M A T H	E S	DUA L DEG REE	T O T A L							
		B T	G E	S E	C H E	CSE	T E L E C O M M U N I C A T I O N S	V L S I	P E	PS	IC	M D	F M	T E	M T	M S W	A S T	O R	E S T	B T H E	C H E	
1	TCS Ninja	0	0	2	0	4	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	11
2	TCS Digital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3	Trilog y Innova tions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Micros oft	-	-	-	-	1	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5	Qualc omm	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	2
6	Schnei der Electri c	-	-	-	-	0	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	0
7	Steradi an Semic onduct or	-	-	-	-	-	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0
8	PwC	-	-	-	-	3	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	3
9	Oracle	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0
10	Maven ir Syste ms	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0
11	Increff 1	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12	Infosy s(SP)	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	0	-	-	-	0
13	Caterp illar	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	0



14	John Deere	-	-	-	-	0	0	0	-	-	-	1	0	0	-	-	-	-	-	-	1
15	Uber	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0
16	Aryaka Networks	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
17	Cashfree	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0

**NUMBER OF STUDENTS PLACED (BRANCH WISE)**

Sl. No.	COMPANY	M.Tech & MSW (Specialization)																			TOTAL
		B.T	CE	CHE	CSE	ECE	EE	ME	MSE	HS	PHY	MAT	EE	DUAL DEGREE							
		B.T	CE	CHE	CSE	ECE	EE	ME	MSE	HS	PHY	MAT	EE	B.T	CHE	CSE					
18	Natwest Group	-	-	-	-	1	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1
19	TCS(R&I)	-	-	-	-	0	1	0	0	0	0	-	-	-	-	-	-	-	-	-	1
20	TCS(INI)	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	1	-	-	1
21	Tata Elxsi	-	-	-	-	8	1	0	5	3	0	-	-	-	-	-	-	-	-	-	17
22	Genpact	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
23	Maq Software	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
24	IBM	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0
25	OFSS	-	-	-	-	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0
26	Deloitte	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
27	Visa	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0
28	NRI Fintech	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0
29	HSBC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0
30	Samsung Semiconductor	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0
31	Axis Bank	-	-	-	-	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
32	PayU	-	-	-	-	1	0	0	-	-	-	-	-	-	-	-	-	-	-	-	1
33	Chqbook	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
34	Morphle Labs	-	-	-	-	0	0	0	0	0	0	0	0	-	-	0	-	-	-	-	0
35	Alstom Transport	-	-	-	-	0	0	0	0	2	0	2	0	0	-	-	-	-	-	-	4
36	Microchip	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0
37	Teradata	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0



		NUMBER OF STUDENTS PLACED (BRANCH WISE)																				
		M.Tech & MSW (Specialization)																				
Sl. No.	COMPANY	B	CE	C	C	ECE	EE	ME	M	HS	PH	M	EE	DUAL	TOT							
		T		H	S				M	S	Y	AT	S	DEGRE	AL							
		B	G	S	C	C	T	V	P	P	I	M	F	T	M	M	A	O	E	B	C	
		T	E	E	H	S	E	L	E	S	C	D	M	E	M	S	M	R	S	T	H	E
					E	E	L	S							T	W	S		T			
						E	I															
38	Siemens	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0	
39	ABB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	

		NUMBER OF STUDENTS PLACED (BRANCH WISE)																				
		M.Tech & MSW Specialization																				
Sl. No.	COMPANY	B	CE	C	C	ECE	EE	ME	M	H	P	M	E	DU	T							
		T		H	S				M	SS	H	A	E	AL	O							
		B	G	S	C	C	T	V	P	P	I	M	F	T	M	M	A	O	E	B	C	
		T	E	E	H	S	E	L	E	S	C	D	M	E	M	S	M	R	S	T	H	
					E	E	L	S							T	W	S		T			
						E	SI										T					
40	Amdocs	-	-	-	-	4	0	0	-	-	-	-	-	-	-	-	-	-	-	-	4	
41	Quantiphi	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	
42	Airoha Technology	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	
43	Media Net	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
44	Daimler India	-	-	-	-	3	-	-	-	-	-	0	0	0	-	-	-	-	-	-	3	
45	Samsung R&D (Noida)	-	-	-	-	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	0	
46	Park+	-	-	-	-	1	0	0	0	0	0	0	-	-	-	-	-	-	-	-	1	
47	GreyB	0	-	-	1	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	1	
48	ARM Embedded	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	
49	Federal Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
50	Zscaler	-	0	0	-	0	0	0	0	0	0	0	-	-	-	-	0	-	-	-	0	
51	EY GDS	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
52	Larsen & Toubro	-	0	4	0	-	0	0	0	2	0	0	0	0	-	-	-	-	0	-	6	
53	VE Commercial	-	-	-	-	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0	
54	WSP India	-	0	1	-	-	0	0	1	0	0	0	0	0	-	-	-	-	0	-	2	
55	Fynd	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	
56	Nation with Namu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
57	NexTurn	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
58	Fractal Analytics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1



		NUMBER OF STUDENTS PLACED (BRANCH WISE)																
Sl. No.	COMPANY	M.Tech & MSW Specialization																
		B.T	CE	CHE	CS	ECE	EE	ME	MME	HSS	PHY	MA	EA	DU	TO	GR	AL	
		T	E	E	E	E	E	E	E	S	S	A	A	A	A	A	A	A
59	Winjit Technologies	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	0

		NUMBER OF STUDENTS PLACED (BRANCH WISE)																			
Sl. No.	COMPANY	M.Tech & MSW Specialization																			
		B.T	CE	CHE	CS	ECE	EE	ME	MME	HSS	PHY	MA	EA	DU	TO	GR	AL				
		T	E	E	E	E	E	E	E	S	S	A	A	A	A	A	A	A			
60	Rapido Bike	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0			
61	Accolite Digital	-	-	-	-	1	0	0	0	0	0	-	-	-	-	-	-	1			
62	Aakash Byju's	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	
63	Berger Paints	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	
64	Adani Group	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	
65	LatentView Analytics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
66	C-DAC	-	-	-	-	2	0	0	0	1	0	-	-	-	0	-	0	-	-	3	
67	AMD	-	-	-	-	0	0	2	0	0	0	-	-	-	-	-	-	-	-	2	
68	Eaton Technologies	-	-	-	-	0	-	-	1	0	0	-	-	-	-	-	-	-	-	1	
69	Just Dial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
70	Physics Wallah	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
71	Siemens Gamesa	-	-	-	-	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0
72	Nineleaps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
73	Bajaj Auto	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0
74	Cyfuture	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	0	-	-	-	0
75	Dhurin	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	0



		NUMBER OF STUDENTS PLACED (BRANCH WISE)																				
S l . N o .	COMPANY	M.Tech & MSW Specialization																				
		B T	CE	C H E	C S E	EC	EE	ME	M E	H S	P H Y	M A H	E A S Y	D U A L	T O T A L							
		B T	G E	S E	C H E	C S E	T E L E I	V L S	P E S	P S C	I C D	M E M	F M E	T M T	M M T	M S W	A M S T	O R S T	E S T E	B C H E		
76	Tata Motors	-	-	-	-	0	2	0	2	3	0	0	1	2	-	-	-	-	-	-	-	10
77	Cummins India	-	-	-	-	1	0	0	1	0	1	0	1	0	-	-	-	-	-	-	-	4
78	Danieli	-	-	-	-	-	0	0	0	0	1	-	-	-	0	-	-	-	-	-	-	1
79	Pradan	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	4
80	Jindal Stainless	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0

		NUMBER OF STUDENTS PLACED (BRANCH WISE)																				
Sl. No.	COMPANY	M.Tech & MSW Specialization																				
		B T	CE	C H E	C S E	EC	EE	ME	M E	H S	P H Y	M A H	E A S Y	D U A L	T O T A L							
		B T	G E	S E	C H E	C S E	T E L E I	V L S	P E S	P S C	I C D	M E M	F M E	T M T	M M T	M S W	A M S T	O R S T	E S T E	B C H E		
81	Matix Fertilisers	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
82	Aakash Institute	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	1
83	Pathfinder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84	Galgotias University	0	0	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	-	-	-	0
85	Azim Premji	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
86	Gandhi Fellowship	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
87	Azure Power	-	-	-	-	-	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	4
88	Rise & Shine	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
89	Sri Chaitanya Institutions	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	3
90	ARMIET	-	4	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	6
91	Maheshwari Mining	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
92	L&T Infrastructure	-	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
93	GR Infraprojects	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
94	Interra Systems	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0



**NUMBER OF STUDENTS PLACED (BRANCH WISE)**

Sl. No.	COMPANY	<u>M.Tech &amp; MSW Specialization</u>																				TOTAL
		B T	CE	C H E	C S E	EC	EE	ME	M M E	H SS	P H Y	M A T	E H S	DU AL	GR EE							
		B T	G E	S E	C H E	C S E	T V E I	P L E	P S C	I C D	M F M	T M E	M T	M S W	A M S	O R T	E S T	B T	C H E			
100	Tata Technologies	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	0		
101	Bosch Limited	-	-	-	-	-	0	1	0	0	3	2	-	4	-	-	-	-	-	10		
102	HCL	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1		
103	Lemon Flip	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1		
104	MediaTek	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1		
105	ST Microelectronics	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	1		
106	Vikram Solar	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1		
Eligible Students		18	19	17	13	41	80	27	18	16	14	1	13	5	6	4	8	15	4	2	259	
Total Placed		3	4	12	35	35	57	11	14	6	7	4	6	2	4	0	6	7	1	2	139	
Total Job Offered		3	4	15	38	35	71	11	16	8	4	6	2	4	0	7	7	1	2	147		
Double Job		0	0	3	0	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	8	
95	Factspan Analytics	-	-	-	1	1	-	-	-	-	-	1	0	0	-	-	-	1	-	-	4	
96	FIITJEE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
97	Mihup Communications	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	
98	Oceanergy	-	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	
99	Synapse Design	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	



**PLACEMENT RECORDS (Up to 30.06.2023)****MBA: 2022-23****[0- Considered but not selected]**

Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED
1	Federal Bank	1
2	VE Commercial	0
3	Nagarro	0
4	ICICI Lombard	6
5	Planet Spark	4
6	Pathfinder	0
7	Vivo	2
8	Axis Bank	2
9	Emami Frank Ross	2
10	IDBI Bank	5
	Eligible Students	17
	Total Placed	16
	Total Job Offered	22

**PLACEMENT RECORDS (Up to 30.06.2023)****M.SC : 2022-23****[0- Considered but not selected]**

Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED
1	HSBC	0
2	Morphle Labs	0
3	Federal Bank	0
4	Aakash Byju's	3
5	Berger Paints	3
6	LatentView Analytics	0
7	C-DAC	0
8	Physics Wallah	0
9	Dhurin	0
10	Aakash Institute	2
11	Pathfinder	0
12	Azim Premji	2
13	Rise & Shine	0
14	Sri Chaitanya Group of Educational Institutions	1
15	Glenmark Life Sciences	6
16	FIITJEE	1



Sl. No.	COMPANY	NUMBER OF STUDENTS PLACED
17	Mihup Communications	0
18	Allen Institute	1
	Eligible Students	90
	Total Placed	18
	Total Job Offered	19

## 6.5 Medical Unit

### 6.5.1 About Us

Institute’s Medical Unit takes care of both physical and mental health of all bona fide persons of N.I.T Durgapur community. Medical Unit runs 24×7, provides Emergency Medical services round the clock and Morning and Evening Outdoor services. The prime beneficiaries are all the students (including UG, PG, and PHD), teaching and non- teaching employees with their dependent family members, Pensioners and their spouse and also those who work under service providers.

### 6.5.2 Facilities Available

- Morning and evening outdoor patient consultation except Sundays and Holidays.
- Round the clock medical emergency services
- Pharmacy
- Minor OT
- Visiting Physicians of different fields on fixed days.
- Male and female wards with observatory beds.
- Isolation wards for the students.
- Nebulization, ECG, Multipara meter monitor.
- Autoclave facility for sterilization.
- 24 hours two ambulance services with five drivers.
- Sample collection center for outsourced pathological laboratory.
- Tie up with various super-specialty hospitals in Durgapur and Kolkata where the patients get referred in case of necessity and treated on credit basis as per CGHS rates.
- Students are covered under insurance and are treated in referral hospitals if necessary.

Counselling Centre	Isolation Unit	Eye Clinic	Dental Clinic	No. of beds	Ramp for PWD	Average No. of patients attended (OPD)/month
Yes	Yes	Yes	Yes	06(Six)	Not available	Approximately 1700 number of patients attended Outdoor per month.
Clinical Psychologists-02 (One on every day of the week)	For Chicken Pox & Measles	Visits weekly once	Visits weekly thrice	observatory beds		Approximately 530 number of patients attended Emergency Dept per month.
Psychiatrist-01 (visits once weekly)						

Ambulance No.	No. of Doctors	No. of Nurse	No. of Assistance
02(Two) round the clock	Total 06 (Six) Medical Officers Permanent-03(Three) Contractual-01(One)	Total-01 (one) Permanent	Total 06(six) Permanent-01(One) Contractual- 03(Three)



Under Service provider-02  
(Two)  
**Specialist Doctors** of  
different field: 06(Six)  
**Psychiatrist** for  
Counselling Centre:  
01(One)

Service provider-  
02(Two)

### 6.5.3 Notable Activities

- The number of visiting days of the Clinical Psychologists is increased to all days of the week.
- Trying for digitalization of the Medical Unit.
- Procurement of Multivitamin and Iron tablets were done for the distribution to female students of the Institute.
- Routinely Pulse Polio vaccination is being conducted

## 6.6 Hostels

Hostels	Boys/ Girls	No. of Rooms	Actual student Capacity	Number of students accommodated	Facilities							
					Special Toilet for PwD Students	Ramp for PwD Students	Games	Water Purifier	Lift	Wi- Fi	Mess/Canteen	Misc
Hall-1	Boys	148	444	430	Nil	Nil	Yes	Yes	Nil	Yes	Mess	
Hall-2	Boys	148	444	414	Nil	Nil	Yes	Yes	Nil	Yes	Mess	
Hall-3	Boys	84	252	210	Nil	Nil	yes	Yes	Nil	Yes	Mess at Hall 1	
Hall-4	Boys	252	250	233	Nil	Nil	Yes	Yes	Nil	Yes	Mess	
Hall-5	Boys	380	370	248	Nil	Nil	Yes	Yes	Nil	Yes	Mess	
Hall-6	Boys	115	115	60	Nil	Nil	Yes	Yes	Nil	Yes	----- --	
Hall-7	Girls	72	125	----- -	Under renovation work by CPWD							
Hall-8	Girls	125	125	120	Nil	Yes	Nil	Yes	Nil	Yes	Mess	
Hall-9	Boys	120	360	234	Nil	Nil	Yes	Yes	Nil	Yes	Mess	
Hall-10	Girls	85	255	202	Nil	Nil	Yes	Yes	Yes	Yes	Mess	
Hall-11	Boys	240	720	660	Yes	Yes	Yes	Yes	Yes	Yes	Mess	
Hall-12	Boys	160	160	115	Nil	Nil	Yes	Yes	Yes	Yes	Canteen	
Hall-13	Girls	250	750	690	Yes	Yes	Yes	Yes	Yes	Yes	Mess	
Hall-14	Boys	447	1250	692	Yes	Yes	Yes	Yes	Yes	Yes	Mess	



## 6.7 SAC

The Student Activity Centre is one of the Central facilities of the Institute organized students choice based Co-Curricular Activities in Physical Education, Yoga, Martial Art (Taekwondo), NCC & NSS as compulsory subjects to all first year B-Tech, B-Tech/M-Tech (Dual Degree) and integrated MSc students with one credit point in each semester.

Beside academic activities the Centre lays emphasis on promotion of Games & Sports of the Institute. The Centre has been sincerely guiding both UG/PG, PhD students and employees of the Institute in different areas of Games & Sports activities. The Centre organized various sporting events throughout the year, be Intra NIT or Inter NIT Tournaments. Regular practice in every major games is carried out under the guidance and supervision of the Centre. Institute teams are picked, trained and exposed to various level of tournaments.

## 6.8 Workshop

The Department of Workshop of the institute consists of seven different shops, namely (1) Machine shop, (2) Fitting Shop, (3) Electrical Shop, (4) Carpentry shop & Pattern shop, (5) Black smithy shop, (6) Welding shop and (7) Foundry shop. In this Department, there are several equipment such as Conventional Lathe, Conventional Milling, Shaper Machine, Cylindrical Surface Grinding Machine, Radial Drilling Machine, Electro Chemical Machine (Non-conventional machining done), CNC Milling Machine (Capable of cutting any profile with high accuracy), Sheet Shearing Machine, Electric Resistance Furnace for melting non-ferrous metals & alloys, Sand Mixing Muller, Sand Testing Equipment, Manual Metal Arc Welding Machine, Power Saw, Spring loaded Power Hammer, Roller Bender, Band Saw, Wood Working Lathe etc. Workshop is befitting place for teaching and training UG students for sessional classes. Apart from teaching to UG students in sessional class as per UG curriculum, the trained Workshop staff helps the students of all the departments to complete their Project works in Under Graduate and Post Graduate level using the above-mentioned Workshop facilities. They also help to manufacture the Experimental Set Ups of Research Scholars of various Departments. Some experimental set ups for UG Laboratory such as ‘Viscometer to determine absolute Viscosity of any fluid’ in Hydraulics and Fluid Mechanics Laboratory and a Set up for ‘Determination of Young modulus and poisson ratio of a given metal by using strain gauge’ in Metrology Laboratory in Mechanical Engineering Department are manufactured and assembled in Workshop. At present the Workshop is capable of doing any kind of Engineering work starting from pattern making, moulding, casting, forging, machining (both conventional and non-conventional), high surface finishing, welding and finally to fitting and assembling to produce the final product.

## 6.9 Estate

### 6.9.1 About Us

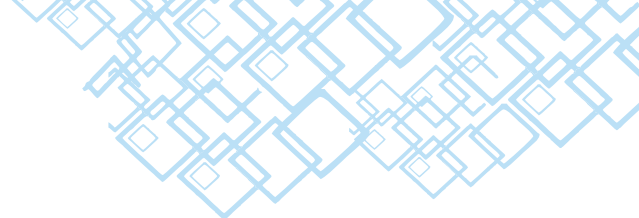
Estate Office plays an instrumental role in the management of assets of the Institute. The Estate Office is entrusted with the work of Estate Management and Civic amenities. The Estate Section of the Institute mainly looks after all the infrastructure related works, security services, cleaning services, water & electricity supply, garden maintenance, horticulture and landscaping, allotment of quarters, transport services, service on lease and others allied works.

### 6.9.2 Notable activities with Photographs

#### **Construction of Vertical Extension of Thermal Engineering Lab:**

To facilitate adequate space to the students “construction of vertical extension of Thermal Engineering Lab” is in progress (completed 45%). Estimated cost of the project is Rs. 0.46 crore.





**Construction of vertical extension of the IT building (previous Administrative Building):**

Construction of vertical extension of the IT building” is in progress (completed 58%). Estimated cost of the project is Rs. 1.53 crore.



**Mechanization of Kitchen & Modernization of Dining Halls with Furniture:**

The work for mechanization of Kitchen & modernization of dining halls with furniture in all the hostels are in progress and likely to be completed very soon.

**Expansion & refurbishing of laboratories, academic departments & classrooms:**

Expansion & refurbishing work of laboratories, academic departments & classrooms are in progress (completed 40%).



**6.9.3 In charge**

- Ajit Kumar Bhagat, Asst. Registrar (Estate & Security)

**6.10 Scholarship/Assistance**

The UG and PG students of the Institute are eligible to apply to various scholarship schemes being administered by the various Central Government Ministries/Departments/PSUs and State Governments. The students can also apply for various scholarship/reward schemes being offered by several private companies/organizations/trusts. The MTech students who have qualified GATE are eligible for monthly fellowships which at present is Rs. 12,400/= per month. The Dual Degree students of the Department of Chemical Engineering and Department of Biotechnology, who have either scored a minimum of 8.0 CGPA or have qualified GATE are eligible to receive monthly fellowships which at present is Rs. 12,400/= per month for the duration of their 9th and 10th semesters. The Institute Research Scholars are eligible to receive monthly fellowships which at present is Rs. 31,000/= per month for JRF and Rs. 35,000/= per month for SRF. The CSIR and UGC PhD scholars who have registered with the Institute are eligible to receive monthly fellowships which at present is Rs. 31,000/= per month for JRF and Rs. 35,000/= per month for SRF, from their respective funding agencies i.e. CSIR and UGC.





## 7. Student Activities

### 7.1 NCC

A unit of National Cadet Corps (NCC) Army wing (open vacancy) among UG students (Boys & Girls) under the supervision of 10 Bengal Bn, NCC Asansol. The cadets have participated regular training programme including attend camps, appearing 'B' 'C' Certificate Examination and actively involved in several extension activities through-out the year. This unit also observed and participated various important days like environment day, Voters day, organized rallies, Swachhta programme, tree plantation etc.

**Achievements:**

1. Enrolment of 'B' Certificate courses, total 14 cadets out of which SD-08 Cadets and SW 06 Cadets..
2. NCC 'B' Certificate awarded 09 SD Cadet with all 'A' Grade.
3. NCC 'B' Certificate awarded 04 SW Cadets with all 'A' Grade.



NATIONAL CADETS CORPS  
National Institute of Technology Durgapur  
Unit

### 7.2 NSS

NSS NIT DGP is the National Institute of Technology Durgapur chapter of the National Service Scheme, institutionalized under the Ministry of Youth Affairs & Sports Govt. of India. The Motto of NSS, "Not MeBut You", reflects the essence of democratic living and upholds the need for self-less service. NSS provides an excellent platform for students to work for the betterment of society. While gaining practical experience and developing interpersonal skills. NSS helps the students' development & appreciation to other person's point of view and also show consideration towards other living beings. Volunteering for various tasks underNSS activities allows students to become confident, develop leader ship skills, and learn about different People from different walks of life.

During academic year 2022-23 NSS, NIT Durgapur observed Vigilance Awareness week during October 31- November 6, 2022, National Education Day on November 11, 2022, Youth Day & Youth Week between 12 and 19 January 2023 and organised Swachhata rally, Survey and Awareness camp at UBA adopted village Banagram during 21-22 January 2023. The volunteers participated in parade during Republic day celebration on 26 January 2023 and celebrated Matribhasha Diwas on February 21, 2023 with full fervour and enthusiasm.





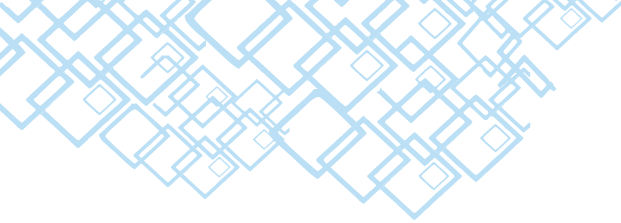


### 7.3 Games & Sports Facilities:

The Student Activity Centre has adequate infrastructure facilities for both outdoor and indoor games. The Centre has one central air condition Gymnasium equipped with sufficient number of equipment's. Different slots are provided to all the users as students (Male & Female), Employees and their spouses. The Institute play grounds (Oval & Lords) always bubble with outdoor activities like football, cricket, handball, athletics, hockey etc. Turf and concrete courts with flood light facilities are also available in volleyball, basketball tennis, badminton etc. Student Activity Centre has air condition indoor auditorium, which accommodated 500 seating capacity multi activity auditorium includes Badminton synthetic court, Table Tennis boards and Chess facilities. Beside central sports facilities, most of the halls of residence equipped with Volleyball and concrete Badminton courts. Indoor games like Table Tennis, Carom boards & Chess are also available.

#### 7.3.1 Games & Sports Participation

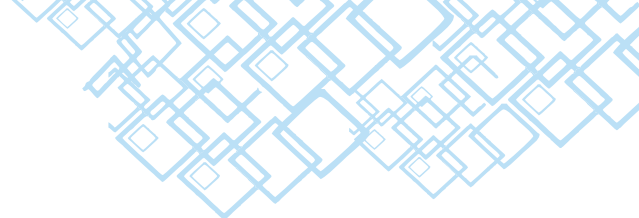
- In the year 2022-23 Institute participated in the following All India Inter NIT & other Games & Sports Tournaments:
  1. All India Inter NIT Lawn Tennis, Basketball & Athletics (Men & Women) tournaments organized by NIT Jaipur during November 17-20, 2022.
  2. All India Inter NIT Chess, Table Tennis & Badminton (Men & Women) tournaments organized by NIT Silchar during November 18-20, 2022.
  3. All India Inter NIT Badminton & Chess (Faculty & Staff) tournament organized by NIT Hamirpur during December 17-19,2022
  4. All India Inter NIT Hockey (Men) tournament organized by NIT Calicut during January 06-08, 2023.
  5. All India Inter NIT Volleyball, Kabaddi & Yoga (Men & Women) tournaments organized by NIT Surathkal during January 20-22, 2023.
  6. All India Inter NIT Football & Kh0-Kho (Men) tournaments organized by NIT Rourkela during February 10-12, 2023.
  7. All India Inter NIT Power sports & Cricket (Men) tournaments organized by NIT Surat during February 16-19, 2023.






- Achievement in 2022-2023:

1. Best Athlete (Men) in All India Inter NIT Track & Field Meet at NIT Jaipur
2. 02 Gold Medals in All India Inter NIT Track & Field Meet at NIT Jaipur





## 7.4 Clubs/Body/Centres

Name of the Club/Body/Centre: Centre for Cognitive Activities (CCA)			
<p><b>About us:</b> CCA, Centre for Cognitive Activities, is the focal point where convergence of all technical and scientific endeavours of the students materialises. As the largest and oldest technical club of the institute, bulk of the extracurricular activities held in the college all the year round are organised by the CCA, which includes techno-managerial domains like robotics, entrepreneurship, web design, etc.            Additionally, CCA also focuses over working for social causes by organising various CSR events throughout the year. Altogether, the club works with a vision towards bringing opportunities and providing platform for students to grow and showcase their skills.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Joydeep Banerjee Dr. Oindrilla Mukherjee Dr. Aniruddha Bhattacharya	Akshay Kumar Singh	Souvik Sharma	Link: <a href="https://www.ccanitd.in/">https://www.ccanitd.in/</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><u>Youth Parliament</u>: - 15/01/2023            CCA conducted Youth Parliament, giving the perfect platform to participants to discuss real-world issues, resolute solutions, interact with like-minded individuals, and gain a deeper understanding of the legislative process.</p>		
2.	<p><u>Robozido</u>: - 27/01/2023            CCA organized an autonomous robotics workshop called Robozido which witnessed an immense participation of 300 students in and out of NIT Durgapur. The workshop covered various aspects, including creating a Wi-Fi bot, an obstacle-avoiding bot, a line-following bot, and even a robotic arm attached to the bot for picking objects.</p>		
3.	<p><u>Blood Donation Camp</u>: -4/02/2023            A blood donation camp was held on college premises wherein three hospitals collaborated with CCA for the social event. A total of 200 donors were given donor cards for the noble cause.</p>		
For Other Activities: <a href="https://www.ccanitd.in/">https://www.ccanitd.in/</a>			





Name of the Club/Body/Centre:: Dance Club			
<p><b>About us:</b> Dance Club, NIT Durgapur is the official dance club of NIT Durgapur which actively takes part in all the activities including festivals, Independence Day, Republic Day, Global Alumni Meet, fests and also, conduct our own events which are totally executed by us. We also go to different colleges like IIT Kharagpur, IIM Calcutta, ISM Dhanbad, etc. to participate in different competitions organized by them for dance during their fests and bring laurels to our college by winning.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Mousumi Saha Arindam Modak	S Akshaya Reddy	Jami Krishna Sameera	Link: <a href="https://www.facebook.com/DanceClubNITD/">https://www.facebook.com/DanceClubNITD/</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>Independence Day Performance (15/08/2022)</b></p> <p>On this occasion, we perform in front of everyone and the performance is based on the theme: “Naram Dal &amp; Garam Dal movement.”</p>		
2.	<p><b>Spring Fest 2023 (29/01/2023)</b></p> <p>We participated in Spring Fest'23 at IIT-KHARAGPUR- Dance competition 'Centrifuge' after 3 long years on the theme - 'Famous TV Shows'.</p>		
3.	<p><b>Step It Up 2.0 (04/02/2023 – 05/02/2023)</b></p> <p>This is an independent event organized by the club which is focused on bringing out the dance talents from our college. This event has been solely created and conducted by us.</p>		
For Other Activities: Provide the Link (Institute home page link of each club)			
<a href="https://www.facebook.com/DanceClubNITD/">https://www.facebook.com/DanceClubNITD/</a>			

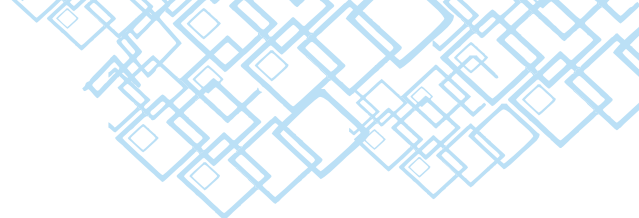


Name of the Club/Body/Centre: Darpan			
<p><b>About us:</b> Darpan represents the Hindi society of NIT Durgapur, actively engaged in the service of "Hindi", the official language of India. Darpan provides a valuable platform to the students, in which various offline and online events are organized throughout the year in order to promote 'Rajbhasa Hindi' language.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Manoj Kumar Ozha	Shivendra Singh	Ashlesha Upadhyay	Link: <a href="https://www.instagram.com/darpan_nitdgp/">https://www.instagram.com/darpan_nitdgp/</a>
Three Notable Activities			
SI No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p>Arj Kiya Hai:</p> <p>Darpan Club's 'Arj Kiya Hai' event, held on Instagram, concluded with great success. Participants showcased their talent with heartfelt poems and compositions. The event's creative essence left a lasting impact, inspiring and touching many. This documentation captures the memorable event for others to appreciate and enjoy.</p>		
2.	<p>Chai pe Charcha:</p> <p>Chai Pe Charcha, a captivating debate event hosted by the Hindi Student Association, gathered teams for passionate discussions on current Indian topics. Amidst cups of tea provided by the event management, participants fostered unity, exchanged enlightening perspectives, and formed lasting connections, creating a vibrant and memorable evening of intellectual camaraderie.</p>		
3.	<p>Prahehika 2.0 :</p> <p>The 'Hindi Trivia Extravaganza' hosted by 'Darpan Parivar' was a delightful affair celebrating the richness of the Hindi language. Three rounds of engaging and fun-filled questions tested participants' knowledge of Hindi. The event inspired a deep sense of appreciation for the language while fostering a spirit of camaraderie among the participants. It proved to be an enjoyable and memorable experience, strengthening the bond with Hindi.</p>		
<p><b>For Other Activities: Provide the Link (Institute home page link of each club)</b></p>			



Name of the Club/Body/Centre: The Debating Society			
<p><b>About us:</b> The Debating Society, NIT Durgapur is committed to providing a platform for riveting discourse and dynamic debates. We have stood out in global contests, elevating public speaking, and nurturing constructive dialogues. Our passion for improving the quality of discussion motivates us to continue organizing and taking part actively in such events.</p>			
Name of the Faculty Advisor(s) or equivalent post		Name of the President or equivalent post	Name of Vice President or equivalent post
Dr. Shri Krishan Rai		Kumkum Ray	Venu Choudhary
Further Information			
Link: Visit website			
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>Vistaar</b>, conducted by the Debating Society, NIT Durgapur was the first-of-its-kind debating festival conducted in Eastern India. The events conducted during the festival attracted various participants from multiple colleges all over India, including NLUs, IITs, IIITs and other NITs.</p> <p><b>Participation: 500+ participants</b>  <b>Date: 23rd – 26th March 2023</b>                      Visit Vistaar website                      Visit Instagram profile</p>		
2.	<p><b>Take DeBait:</b> A murder mystery event where, by analyzing clues, participants identified the elusive killer within their midst. The team with the most accurate deduction secured victory.</p> <p><b>Participation: 100+ participants</b>  <b>Date: 3rd September 2022</b></p>		
3.	<p><b>Reverberate &amp; What If:</b> NIT Durgapur's largest public speaking workshop, empowering students with the skills to charm and captivate any audience. This was followed by What If, a practice event to apply learned techniques from Reverberate.</p> <p><b>Participation: 120+ participants</b>  <b>Date: 14th January 2023</b></p>		
<p><b>For Other Activities: Provide the Link (Institute home page link of each club) Visit Website</b></p>			








**Name of the Club/Body/Centre: Entrepreneurship Development Cell (EDC)**

**About us:** The Entrepreneurship Development Cell at NIT Durgapur is the official student body dedicated to promoting entrepreneurship and fostering innovation. Through various initiatives, we strive to create a sustainable and diverse entrepreneurial ecosystem, uniting the young and the elderly in making entrepreneurship a common reality in India. Our startups, including Kenakata, Calcutta Delights, Printex, Just Hashtags, Pedals Go, and Style Swap are a testament to our unwavering commitment to realizing this dream. Together, we work independently to encourage and nurture innovation throughout the year, envisioning a future where entrepreneurship thrives and drives positive change in the country.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
<b>Chief Faculty Adviser:</b> Prof. Sandip Kumar Lahiri <b>Co Faculty Advisers:</b> Prof. Arjyajyoti Goswami Prof. Sayantari Ghosh Prof. Nilanjan Chattaraj Prof. Aniruddha B.	Ritesh Raj Sharma (President)	Purvi Binani (Vice President) Mehul Menon (Vice President)	Link: <a href="https://www.edcnitd.co.in/">https://www.edcnitd.co.in/</a>

**Three Notable Activities**

Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph (one for each activity)
1.	<b>E-summit 2023: 1<sup>st</sup> to 3<sup>rd</sup> March 2023</b> The Entrepreneurial Met Gala – an oasis of revolutionary ideas. Embrace innovation, challenge conventions, through 10+ events, enlightening talks, cultural nights. The Entrepreneurship Development Cell sparks inspiration, nurturing tomorrow's entrepreneurs, forging a realm of limitless opportunities and groundbreaking ventures.	
2.	<b>Bizcup: 12<sup>th</sup> to 15<sup>th</sup> January 2023</b> An exclusive journey tailored for freshers: corporate quizzes, startup planning, and deep insights into the corporate realm. Bizcup offers it all – from basics to in-depth analysis. Through three rounds of creative challenges, it pushes your boundaries, providing a glimpse into the entrepreneurial sphere.	
3.	<b>Luminous: 21<sup>st</sup> October 2022</b> Team EDC annually exudes Diwali's elegance, celebrating with flair and fun through Luminous. This year, we embraced joy's essence and collaborated with BMEP, painting diyas with little ones and brightening their smiles. Students contributed meaningfully, designing startup logos with diyas, vying for vibrant prizes, making festivities even more delightful.	

**For Other Activities:** <https://www.edcnitd.co.in>



**Name of the Club/Body/Centre: Enteract**

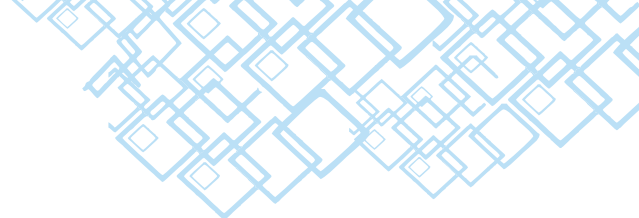
**About us:** Enteract produces a wide variety of performances ranging from street plays and stage plays to Monoacts and mimes, arguably with professional competency. Moreover, the club participates in various cultural fests across the country creating awareness about various social issues and organizing events and workshops around the year, thus assisting the students to leave behind their stage fear, develop confidence, and channel their energy to do something creative.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Subhrabrata Choudhury	Anmol Sharma	Aditi Singh	Link:

**Three Notable Activities**

SI No.	Name of the Activities, Date, And its Details	Corresponding Photograph
1.	Nukkad Natak at Spring Fest, IIT Kharagpur. Date - 28th January 2023. We performed our Nukkad on Cybersecurity in Spring Fest, IIT Kharagpur.	
2.	Nukkad Natak at Srijan, ISM Dhanbad. Date - 2nd February 2023. We performed our Nukkad on in Srijan, ISM Dhanbad.	
3.	Cyber Crime Awareness Campaign (Asansol-Durgapur Police Commissionerate) Date - 28th February 2023. We performed our Nukkad on Cybersecurity in Junction Mall, Durgapur.	

**For Other Activities:**



**Name of the Club/Body/Centre: GNU/Linux Users' Group**

**About us:** The GNU/Linux Users' Group, NIT Durgapur, is a community of GNU/Linux Users that promote the use of Free and Open Source Software. To uphold the banner of Open Source, we are a group of designers, contributors and developers that believe in learning and sharing as a unit through spreading awareness and tapping into the power of open source. We strive to elevate the technical culture in our college and believe that this can only be achieved through giving people digital resources and knowledge in all realms from hardware to software, from data to design.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Subrata Nandi Dr. Animesh Dutta	Shashank Shekhar	Mohammad Rafivulla (General Secretary)	Link: Website

**Three Notable Activities**

Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph
1.	<p align="center"><b>Foobar CTF</b></p> <p align="center"><b>Date:</b> 11th March-12th March, 2023</p> <p>A Capture The Flag event, to explore various domains of cybersecurity and master the true art of hacking via various exploitation techniques like pwn, reverse engineering, cryptography and many more. <b>Foobar CTF</b> was a huge success with over <b>500+ participants</b> worldwide including <b>100+ foreign participation</b>.</p>	
2.	<p align="center"><b>Open Source Starter Pack</b></p> <p align="center"><b>Date:</b> 12th &amp; 13th January, 2023</p> <p>A two-day long workshop hosted for the freshers to provide them a more resourceful experience of the open-source and kickstart their journey into this realm. It consists of Linux Bootcamp, where we demonstrate how to set up Linux on a system and explore all its utilities in true flavor, customizing it with one's creativity, and a Git/Github Workshop, we will teach how to effectively use Git and Github to manage and collaborate on various projects in a robust fashion. The offline event saw an overwhelming <b>participation of more than 300 students</b>.</p>	
3.	<p align="center"><b>Ten Days of Code (TDoC) and DevTalks</b></p> <p align="center"><b>Date:</b> 12th December - 21st December 2022</p> <p>One of our flagship events, where students within and beyond our institute, learn from a myriad of 6 standard projects on various domains - Blockchain, ML/AI, Python, C++ and Java, and build it from scratch, following our documentation and mentoring sessions. We also conduct the DevTalks during these 10 days wherein renowned personalities from the field of open source and technology (from India and outside), are invited as guest speakers to address the students and share their insights, Last year, TDoC saw a participation of around <b>300 students from our institute and across the country</b>.</p>	

**For Other Activities:**








**Name of the Club/Body/Centre: IEEE SB NITDGP**

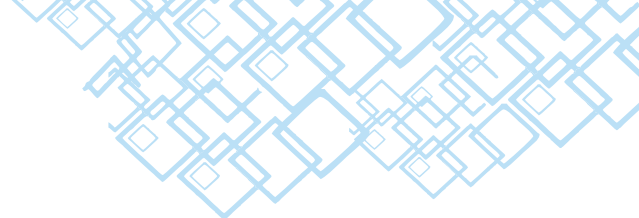
**About us :** The IEEE Student Branch at NIT Durgapur is dedicated to promoting technical skills and fostering innovations through multiple workshops and exciting events. We empower students to excel in engineering. We emphasize collaboration, knowledge sharing, and hands-on learning. Join us as we collectively shape the future through education, creativity, and unwavering dedication to the technical domain. Let's learn, create, and innovate together for a brighter tomorrow!



Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Aniruddha Chandra Chiranjib Koley Nirmal Kumar Roy	Naveen SG	Manjari Jha	<a href="https://edu.ieee.org/in-nitdgp/">https://edu.ieee.org/in-nitdgp/</a>

**Three Notable Activities**

Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph
1.	<b>HACKHUSTLE:</b> It was a two-day event, which included workshops on NLP and CyberSecurity and it was followed by a Hacakathon on LLM applications. It was held on 25th to 27th March.	
2.	<b>SDV:</b> This event was organized to teach the principles of self driving vehicles in an interactive and practical way by making line follower and object avoidance bot and cruise control bot with arduino. It was held on 14th and 15th January.	
3.	<b>PCB Decoded:</b> It was a PCB Designing workshop organized on 10th and 11th september where participants were taught to design their own STM32 based microcontroller in KiCad software. which was followed by a small PCB designing competition.	

**For Other Activities:** <https://edu.ieee.org/in-nitdgp/>

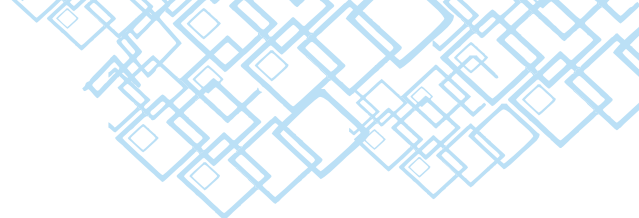





Name of the Club/Body/Centre: Indian Institute of Metal Students' Chapter Durgapur			
<p><b>About us :</b> The Indian Institute of Metals Durgapur Chapter is a prominent organization affiliated with the Indian Institute of Metals. The society serves as a vital platform for metallurgical professionals, researchers, and students to come together and promote the advancement of metallurgy and materials science in the region. It is committed to fostering knowledge exchange, professional development, and industry-academia collaboration. Through a myriad of activities, such as seminars, conferences, and plant visits, the society aims to disseminate the latest developments, best practices, and cutting-edge research in the field of metallurgy.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Prof. Arup Kumar Mandal & Prof. Satadal Ghorai	Rohan Pal	Arya Kumari	Link:
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p>A one-day industrial visit to Super Smelters Limited, Jamuria had been organized on 06/03/2023. This visit was also accompanied by faculty advisor Prof. Arup Kumar Mandal. The highlight of the visit was the comprehensive guided tour of the manufacturing plant. Participants were divided into smaller groups to ensure a more personalized experience. During the tour, they witnessed the intricate processes involved in DRI production.</p>		
2.	<p>A metallurgical quiz event (Meta-Wiz) was organized on 07/03/2023, in the presence of faculty advisor Prof. Arup Kumar Mandal and addressed by HOD (Metallurgical &amp; Materials Engg.) Prof. Supriya Bera. The primary objective of Meta-Wiz was to promote interest and understanding of metallurgy among students. The quiz aimed to challenge participants with thought-provoking questions, covering various aspects of metallurgical science.</p>		
<p><b>For Other Activities:</b> <a href="https://nitdgp.ac.in/p/iim-student-chapter">https://nitdgp.ac.in/p/iim-student-chapter</a></p>			



<b>Name of the Club/Body/Centre: ISTE Students' Chapter NIT Durgapur</b>			
<p><b>About us:</b> The Indian Society for Technical Education (ISTE) is the leading National Professional non-profit making Society for the Technical Education System in our country with the motto of Career Development of Teachers and Personality Development of Students and overall development of our Technical Education System operating in association with All India Council for Technical Education (AICTE) and other International Projects. ISTE Students' Chapter NIT Durgapur took birth on the auspicious occasion of Saraswati Puja way back in 1995 and is the Oldest Student Chapter of Eastern India. We work with an aim to provide an appropriate platform presenting, meaningful and thought-provoking future aspects of the technical education system supported with meaningful suggestions for solutions, refinement and innovation.</p>			
<b>Name of the Faculty Advisor(s) or equivalent post</b>	<b>Name of the President or equivalent post</b>	<b>Name of Vice President or equivalent post</b>	<b>Further Information</b>
Dr. Anita Pal Dr. Rowdra Ghatak	Harshit Surana	Ritabrata Ganguly	Link: istenitdgp.com
<b>Three Notable Activities</b>			
<b>Sl No.</b>	<b>Name of the Activities, Date And its Details (within 30 words)</b>	<b>Corresponding Photograph (one for each activity)</b>	
1.	<p><b>Runtime Terror 3.0</b> (September 15, 2022 – September 19, 2022)</p> <p>A two round programming competition comprising Math, Aptitude, Programming, Data Structures, and Algorithm to test the logical and coding skills of the participants.</p>		
2.	<p><b>CIT 6.0 - Cognitive Intelligence Test</b> (January 18, 2023 - January 22, 2023)</p> <p>A two round test consisting of interesting and mind-boggling questions on the subjects like basic mathematical aptitude, verbal and logical reasoning, and data interpretation.</p>		
3.	<p><b>Webcraft</b> (January 28, 2023 - January 29, 2023)</p> <p>A 2-day interactive web development workshop filled with code, covering everything from HTML, CSS to JavaScript and responsive design.</p>		
<p><b>For Other Activities: <a href="https://www.istenitdgp.com/events">https://www.istenitdgp.com/events</a></b></p>			

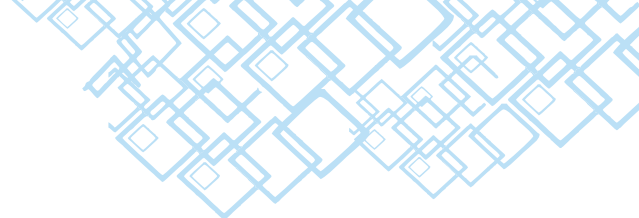







Name of the Club/Body/Centre: <b>Literary Circle</b>			
<p><b>About us:</b> The Literary Circle is one of the active student bodies of NIT Durgapur, dedicated towards encouraging creativity and free thought. Through events like NITMUN, or Verve, which is East India's largest youth cum literary festival, and Literati (Annual creative writing competition), it helps students to engage in healthy debate and bring out their creative side. It also co-organizes TEDxNITDurgapur, which resonates with TED's mission of discovering "ideas worth spreading". It also publishes The Yearbook, presented to the batch passing out, which is a condensation of their time spent in the college. It also hosts StarTalk during Recstacy.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Joydeep Banerjee Dr. Arjyajyoti Goswami Dr. Sutanuka Banerjee	Kaushal Baid	Pushpal Ghodaskar	Link: <a href="https://lcnitd.co.in/">https://lcnitd.co.in/</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b><u>NITMUN XI</u></b>  <b><u>Date: 20<sup>th</sup>- 22<sup>nd</sup> January 2023</u></b>                      The eleventh edition of NITMUN, the annual Model United Nations of NIT Durgapur hosted 150+ delegates from the campus and beyond. All committees saw overwhelming rounds of debate and discussion.</p>		
2.	<p><b><u>TEDxNITDurgapur</u></b>  <b><u>Date: 5<sup>th</sup> February 2023</u></b>                      TEDxNITDurgapur was co-organized by the Literary Circle with the theme "Untrodden Path" and hosted notable speakers, namely Aanchal Thakur, Tapan Mishra, Kanthi Dutt, Pratik Gauri and Kenidra Woods.</p>		
3.	<p><b><u>Yearbook 2023</u></b>                      The Yearbook is annual memorabilia. The photography session of Yearbook 2023 has been completed.</p>		
<p><b>For Other Activities: <a href="https://lcnitd.co.in/">https://lcnitd.co.in/</a></b></p>			



Name of the Club/Body/Centre: Maths N Tech Club (MNTC)			
<p><b>About us:</b> We, Maths N Tech Club are the official knowledge club of NIT Durgapur. Back in 2004, when the Regional Engineering College Durgapur got the status of an Institute of National Importance and was renamed as the National Institute of Technology Durgapur, Maths N Tech Club was formed.</p> <p>Our club was set up with the aim of creating a platform that helps in stimulating passion for mathematics and interest in the technology of today’s world. At MNTC, we understand the importance of analytical reasoning and rational thinking. Hence, we organize a plethora of events throughout the year that aims at reinvigorating the seemingly dormant passion for mathematics and the thirst for knowledge about today’s technology.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Anita Pal Dr. Seema Sarkar (Mondal) Dr. Sarit Maitra	Kabita Harijan	Devansh Singh Patel	Link: mntcnitdgp.co.in
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p>Mergers Alliance (16.16.2022)</p> <p>It was the first edition of an online case study event where participants were a part of an alliance which aimed to work on a company’s loopholes. The event saw participation from IIMs across India.</p>		
2.	<p>Graphic Design Workshop (07.01.2023)</p> <p>It was an offline two-day workshop where participants are well acquainted with the basics and practical implementation of the ideas of graphic design. Participants were given deep insights in various designing tools like Adobe Illustrator and Photoshop.</p>		
3.	<p>A session with Striver (15.01.2023)</p> <p>It was a collaboration with CDC, NIT Durgapur to bring Raj Vikramaditya (aka Striver) for a live and exciting interactive session. The session was organized in the New Auditorium and received a massive crowd. It was an eye-opening session which drew away unnecessary thoughts from a coder com software engineer’s brain and paved a definite idea for his/her success.</p>		
<p><b>For Other Activities:</b> <a href="https://mntcnitdgp.co.in">https://mntcnitdgp.co.in</a></p>			



Name of the Club/Body/Centre: Music Club			
<p><b>About us:</b> We are the official Music Club of NIT Durgapur. We bring the love we have for music to everyone in this college through live performances and the people outside the college through our page and YouTube channel. We perform both Eastern and Western genres of music.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Suvrojit Das	Subhadeep Biswas	Aheli Chakrabarti	<a href="https://drive.google.com/file/d/1oRPVibW0bIBdC9vfe8OH_pM4ZgcBvK1n/view?usp=sharing">https://drive.google.com/file/d/1oRPVibW0bIBdC9vfe8OH_pM4ZgcBvK1n/view?usp=sharing</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>COVER UP (30th December, 2022 to 30th January, 2023)</b> Cover Up was an online event hosted in Facebook. The students submitted their entries and the top performers were rewarded.</p>		
2.	<p><b>Nescafe Jam 2nd February, 2023</b></p>		
3.	<p><b>E-Summit 4th March, 2023</b></p>		
<p><b>For Other Activities:</b> Facebook: <a href="https://www.facebook.com/MuC.NITD/">https://www.facebook.com/MuC.NITD/</a> Instagram: <a href="https://www.instagram.com/musicclub_nitd/">https://www.instagram.com/musicclub_nitd/</a> YouTube: <a href="https://www.youtube.com/c/MuCNITD/">https://www.youtube.com/c/MuCNITD/</a></p>			



**Name of the Club/Body/Centre: Prakriti (The Environmental Club)**

About us (within 100 words): Prakriti, the techno-environmental club of NIT DGP, aims to inspire prospective engineers to be GreenEngineers, caring for the environment. With our motto of awareness and action, we promote sustainability and pollution control in technology. Rooted in the values of perseverance, sustenance, and progress, Team Prakriti has surpassed milestones since its inception. Through year-round events, we awaken minds to the significance of environmental preservation. Together, we strive to create a sustainable and harmonious world for all living beings.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Kalyan Adhikari Subhankar Roybarman	Niharika Yellanki	Vishal Singh	

**Notable Activities**

Sl No.	Name of the Activities, Date	Corresponding Photograph
1.	<p><b>RUNIT:</b> A 7kms mini-marathon run promoting the cause of preserving nature and the earth’s resources. Athletes and non-athletes join this marathon which is conducted during mid-February of every year to make it a successful event.</p>	
2.	<p><b>PLANTATION:</b> One of the most inspirational events of Prakriti, on the event day we plant 100 trees around the campus with our Director, Dean and participants. This ends up with encouragement, awareness and enjoyment.</p>	
3.	<p><b>LIGHT THE NIGHT:</b> An Event to get all out of the mournous feeling of missing your family back at home. The whole event is described by its name. We arrange creative rangoli making , diyas lighting and some fun activities with our enthusiastic participants. This way we promote togetherness, no crackers and endless fun and surprises on diwali.</p>	








**Name of the Club/Body/Centre: QuizInc**

**About us:** We, QuizInc, are the official quizzing club of NIT Durgapur. We provide an incredible interactive platform for all those who are endlessly curious and love exchanging ideas and knowledge. We are indeed the "Knowledge Club" of NIT Durgapur. QuizInc was started by two students Harsh Mohan and Anup Nair in 2003. We are a community of dedicated quizzers who promote the culture of quizzing in our campus. A club which remains active throughout the year, QuizInc hosts a variety of quizzes every month. From collaborating with other NITs, to holding interesting events, to witnessing participants from reputed colleges all over Kolkata and Durgapur, QuizInc does it all.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Joydeep Banerjee Dr. Arjayajoti Goswami	Durbar Chakraborty	Kaushal Baid	Link: <a href="https://quizinc.co.in">https://quizinc.co.in</a>

**Notable Activities**

SI No.	Name of the Activities, Date And its Details	Corresponding Photograph
1.	Rendezvous 04.06.2022  Our online Gaming Quiz was a massive hit, attracting gamers from different colleges of the country. Participants enjoyed the interactive experience and tested their gaming knowledge to the fullest.	
2.	Kick Off 06.12.2022  An online quiz event on FIFA World Cup 2022. Participants cheered, showcased, and celebrated their passion for football, making it a memorable and thrilling experience for all.	
3.	The Last Lap 02.04.2023  It was the World Cup Quiz presented by QuizInc in association with Students Gymkhana at Rectstcy 2023.	

**For Other Activities: [www.quizinc.co.in](http://www.quizinc.co.in)**



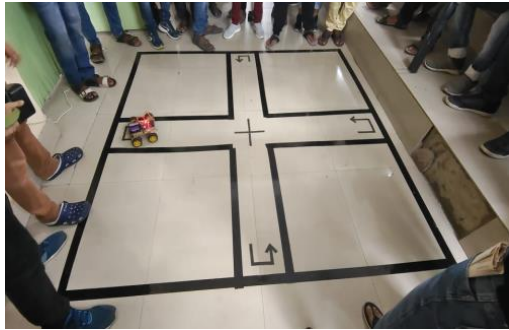


Name of the Club/Body/Centre: RADIO NITROZ			
<p><b>About us:</b> We, the People of Radio NITroz of NIT Durgapur, strive to make a difference in the hectic life of college by bringing fun events and help people learn better with a calm mind because “Life is to live”. Radio NITroz was formed in the year 2006 by our brilliant seniors and it is the 3rd successful LAN/Internet based Radio among all IITs and NITs. It is a matter of proud for us. We work on the motto to make life a bit easy and fun. We have been very popular for our Podcasts and the Live Dedication. There was a time when everyone used to tune into Radio NITroz using VLC and tell us whom they want to dedicate songs and messages if any. It was amazing to be loved by everyone. For this, we carry out different events throughout the year, enthralling people with Joie de vivre.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. T.K.Bera	Dhiraj Kumar	Akshay.A.Baiju	Link: <a href="https://radionitroz-nitdgp-update-github-io.vercel.app/">https://radionitroz-nitdgp-update-github-io.vercel.app/</a>
Three Notable Activities			
SI No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>EVENT NAME:</b> TalentX  <b>Date-</b>26/01/2023</p> <p>We, the <b>Radio Nitroz</b> team, are here to bring all of your talent under one roof with TalentX, unveiling your talent in singing, dancing, poetry, we are coming with TalentX, breaking your boredom and bringing you stardom for your exciting talent.</p>		
2.	<p><b>Event Name:</b> Nexus Verse 2.0  <b>Date-</b>09/01/2023</p> <p>Excitement is not just a word. It is a great feeling of enthusiasm and eagerness. So to feel this thrilling sensation, we, Radio Nitroz bring to you Nexus Verse 2023, where even the simplest entity is perverted into a baffled question.</p>		
3.	<p><b>Event Name:</b> Shaam-E-Noor 4.0 <b>Date-</b>21/10/2022</p> <p>With the gleam of diyas and the echo of the chants, we the <b>RADIO NITROZ</b> team is no less excited to share the festival of lights with you. Let us join hands and share the night of light with our Radio Nitroz family.</p>		
<p><b>For Other Activities:</b> <a href="https://radionitroz-nitdgp-update-github-io.vercel.app/">https://radionitroz-nitdgp-update-github-io.vercel.app/</a></p>			

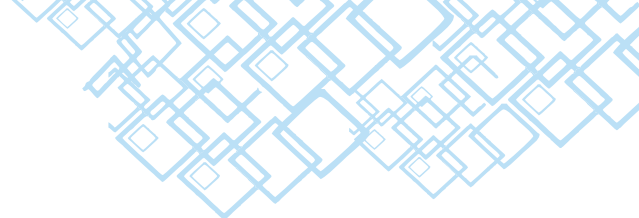



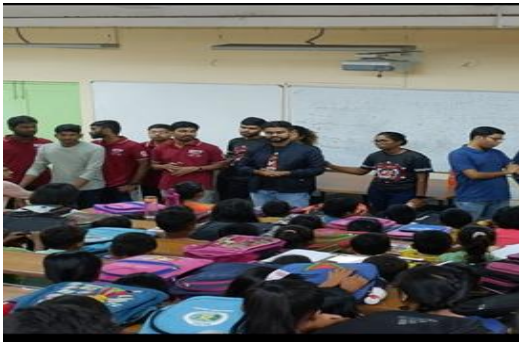



Name of the Club/Body/Centre: RECursorion			
<p><b>About us:</b> RECursorion is the official programming community of NIT Durgapur which focuses on improving coding culture institute wide by conducting regular lectures from beginner to advanced topics of programming. Our goal is to increase student participation in inter-collegiate contests like ICPC and help them get better.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Debasis Mitra, Bibhash Sen	Akshay A Baiju	D.Mahamood Sameer	Link: <a href="https://www.reursionnitd.in/">https://www.reursionnitd.in/</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>RECursorion classes</b> : RECursorion organises weekly classes for the first and second year students of our college on various programming topics from basics to an advanced level. Classes are generally taken twice a week. Some dates of our past classes: (20/03/23, 23/03/23, 27/03/23, 30/03/23)</p>		
2.	<p><b>RECode</b> : RECode is a monthly coding contest mainly based on the topics that have been taught in the class till then. The RECodes can be only for our college or can also be open to all where global participants are allowed. We conduct rated for all RECodes too. Some dates of our past RECodes : 29/08/22, 14/10/22, 30/01/23, 12/02/23</p>		
3.	<p><b>ICPC Orientation</b> : The session provides insight about ICPC to the students of the institute and provide details and resources to prepare for the inter-collegiate contest and represent out college in the regionals.</p>		
<p><b>For Other Activities: Provide the Link (Institute home page link of each club)</b>  <b>RECursorion official website: <a href="https://www.reursionnitd.in/">https://www.reursionnitd.in/</a></b></p>			



Name of the Club/Body/Centre: Society of Automotive Engineers (SAE)			
<p><b>About us:</b> SAE India collegiate chapter of NIT Durgapur was conceived in 2007 with an idea to integrate the students of the college into automobile engineering. Presently 200 students are enjoying the benefits of SAE India membership. We organize a number of innovative events, webinars, workshops round the year and a competitive place where the sharpest minds battle in the quest to achieve distinction.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Prof.(Dr.) Apurba layek Prof.(Dr) Nilotpal banerjee Prof(Dr.) Tapas kumar saha	Rahul kashyap	Asif khan Sharvani reddy	Link: <a href="https://www.saenitdgp.com/events">https://www.saenitdgp.com/events</a>
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>DRAG AND DRIFT, 27th August, 2022</b> SAE hosts a thrilling event 'Drag&amp;Drift' which includes various maze designs with obstacles and avoiding the pesky obstacles subsequently knowing the underlying working of the car.</p>		
2.	<p><b>SDV, 14-15th January, 2023(SELF DRIVING VEHICLE WORKSHOP)</b> SAE conducts SDV, a self driving vehicle workshop wherein the self driving prototype is developed along with the fundamentals of autonomous driving, robotics and algorithm designs is discussed.</p>		
3.	<p><b>TedX NITDurgapur, 5th February 2023</b> SAE also conducts TEDxNITDurgapur a part of TED along with Literary Circle, a worldwide, grassroots initiative, that aims to provide a platform for a symphony of voices.</p>		
For Other Activities:			



Name of the Club/Body/Centre: SPICMACAY NIT Durgapur Chapter			
<p><b>About us:</b> SPICMACAY NIT Durgapur Chapter is the largest cultural society of NIT Durgapur. It aims to foster an appreciation for Indian classical music and traditional arts among students. Through diverse events and activities, SPICMACAY NIT Durgapur Chapter promotes India's rich cultural heritage, encouraging the youth to embrace and celebrate their roots. Our club serves as a platform for artists to showcase their talents and provides an immersive experience in Indian culture. By engaging in music, dance, and art workshops, students gain insights into the country's diverse traditions, promoting a deeper understanding and respect for their cultural legacy.</p>			
Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
Dr. Nilanjan Chattaraj Dr. Jitamanyu Chakrabarty Dr. Aritro Dey	Saikat Sarkar	Hridikalpa Das	Link: Newsletter
Three Notable Activities			
Sl No.	Name of the Activities, Date And its Details (within 30 words)	Corresponding Photograph (one for each activity)	
1.	<p>Virasat 15-19th, A five-day cultural extravaganza where classical maestros showcased their mastery through insightful workshops and performances. It was amazing to see young minds showing their charm through the aura of Bharatnatyam and their creativity through the flair of chhau mask-making. Cultural performances by other eminent artists staged during the evenings were also mesmerizing. These presentations glorified us as we immersed ourselves in the richness of our culture and the magnificence of these evocative ethnic expositions.</p>		
2.	<p>Anubhav, 12<sup>th</sup> November : SPIC MACAY NIT Durgapur Chapter conducted a day long Art &amp; Craft workshop for the underprivileged children in collaboration with BMEP.</p>		
3.	<p>Uttarayan, 14<sup>th</sup> January. SPIC MACAY NIT Durgapur Chapter organized Uttarayan, a kite flying festival inspired by the spirit of Makar Sankranti which brought everyone together in a playful extravaganza of dancing colors.</p>		
For Other Activities:			





Name of the Club/Body/Centre: STROKES			
<p><b>About us: STROKES</b> is the official art and photography club of NIT DURGAPUR, a place for practicing artists to hone their skills, develop their techniques and portfolios, collaborate with other artists, create bonds with others through arts, and learn how to work together through group projects that will beautify the community. We at <b>Strokes</b> organize various art exhibitions and photo walks attracting a multitude each and every year to spread the culture of art and photography in the college.</p>			
Name of the Faculty Advisor(s) or equivalent post		Name of the President or equivalent post	Name of Vice President or equivalent post
Dr. Suvamoy Changder		Ramyani Raha	Sankhadeep Ghosh
		Further Information	
		Link:	
Sl No.	Name of the Activities, Date And its Details	Corresponding Photograph	
1.	<p><b>Kalkriti 9th Edition (9th-10th March, 2023)</b>                      (Strokes' <b>Kalakriti Edition 9</b>, a captivating art &amp; photo exhibit at Aarohan's tech fest, drew students, faculty &amp; visitors. Vibrant creations showcased, including a mesmerizing sculpture depicting immersion in hues.)</p>		
2.	<p><b>Face Painting (1st-3rd April, 2023)</b>                      (Strokes' '<b>Face Painting</b>' stole the spotlight at Recstacy's cultural fest. A buzzing booth for 3 days, it adorned faces with diverse art and patterns, a crowd-favorite attraction..)</p>		
3.	<p><b>Photo Booth (1st-3rd April, 2023)</b>                      (Strokes' '<b>Photo Booth</b>' at Recstacy's cultural fest captured hearts, offering handmade props and skilled photographers. Three days of popularity, perfect shots, and cherished memories for all.)</p>		



## 7.5 Gymkhana

The Students' Gymkhana at NIT Durgapur holds a pivotal position in addressing the various issues that students encounter on a daily basis. This apolitical student body dedicates its efforts to understanding and resolving the challenges faced by the student community. Through an executive council, the Gymkhana remains actively engaged throughout the year, focusing on domains that directly impact students' lives. Acting as a crucial bridge between the administration and the students, the Gymkhana ensures that student voices are heard and considered in decision-making processes. It advocates for student rights, well-being, and academic concerns, making it an instrumental platform for communication and collaboration.

While the Gymkhana is known for organizing the grand annual cultural festival, Recstasy, its primary focus lies in addressing student issues. It takes a proactive approach to create a conducive learning environment, enhancing facilities, and implementing student-friendly policies. From academic matters to extracurricular activities and amenities, the Gymkhana tirelessly works to enrich the college experience for every student.

Last year's introduction of the food festival, Recrave, was yet another initiative that aimed to foster a sense of community and cater to student preferences. However, it is the Gymkhana's unwavering dedication to addressing student issues that truly sets it apart and makes it an invaluable asset for the entire student body at NIT Durgapur.

National Institute of Technology Durgapur Students' Gymkhana, colloquially known Gymkhana is the only representative body of the students of National Institute of Technology, elected by all the regular students of UG and PG courses of the Institute.

The Gymkhana at NIT Durgapur is a non-sectarian, non-communal and non-political body that indulge in normal functioning of the Institute including academic activities and strive for a peaceful ecosystem which supports the growth and advancement of students individually and as a body. It upholds liberty of thought and freedom of expression, equality of status and of opportunity, fostering and developing all co-curricular activities, and creation of a sound and healthy Student-Administration relationship.

## 8. Annual Accounts

### 8.1 Information Related to Annual Accounts:

#### 8.1.1 Analysis of Plan and Non-Plan Grants (2022-23)

<b>Plan (General Component) Grants</b>	2191.00 [Rs. In Lakh]
<b>Non-Plan Grants</b>	15860.64 [Rs. In Lakh]

#### 8.1.2 Sources of Grants

<b>Till Financial Year 2002-03</b>	From Financial Year 2003-04 Onward
<b>Govt. of India &amp; Govt. of WB</b>	MoE, GoI

#### 8.1.3 Expenditure Position for Last 5 Years

Plan head Expenditure		Non-Plan head Expenditure	
2018-19	Rs. 1403.84	2018-19	Rs. 14814.37
2019-20	Rs. 3286.51	2019-20	Rs. 15130.18
2020-21	Rs. 1801.55	2020-21	Rs. 13417.44
2021-22	Rs. 2317.63	2021-22	Rs. 15323.96
2022-23	Rs. 3272.44	2022-23	Rs. 14982.31

#### 8.1.4 Details of Annual Accounts and Separate Audit Report (SAR)

Detail Annual Accounts and SAR are provided as an addendum for the ready reference. Detail Annual Accounts consists of 71 pages and SAR consists of 7 pages.



**63<sup>rd</sup>**

**Annual Accounts  
2022-23**

**(April 01, 2022 – March 31, 2023)**

**[Page No.: 01 – 70]**





<b>NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR:: INDIA</b>			
<b>BALANCE SHEET AS</b>			
<b>ON 31.3.2023</b>			
<i>(Amount in Rupees)</i>			
<b>SOURCES OF FUNDS</b>	<b>Schedule</b>	<b>Current Year</b>	<b>Previous Year</b>
<b><u>UNRESTRICTED FUNDS</u></b>			
CORPUS/CAPITAL FUND	1	6,94,32,51,139.39	6,50,61,15,885.18
DESIGNATED/EARMARKED/ENDOWMENT FUNDS	2	2,00,35,33,380.51	1,80,72,31,616.01
<b><u>CURRENT LIABILITIES AND PROVISIONS</u></b>	3	33,30,00,991.81	1,16,12,21,806.70
<b>TOTAL</b>		<b>9,27,97,85,511.71</b>	<b>9,47,45,69,307.89</b>
<b><u>APPLICATION OF FUNDS</u></b>			
<b><u>FIXED ASSETS</u></b>			
TANGIBLE ASSETS	4	3,68,94,48,594.14	3,61,66,70,770.42
INTANGIBLE ASSETS		5,62,88,210.00	3,50,57,841.52
CAPITAL WORK-IN-PROGRESS		69,85,58,321.00	66,09,69,973.00
<b><u>INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS</u></b>			
LONG TERM	5	-	-
SHORT TERM		-	-
<b><u>INVESTMENTS-OTHERS</u></b>			
	6	1,94,55,64,960.00	2,47,16,45,809.00
<b><u>CURRENT ASSETS</u></b>			
	7	2,61,96,78,898.79	2,44,75,86,456.55
<b><u>LOANS, ADVANCES &amp; DEPOSITS</u></b>			
	8	27,02,46,527.78	24,26,38,457.40
<b>TOTAL</b>		<b>9,27,97,85,511.71</b>	<b>9,47,45,69,307.89</b>

<b>SIGNIFICANT ACCOUNTING POLICIES</b>	23
<b>CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS</b>	24

Joint Registrar (F&A)

Registrar

Director



NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR							
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.3.2023							
(Amount in Rupees)							
Particulars	Schedule	Current Year					Previous year
		Unrestricted Funds			Restricted Fund	Total	Total
		Corpus	Designated fund	General fund			
<b>INCOME</b>							
Academic Receipts	9	39,39,74,847.71				39,39,74,847.71	34,83,90,024.70
Grants / Subsidies	10	1,58,60,64,622.00				1,58,60,64,622.00	1,26,09,38,354.00
Income from Investments	11	6,79,33,246.00				6,79,33,246.00	6,41,31,539.00
Interest earned	12	6,18,68,501.00				6,18,68,501.00	6,10,47,456.00
Other Incomes	13	1,33,91,140.80				1,33,91,140.80	1,49,67,194.52
Prior Period Income	14	-				-	-
<b>TOTAL (A)</b>		<b>2,12,32,32,357.51</b>				<b>2,12,32,32,357.51</b>	<b>1,74,94,74,568.22</b>
<b>EXPENDITURE</b>							
Staff Payments & Benefits (Establishment Expenses)	15	1,11,33,72,376.00				1,11,33,72,376.00	1,09,80,33,571.00
Academic Expenses	16	1,61,32,628.82				1,61,32,628.82	59,21,819.00
Administrative and General Expenses	17	32,17,77,397.83				32,17,77,397.83	22,41,80,453.64
Transportation Expenses	18	36,61,973.00				36,61,973.00	18,08,890.00
Repairs & Maintenance	19	3,90,22,468.15				3,90,22,468.15	3,00,34,187.00
Finance Costs	20	42,64,622.00				42,64,622.00	13,81,706.00
Depreciation	4	19,56,48,023.81				19,56,48,023.81	16,98,38,012.92
Other Expenses	21	0.00				0.00	0.00
Prior Period Expenses	22	0.00				0.00	11,97,575.00
<b>TOTAL (B)</b>		<b>1,69,38,79,489.61</b>				<b>1,69,38,79,489.61</b>	<b>1,53,23,96,214.56</b>
Balance being excess of Income over Expenditure (A-B)		42,93,52,867.91				42,93,52,867.91	21,70,78,353.66
<i>Transfer to/from Designated fund</i>							
<i>Building fund</i>							
<i>Others (specify)</i>		0.00				0.00	0.00
Balance Being Surplus (Deficit) Carried to General Fund		<b>42,93,52,867.91</b>				<b>42,93,52,867.91</b>	<b>21,70,78,353.66</b>

SIGNIFICANT ACCOUNTING POLICILIES	23
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24

Joint Registrar (F&A)

Registrar

Director



RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31.03.2023

(Amount in Rupees)					
RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
<b>I. Opening Balances</b>			<b>I. Expenses</b>		
a) Cash Balances	-	-	a) Establishment Expenses	1,13,29,04,174.00	99,86,18,453.00
b) Bank Balances			b) Academic Expenses	4,06,24,146.82	3,09,54,385.00
i. In Current Account	2,02,04,37,083.28	1,94,91,53,530.78	c) Administrative Expenses	30,62,07,786.83	21,45,84,080.64
ii. In Deposit Account	8,687.82	98,67,963.07	d) Transportation Expenses	38,20,670.00	21,22,724.00
iii. In Savings Account	7,52,79,273.04	29,18,11,338.24	e) Repairs & Maintenances	3,86,00,763.15	2,63,27,733.00
			f) Prior period expenses	-	-
<b>II. Grants Received</b>			<b>II. Payments against Earmarked/ Endowment Funds</b>	-	-
a) From Government of India	1,80,51,64,622.00	1,53,24,91,354.00			
b) From State Government	-	-			
c) From other sources (details)	-	-			
<b>III. Academic Receipts</b>	41,76,95,509.71	37,28,71,784.70	<b>III. Payments against Sponsored Projects/ Schemes</b>	89,40,883.00	1,92,26,638.00
<b>IV. Receipts against Earmarked/ Endowment Funds</b>	2,00,000.00	-	<b>IV. Payments against sponsored Fellowships and Scholarships</b>	12,96,05,097.00	14,96,72,812.00
<b>V. Receipts against Sponsored Projects/ Schemes</b>	54,03,144.00	2,51,75,824.00	<b>V. Investments and Deposits made</b>		
			a) Out of Earmarked/Endowments Funds	3,68,324.00	-
			b) Out of own funds (Investment- Others)	28,67,33,137.00	25,87,89,263.00
<b>VI. Receipts against sponsored Fellowships and Scholarships</b>	1,97,93,853.50	1,63,40,280.00	<b>VI. Term Deposits with Scheduled Banks</b>	17,25,738.00	6,26,859.00
<b>VII. Income on Investments from:</b>			<b>VII. Expenditure on Fixed Assets and Capital Works-in-Progress</b>		
a) Earmarked/ Endowment Funds	1,68,324.00	-	a) Fixed Assets	26,95,68,451.00	29,82,70,614.00
b) Other Investments	20,13,19,815.00	4,87,71,780.00	b) Capital Works-in-Progress	-	-
<b>VIII. Interest received on</b>			<b>VIII. Other Payments including statutory payments</b>	17,72,75,942.00	12,08,39,231.00
a) Bank Deposits	17,32,191.00	48,25,471.00			
b) Loans and advances	-	-			
c) Saving Bank accounts	6,03,04,850.00	5,79,13,819.00			
<b>IX. Investments encashed</b>	4,02,239.00	5,14,803.00	<b>IX. Refunds of grants</b>	-	-
<b>X. Term Deposits with Scheduled banks encashed</b>	-	-	<b>X. Deposits and Advances</b>	1,43,73,758.00	1,33,76,239.00
<b>XI. Other Income (including Prior Period Income)</b>	99,66,861.80	1,18,19,342.52	<b>XI. Other Payments</b>	27,69,11,980.00	16,90,62,652.00
<b>XII. Deposits and Advances</b>	1,06,72,392.74	1,11,24,156.00	<b>XII. Closing Balances</b>		
			a) Cash Balances	-	-



			b) Bank Balances		
			i. In Current Account	2,19,72,77,769.46	2,02,04,37,083.28
			ii. In Deposit Account	8,687.82	38,97,517.07
			iii. In Savings Account	5,60,48,395.48	20,15,26,808.20
<b>XIII. Miscellaneous Receipts including Statutory Receipts</b>	52,56,973.67	40,62,908.88			
<b>XIV. Any other Receipts</b>	30,71,89,883.00	19,15,88,737.00			
	<b>4,94,09,95,703.56</b>	<b>4,52,83,33,092.19</b>		<b>4,94,09,95,703.56</b>	<b>4,52,83,33,092.19</b>

Joint Registrar (F&A)

Registrar

Director

<b>NATIONAL INSTITUTE OF TECHNOLOGY :: DURGAPUR-713209 :: INDIA</b>		
<b>SCHEDULE TO BALANCE SHEET AS ON 31.03.2023</b>		
<i>(Amount in Rupees)</i>		
<b>SCHEDULE 1 - CORPUS</b>	<b>Current Year</b>	<b>Previous year</b>
Balance at beginning of the year	6,50,61,15,885.18	6,17,73,88,142.70
Add: Contribution towards Corpus /Capital Fund	1,89,48,542.25	11,84,87,988.72
Add: Grants from UGC, Government of India and State Government to the extent utilized for Capital Expenditure	-	-
Add: Assets Purchased out of Earmarked Funds	-	-
Add: Assets Purchased out of Sponsored Projects , Where ownership vests in the institution	-	-
Add: Assets Donated/Gifts Received	-	-
Add: Others Additions	-	-
Less: Balance amount transferred to General Provident Fund Account	1,11,66,155.95	68,38,599.90
<b>Total</b>	<b>6,51,38,98,271.48</b>	<b>6,28,90,37,531.52</b>
Add: Surplus Transferred from Income & Expenditure Accounts	42,93,52,867.91	21,70,78,353.66
<b>BALANCE AS AT THE YEAR END</b>	<b>6,94,32,51,139.39</b>	<b>6,50,61,15,885.18</b>



**SCHEDULE - 2**

**DESIGNATED/EARMARKED FUNDS**

(Amount in Rupees)

	FUND WISE BREAK UP			TOTAL	
	Donation Fund	Others	Endowment Fund	Current Year	Previous Year
a) Opening Balance of the Fund	30,03,438.50	- 20,79,59,062.53	1,56,72,10,082.48	1,77,81,72,583.51	1,57,43,46,558.01
<b>b) Addition to the Funds</b>					
i. Donation/grant	-	-	-	-	-
ii. Income from Investment made of the funds	3,83,185.00	- 1,54,73,166.00	21,91,00,000.00	23,49,56,351.00	24,15,83,677.00
iii. Accrued interest on investments of the funds	-	-	-	-	-
iv. Other additions (specify nature)	-	-	-	-	-
<b>TOTAL (a+b)</b>	<b>33,86,623.50</b>	<b>- 22,34,32,228.53</b>	<b>1,78,63,10,082.48</b>	<b>2,01,31,28,934.51</b>	<b>1,81,59,30,235.01</b>
<b>c) Utilisation/Expenditure towards objectives of funds</b>					
i. Capital Expenditure					
- Fixed Assets	-	-	-	-	-
- Others	36,367.00	95,59,187.00	-	95,95,554.00	86,98,619.00
<b>TOTAL</b>	<b>36,367.00</b>	<b>- 95,59,187.00</b>	<b>-</b>	<b>95,95,554.00</b>	<b>86,98,619.00</b>
ii. Revenue Expenditure					
- Salaries, Wages and Allowances etc.	-	-	-	-	-
- Rent	-	-	-	-	-
- Other Administrative expenses	-	-	-	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL (c)</b>	<b>36,367.00</b>	<b>- 95,59,187.00</b>	<b>-</b>	<b>95,95,554.00</b>	<b>86,98,619.00</b>
<b>CLOSING BALANCE AS AT THE YEAR END (a+b-c)</b>	<b>33,50,256.50</b>	<b>- 21,38,73,041.53</b>	<b>1,78,63,10,082.48</b>	<b>2,00,35,33,380.51</b>	<b>1,80,72,31,616.01</b>

**SECURED LOAN**

(Amount in Rupees)

	Current Year	Previous Year
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions		
a) Term Loans	-	-
b) Interest accrued and due	-	-
4. Banks:		
a) Term Loans		
- Interest accrued and due	-	-
b) Other Loans (Specify)		
- Interest accrued and due	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Others (Specify)	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>
Note: Amounts due within one year	NIL	NIL



**UNSECURED LOANS**

(Amount in Rupees)

	Current Year	Previous Year
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions	-	-
4. Banks:		
a) Term Loans	-	-
b) Other Loans (Specify)	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Fixed Deposits	-	-
8. Others (Specify)	-	-
<b>TOTAL</b>	-	-
Note: Amounts due within one year		

**SCHEDULE 3- CURRENT LIABILITIES & PROVISIONS**

(Amount in Rupees)

	Current Year	Previous Year
<b>A. CURRENT LIABILITIES</b>		
1. Deposits from Staff	8,54,674.51	21,80,044.51
2. Deposits from Students	-	-
3. Sundry Creditors		
a) For Goods & Services	2,22,82,659.16	2,15,80,890.42
b) Others	-	-
4. Advances Received	-	-
5. Interest accrued but not due on:		
a) Secured Loans /borrowings	-	-
b) Unsecured Loans /borrowings	-	-
6. Statutory Liabilities(GPF, TDS, WC TAX, CPF, GIS, NPS):		
a) Overdue	-	-
b) Others	1,66,105.00	1,66,895.00
7. Other Current liabilities		
a) Salaries	5,55,05,183.62	9,61,64,746.62
b) Receipts against sponsored projects	1,16,76,709.03	59,49,186.00
c) Receipts against sponsored fellowships & scholarships	1,48,03,396.93	92,38,000.43
d) Unutilised Grants	-	-
e) Grants in advance	-	-
f) Other funds	22,09,55,172.56	1,01,92,00,311.72
g) Loan and borrowing from GOI( Secured Loan)	58,23,172.00	58,23,172.00
h) Other Liabilities	9,33,919.00	9,18,560.00
<b>TOTAL (A)</b>	<b>33,30,00,991.81</b>	<b>1,16,12,21,806.70</b>
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Super Annuation/Pension	-	-
4. Accumulated leave Encashment	-	-
5. Expenses payable	-	-
6. Trade Warranties/Claims	-	-
7. Others (Specify)	-	-
<b>TOTAL (B)</b>	-	-
<b>TOTAL (A+B)</b>	<b>33,30,00,991.81</b>	<b>1,16,12,21,806.70</b>





**SCHEDULE 5- INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other Approved Securities	-	-
4. Shares	-	-
5. Debentures and Bonds	-	-
6. Others (to be specified)	-	-
<b>TOTAL</b>	-	-

**SCHEDULE 6- INVESTMENTS - OTHERS**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other Approved Securities	-	-
4. Shares	-	-
5. Debentures and Bonds	-	-
6. Others (to be specified)	1,94,55,64,960.00	2,47,16,45,809.00
<b>TOTAL</b>	<b>1,94,55,64,960.00</b>	<b>2,47,16,45,809.00</b>

**SCHEDULE 7- CURRENT ASSETS**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
<b>1. Stock:</b>		
a. Stores & Spares	-	-
b. Loose Tools	-	-
c. Publications	-	-
<b>2.Sundry Debtors:</b>		
a) Debts outstanding for a period exceeding six months	-	-
b) Others		
i) HEFA Principal Loan	35,71,11,690.00	22,17,25,048.00
<b>3. Cash Balance in hand (Incl. cheques draft and imprest)</b>	-	-
<b>4. Bank Balances: (to be further classified as pertaining to earmarked fund or otherwise)</b>		
a) With Schedule Banks-	2,26,25,67,208.79	2,22,58,61,408.55
- In current accounts	-	-
- In term deposit accounts	-	-
- In savings accounts	-	-
b) With non-schedule Banks		
- In current accounts	-	-
- In term deposit accounts	-	-
- In savings accounts	-	-
4. Post-Office Savings A/C		
<b>TOTAL</b>	<b>2,61,96,78,898.79</b>	<b>2,44,75,86,456.55</b>



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<b>SCHEDULE 8 - LOANS, ADVANCES &amp; DEPOSITS</b>		(Amount in Rupees)		
	<i>Current Year</i>		<i>Previous Year</i>	
1. Advances to employees: (Non- interest bearing)			-	
a) Salary	33,58,262.09		25,81,127.09	
b) Festival	2,39,719.39		2,39,719.39	
c) LTC	(600.00)		(600.00)	
d) Medical Advance	-		-	
e) Others (to be specified)	28,19,050.77	64,16,432.25	16,04,019.77	44,24,266.25
2. Long Term Advances to employees: (Interest bearing)				
a) Vehicle Loan				
b) Home Loan			-	
c) Others (to be specified)	2,54,990.00	2,54,990.00	3,63,472.00	3,63,472.00
3. Advances and other amounts recoverable in cash or in kind or for value to be received				
a) On Capital account	-		-	
b) To suppliers	-		-	
c) Others	19,47,77,836.61	19,47,77,836.61	15,92,23,958.23	15,92,23,958.23
4. Prepaid expenses				
a) Insurance			-	
b) Other expenses	-	-	-	-
5. Deposits				
a) Telephone	-		-	
b) Lease Rent	-		-	
c) Electricity	-		-	
d) AICTE, if applicable	-		-	
e) MCI, if applicable	-		-	
f) Others (to be specified)	-	-	-	-
6. Income Accrued				
a) On Investment from earmarked/ endowment fund	-		-	
b) On investment-others	6,03,37,650.00		5,91,56,441.00	
c) On loans and advances	-		-	
d) Others (includes income due unrealized Rs....)	-	6,03,37,650.00	-	5,91,56,441.00
7. Other receivables				
a) Debit balances in Sponsored Projects	-		-	
b) Debit balances in Fellowship & Scholarship	-		-	
c) Grants Recoverable	-		-	
d) Other receivable	84,59,618.92	84,59,618.92	1,94,70,319.92	1,94,70,319.92
8. Claims Receivable				
<b>TOTAL</b>		<b>27,02,46,527.78</b>		<b>24,26,38,457.40</b>



NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR SCHEDULE OF DEPRECIATION FOR THE YEAR 2022-23											
DESCRIPTION	GROSS BLOCK					DEPRECIATION			NET BLOCK		
	Opening Cost as on 01.04.2022	Cost as on 01.04.2022 (After Adjustment)	Addition during the year	Deductions during the year	Total cost as on 31.03.2023	Opening Depreciation as on 01.04.2022	On Additions during the year	On Deductions during the year	Total up to the year end	As at the current year end	As at the previous year end
<b>Tangible Assets</b>											
<b>I. Land:</b>											
a) Freehold	10305688.62	1,03,05,688.62	-	-	1,03,05,688.62	-	-	-	-	1,03,05,688.62	1,03,05,688.62
b) Leasehold											
<b>II. Buildings:</b>											
a) On Freehold Land	3834023868	3,83,40,23,868.44	4,87,24,171.00	-	3,88,27,48,039.44	79,85,59,325.79	6,86,57,668.00	-	86,72,16,993.79	3,01,55,31,045.65	3,03,54,64,542.65
b) On Leasehold Land											
c) Ownership Flats / Premises											
d) Superstructures on Land not belonging to educational institutions											
<b>III. Plant, Machineries &amp; Equip.</b>											
	37,27,59,636.22	37,27,59,636.22	4,97,41,980.00	-	42,25,01,616.22	24,81,00,026.50	1,06,97,151.10	-	25,87,97,177.60	16,37,04,438.62	12,46,59,609.72
<b>IV. Vehicles</b>											
	17,49,958.22	17,49,958.22	-	-	17,49,958.22	17,49,957.22	-	-	17,49,957.22	1.00	1.00
<b>V. Furniture &amp; Fixture</b>											
	25,29,27,946.28	25,29,27,946.28	4,44,51,938.00	-	29,73,79,884.28	13,01,03,343.33	1,72,42,797.58	-	14,73,46,140.91	15,00,33,743.37	12,28,24,602.95
<b>VI. Office Equipment</b>											
	11,31,705.95	11,31,705.95	-	-	11,31,705.95	9,35,847.28	26,708.00	-	9,62,555.28	1,69,150.68	1,95,858.68
<b>VII. Computer / Peripherals</b>											
	15,38,43,320.42	15,38,43,320.42	4,46,88,409.00	-	19,85,31,729.42	12,14,08,650.95	1,86,06,490.71	-	14,00,15,141.66	5,85,16,587.76	3,24,34,669.47
<b>VIII. Electrical Installations</b>											
	7,70,71,505.91	7,70,71,505.91	-	-	7,70,71,505.91	4,79,08,294.78	22,33,549.00	-	5,01,41,843.78	2,69,29,662.13	2,91,63,211.13
<b>IX. Library Books</b>											
	21,37,37,694.75	21,37,37,694.75	1,93,49,577.00	-	23,30,87,271.75	13,71,04,751.53	1,67,13,886.90	-	15,38,18,638.43	7,92,68,633.32	7,66,32,943.21
<b>X. Tube wells &amp; water supply</b>											
	-	-	-	-	-	-	-	-	-	-	-
<b>XI. Other Fixed Assets</b>											
	-	-	-	-	-	-	-	-	-	-	-
<b>A. Total of Current Year</b>	<b>4,91,75,51,324.81</b>	<b>4,91,75,51,324.81</b>	<b>20,69,56,075.00</b>	<b>-</b>	<b>5,12,45,07,399.81</b>	<b>1,48,58,70,197.38</b>	<b>13,41,78,251.29</b>	<b>-</b>	<b>1,62,00,48,448.66</b>	<b>3,50,44,58,951.15</b>	<b>3,43,16,81,127.42</b>



XII. Capital Work-in-progress		66,09,69,973.00	11,23,37,283.00	7,47,48,935.00	69,85,58,321.00						
Transfer to Assets		-	-	-	-						
B. Net Work in Progress		5,57,85,21,297.81	31,92,93,358.00	7,47,48,935.00	5,82,30,65,720.81	1,48,58,70,197.38	13,41,76,251.29	1,62,00,48,448.66	3,50,44,58,951.15	3,43,16,81,127.42	
TOTAL (A+B)											
C. TEQIP Assets											
Building (TEQIP-I)	98,97,307.00	98,97,307.00	-	-	98,97,307.00	-	-	-	98,97,307.00	98,97,307.00	
Equipment (TEQIP-I)	15,50,65,026.00	15,50,65,026.00	-	-	15,50,65,026.00	-	-	-	15,50,65,026.00	15,50,65,026.00	
Vehicle (TEQIP-I)	5,15,937.00	5,15,937.00	-	-	5,15,937.00	-	-	-	5,15,937.00	5,15,937.00	
Furniture (TEQIP-I)	79,98,127.00	79,98,127.00	-	-	79,98,127.00	-	-	-	79,98,127.00	79,98,127.00	
Library Books (TEQIP-I)	1,15,13,246.00	1,15,13,246.00	-	-	1,15,13,246.00	-	-	-	1,15,13,246.00	1,15,13,246.00	
TOTAL (C)	18,49,89,643.00	18,49,89,643.00	-	-	18,49,89,643.00	-	-	-	18,49,89,643.00	18,49,89,643.00	
TOTAL (A+B+C)	5,10,25,40,967.81	5,10,25,40,967.81	20,69,56,075.00	-	6,00,80,55,363.81	1,48,58,70,197.38	13,41,76,251.29	1,62,00,48,448.66	3,68,94,48,594.14	3,61,66,70,770.42	

Particulars	Op. bal as on 01.04.2022	Addition during		Deletion during the year	Balance as on 31.03.2023
		Apr-Sep	Oct-Mar		
Const of Boys Hostel 1250 Seated	-	-	-	-	-
Renovation of Work Shop	-	-	-	-	-
Contn. main gate & guard office	-	-	-	-	-
CPWD Projects	39,31,69,973.00	8,36,75,283.00	1,50,62,000.00	7,47,48,935.00	41,71,58,321.00
Construction of VIP Guest House	-	-	-	-	-
Construction of hostel annx exist hostel	-	-	-	-	-
Construction of Auditorium	26,78,00,000.00	-	1,36,00,000.00	-	28,14,00,000.00
Renovation of Academic Building	-	-	-	-	-
500 Seated Girls Hostel	-	-	-	-	-
<b>TOTAL</b>	<b>66,09,69,973.00</b>	<b>8,36,75,283.00</b>	<b>2,86,62,000.00</b>	<b>7,47,48,935.00</b>	<b>69,85,58,321.00</b>



Assets Head	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost as on 01.04.2022	Addition during the year	Deductions during the year	Total cost as on 31.03.2023	Opening Depreciation as on 01.04.2022	On Additions during the year	On Deductions during the year	Total up to the year end	As at the current year end	As at the previous year end
Intangible Assets										
Computer Software	-	-	-	-	-	-	-	-	-	-
E- Journals	18,57,99,600.52	8,27,00,141.00	-	26,84,99,741.52	15,07,41,759.00	6,14,69,772.52	-	21,22,11,531.52	5,62,88,210.00	3,50,57,841.52
Patents	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>18,57,99,600.52</b>	<b>8,27,00,141.00</b>	<b>-</b>	<b>26,84,99,741.52</b>	<b>15,07,41,759.00</b>	<b>6,14,69,772.52</b>	<b>-</b>	<b>21,22,11,531.52</b>	<b>5,62,88,210.00</b>	<b>3,50,57,841.52</b>

DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
	Cost as on 01.04.2022	Cost as on 01.04.2022 (After Adjustment)	Addition during the year	Deductions during the year	Total cost as on 31.03.2023	Opening Depreciation as on 01.04.2022	On Additions during the year	On Deductions during the year	Total up to the year end	As at the current year end	As at the previous year end
<b>Tangible Assets</b>											
<b>I. Land:</b>											
a) Freehold	1,03,05,688.62	1,03,05,688.62	-	-	1,03,05,688.62	-	-	-	1,03,05,688.62	1,03,05,688.62	-
b) Leasehold	-	-	-	-	-	-	-	-	-	-	-
<b>II. Buildings:</b>											
a) On Freehold Land	3,83,40,23,868.44	3,83,40,23,868.44	4,87,24,171.00	-	3,88,27,48,039.44	79,85,59,325.79	6,86,57,668.00	-	86,72,16,993.79	3,01,55,31,045.65	3,03,54,64,542.65
b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-	-
c) Ownership Flats/ Premises	-	-	-	-	-	-	-	-	-	-	-
d) Superstructures on Land not belonging to educational institutions	-	-	-	-	-	-	-	-	-	-	-
<b>III. Plant, Machineries &amp; Equip.</b>											
	37,27,59,636.22	37,27,59,636.22	4,97,41,980.00	-	42,25,01,616.22	24,81,00,026.50	1,06,97,151.10	-	25,87,97,177.60	16,37,04,438.62	12,46,59,609.72
<b>IV. Vehicles</b>	17,49,958.22	17,49,958.22	-	-	17,49,958.22	17,49,957.22	-	-	17,49,957.22	1.00	1.00
<b>V. Furniture &amp; Fixture</b>	25,29,27,946.28	25,29,27,946.28	4,44,51,938.00	-	29,73,79,884.28	13,01,03,343.33	1,72,42,797.58	-	14,73,46,140.91	15,00,33,743.37	12,28,24,602.95
<b>VI. Office Equipment</b>	11,31,705.95	11,31,705.95	-	-	11,31,705.95	9,35,847.28	26,708.00	-	9,62,555.28	1,69,150.68	1,95,858.68
<b>VII. Computer / Peripherals</b>	15,38,43,320.42	15,38,43,320.42	4,46,88,409.00	-	19,85,31,729.42	12,14,08,650.95	1,86,06,490.71	-	14,00,15,141.66	5,85,16,587.76	3,24,34,669.47
<b>VIII. Electrical Installations</b>	7,70,71,505.91	7,70,71,505.91	-	-	7,70,71,505.91	4,79,08,294.78	22,33,549.00	-	5,01,41,843.78	2,69,29,662.13	2,91,63,211.13
<b>IX. Library Books</b>	21,37,37,694.75	21,37,37,694.75	1,93,49,577.00	-	23,30,87,271.75	13,71,04,751.53	1,67,13,886.90	-	15,38,18,638.43	7,92,68,633.32	7,66,32,943.21







Assets Head	GROSS BLOCK			DEPRECIATION			NET BLOCK			
	Cost as on 01.04.2022	Addition during the year	Deductions during the year	Total cost as on 31.03.2023	Opening Depreciation as on 01.04.2022	On Additions during the year	On Deductions during the year	Total up to the year end	As at the current year end	As at the previous year end
Intangible Assets										
Computer Software	-	-	-	-	-	-	-	-	-	-
E- Journals	18,57,99,600.52	8,27,00,141.00	-	26,84,99,741.52	15,07,41,759.00	6,14,69,772.52	-	21,22,11,531.52	5,62,88,210.00	3,50,57,841.52
Patents	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>18,57,99,600.52</b>	<b>8,27,00,141.00</b>	<b>-</b>	<b>26,84,99,741.52</b>	<b>15,07,41,759.00</b>	<b>6,14,69,772.52</b>	<b>-</b>	<b>21,22,11,531.52</b>	<b>5,62,88,210.00</b>	<b>3,50,57,841.52</b>

**SCHEDULE 4B-NON PIAN**

S. No.	Assets Heads	Gross Block			Depreciation for the Year 2022-23			Net Block		
		Op. Balance 01.04.22	Additions	Deductions	Cl. Balance	Dep. for the Year	Deduction/ Adjustment	Total Depreciation	31-03-2023	31-03-2022
1	Land									
2	Site Development									
3	Buildings									
4	Roads & Bridges									
5	Tubewells & Water Supply									
6	Sewerage & Drainage									
7	Electrical Installation and equipment									
8	Plant & Machinery									
9	Scientific & Laboratory Equipment									
10	Office Equipment									
11	Audio Visual Equipment									
12	Computers & Peripherals									
13	Furniture, Fixtures & Fittings									
14	Vehicles									
15	Lib. Books & Scientific Journals									
16	Small Value Assets									
<b>Total (A)</b>										

NIL

17	Capital Work in Progress (B)									
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S. No.	Assets Heads	Op. Balance 01.04.18	Additions	Deductions	Cl. Balance	Dep. Opening Balance	Dep. for the Year	Deduction/ Adjustment	Total Depreciation	31-03-2023	31-03-2022
18	Computer Software										
19	E-Journals										
20	Patents										
Total (C)											
Grand Total (A+B+C)											

**SCHEDULE 4C- INTANGIBLE ASSETS**

Assets Head	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost as on 01.04.2022	Addition during the year	Deductions during the year	Total cost as on 31.03.2022	Opening Depreciation as on 01.04.2022	On Additions during the year	On Deductions during the year	Total up to the year end	As at the current year end	As at the previous year end
Intangible Assets										
Computer Software	-	-	-	-	-	-	-	-	-	-
E- Journals	-	-	-	-	-	-	-	-	-	-
Patents	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>



**SCHEDULE 4C (I)- PATENTS AND COPYRIGHTS**

Particulars	Op. Balance	Addition	Gross	Amortization	Net Block 2023	Net Block 2022
<b>NIL</b>						
A. Patents Granted						
1 Balance as on 31.03.14 of Patents obtained in 2008-09 (Original Value- Rs..../-)						
2 Balance as on 31.03.14 of Patents obtained in 2010-11 (Original Value- Rs..../-)						
3 Balance as on 31.03.14 of Patents obtained in 2012-13 (Original Value- Rs..../-)						
4 Patents granted during the Current Year						
<b>Total</b>						

Particulars	Op. Balance	Addition	Gross	Patents Granted/Rejected	Net Block 2022-23	Net Block 2021-22
<b>NIL</b>						
A. Patents Pending in respect of Patents applied for						
1 Expenditure incurred during 2009-10 to 2011-12						
2 Expenditure incurred during 2012-13						
2 Expenditure incurred during 2013-14						
<b>Total</b>						

<b>Grand Total (A+B)</b>						
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**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR, DURGAPUR-713209, INDIA**

**Schedule to Income & Expenditure Account for the year ended 31.3.2023**

**SCHEDULE 9- ACADEMIC RECEIPTS**

(Amount in Rupees)

	<i>Current Year</i>	<i>Previous Year</i>
<b>FEE FROM STUDENTS</b>		
Academic		
1. Tuition fee	29,61,76,571.00	29,50,83,296.10
2. Admission fee	-	-
3. Enrolment fee	-	-
4. Library Admission fee	-	-
5. Computer fee	-	-
6. Art & Craft fee	-	-
7. Registration fee	-	-
8. Syllabus fee	-	-
<b>TOTAL (A)</b>	<b>29,61,76,571.00</b>	<b>29,50,83,296.10</b>
Examinations		
1. Admission test fee	-	-
2. Annual Examination fee	-	-
3. Mark sheet, certificate fee	-	-
<b>TOTAL (B)</b>	<b>-</b>	<b>-</b>
Other fees		
1. Identity card fee	-	-
2. Fine/Miscellaneous fee	-	-
3. Medical fee	-	-
4. Transportation fee	-	-
5. Hostel fee	2,54,23,907.00	2,23,02,374.00
6. Institute fee	6,65,80,543.71	3,07,44,854.60
7. Insurance & Migration charges	-	-
8. Provisional certificate fee	1,000.00	-
9. Seat rent & Electricity charges from Student hall	-	-
10. Students Activity fees	-	-
11. Transcription fees	2,000.00	7,000.00
12. Training & Placement fees	-	-
13. Education Verification	2,77,626.00	2,52,500.00
14. Migration Fees	5,500.00	-
15. Examination Fees	-	-
16. Library Charges	55,07,700.00	-
<b>TOTAL (C)</b>	<b>9,77,98,276.71</b>	<b>5,33,06,728.60</b>
1. Sale of syllabus and Question Paper, etc.	-	-
2. Sale of Prospectus including admission forms	-	-
<b>TOTAL (D)</b>	<b>-</b>	<b>-</b>
<b>GRAND TOTAL (A+B+C+D)</b>	<b>39,39,74,847.71</b>	<b>34,83,90,024.70</b>



**SCHEDULE 10 - GRANTS & DONATIONS (Irrevocable Grants & Subsidies Received)**

(Amount In Rupees)

Particulars	Plan		Total Plan	Non Plan UGC	Current Year Total	Previous Year Total
	Govt of India	UGC				
		Plan	Specific Schemes			
Balance B/F						
Add: Receipts during the Year	1,58,60,64,622.00				1,58,60,64,622.00	1,26,09,38,354.00
Total						
Less: Refund to UGC						
Balance						
Less: Utilised for Capital Expenditure (A)						
Balance						
Less: Utilised for Revenue Expenditure (B)	1,58,60,64,622.00				1,58,60,64,622.00	1,26,09,38,354.00
Balance C/F (C)	-				-	-

**SCHEDULE 11 - INCOME FROM INVESTMENTS**

(Amount in Rupees)

	Current Year	Previous Year
Investment from Earmarked/Endowment Fund		
1) Interest		
a) On Govt. Securities	-	-
b) Other Bonds/Debentures	-	-
2) Income received		
a) Each Fund separately	-	-
3) Income Accrued		
a) General Fund	6,79,33,246.00	6,41,31,539.00
4) Others (specify)	-	-
<b>TOTAL</b>	<b>6,79,33,246.00</b>	<b>6,41,31,539.00</b>
<b>TRANSFERRED TO EARMARKED/ ENDOWMENT FUNDS</b>	-	-

**SCHEDULE 12 - INTEREST EARNED**

(Amount in Rupees)

	Current Year	Previous Year
1) On Saving Accounts with Scheduled Banks	6,18,68,501.00	6,10,47,456.00
2) On Loans		
a) Employees/Staff	-	-
b) Others	-	-
3) On Debtors and Others Receivables	-	-
<b>TOTAL</b>	<b>6,18,68,501.00</b>	<b>6,10,47,456.00</b>
	-	-



**SCHEDULE 13- OTHER INCOME**

(Amount in Rupees)

	Current Year	Previous Year
<b>A. Income from Land &amp; Building</b>		
1. Hostel room rent	-	-
2. License fee	11,16,418.00	11,42,898.00
3. Hire charges of Auditorium/Play ground/ Convention Centre, etc.		
4. Electricity & water charges	23,05,873.41	22,50,396.00
<b>TOTAL (A)</b>	<b>34,22,291.41</b>	<b>33,93,294.00</b>
<b>B. Sale of Institute's publications</b>	-	-
<b>TOTAL (B)</b>		
<b>C. Income from holding events</b>		
1. Gross receipts from annual function/ sports carnival	-	-
Less: Direct expenditure incurred on the annual function/sports carnival	-	-
2. Gross receipts from fetes	-	-
Less: Direct expenditure incurred on the fetes	-	-
3. Gross receipts from educational tours	-	-
Less: Direct expenditure incurred on the tours	-	-
4. Others(to be specified and separately disclosed)	-	-
<b>TOTAL (C)</b>	-	-
<b>D. Interest on Term Deposits</b>		
a) with scheduled banks	-	-
b) with non-scheduled banks	-	-
c) with institutions	-	-
d) others	-	-
<b>TOTAL (D)</b>	-	-
<b>E. Interest on Debtors and Other Receivables</b>	-	-
<b>F. Others</b>		
Electric charges & Collection of room rent	39,06,236.39	43,85,819.52
Garage rent	840.00	585.00
Guest house income	15,37,774.00	8,84,354.00
Misc Charges	2,98,493.00	5,66,775.00
Liquidated Damages	46,090.00	46,969.00
Other Receipts	37,56,196.00	18,85,120.00
Overhead Charges of Projects	-	2,43,000.00
Registration Fees for Ph.D	32,300.00	5,72,000.00
Sale Of Application , Tender form	34,120.00	11,23,050.00
Income from Testing & Consultancy	3,56,800.00	17,62,748.00
Conference and seminar received	-	1,03,480.00
<b>TOTAL (F)</b>	<b>99,68,849.39</b>	<b>1,15,73,900.52</b>
<b>GRAND TOTAL (A+B+C+D+E+F)</b>	<b>1,33,91,140.80</b>	<b>1,49,67,194.52</b>
<b>SCHEDULE 14- PRIOR PERIOD INCOME</b>		
		(Amount in Rupees)
	Current Year	Previous Year
<b>1.Academic Receipts</b>	-	-
<b>2. Income From Investments</b>	-	-
<b>3. Interest Earned</b>	-	-
<b>4. Other Incomes</b>	-	-
<b>Total</b>		





**SCHEDULE 15 - STAFF PAYMENTS & BENEFITS**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
a) Salaries and Wages	73,15,34,340.00	68,74,99,369.00
b) Allowances and Bonus	-	-
c) Contribution to Provident Fund	-	-
d) Contribution to Other Fund(specify)	-	-
e) Pension & Gratuity charges	22,14,88,798.00	20,79,13,853.00
f) Staff Amenities	2,75,000.00	86,880.00
g) Retirement and Terminal Benefits	-	-
h) LTC facility	66,88,728.00	11,01,027.00
i) Medical facility	1,59,72,778.00	1,34,23,274.00
j) Children Education Allowance	59,51,847.00	65,21,682.00
k) TA/DA expenses	56,98,026.00	11,32,306.00
l) Others (specify)		
i) New Pensioner Scheme Employer Contribution	-	2,63,37,061.00
ii) Scholarship to Institute Research Scholar	8,12,18,343.00	8,80,23,275.00
iii) Scholarship (M.Tech)	4,45,44,516.00	6,59,94,844.00
<b>TOTAL</b>	<b>1,11,33,72,376.00</b>	<b>1,09,80,33,571.00</b>

**SCHEDULE 16 - ACADEMIC EXPENSES**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
a) Laboratory expenses	-	-
b) Field work/Participation	-	-
c) Seminar/Workshop	-	-
d) Payment to visiting faculty	-	-
e) Examination	70,76,062.82	33,00,912.00
f) Student Welfare Expenses	-	-
g) Admission expenses	-	3,55,300.00
h) Convocation expenses/college week	26,67,472.00	19,07,230.00
i) Publications	-	-
j) Stipend/means-cum-merit scholarship	-	-
k) Subscription expenses	-	-
l) Library Journal	13,869.00	6,335.00
m) Republic Day & Independence Day expenses	1,75,940.00	1,01,265.00
n) Registration Fees	47,17,875.00	2,35,777.00
o) CCB-Counselling (CSAB)	-	15,000.00
p) Conference and seminar	3,95,825.00	-
q) Inter NIT meet	5,67,756.00	-
r) Student Amenities	5,17,829.00	-
<b>TOTAL</b>	<b>1,61,32,628.82</b>	<b>59,21,819.00</b>



**SCHEDULE 17 - ADMINISTRATIVE AND GENERAL EXPENSES**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
a) Electricity expenses	6,24,31,793.00	2,43,53,332.00
b) Water Charges	3,48,025.00	17,79,049.00
c) Insurance	28,41,264.00	23,20,877.00
d) Rent, Rates and Taxes(including property tax)	-	-
e) Postage & Telegram	1,80,110.00	1,68,777.00
f) Telephone & Internet charges	8,71,891.00	8,54,539.00
g) Printing and Stationary	11,17,045.00	5,78,542.00
h) Travelling & Conveyance expenses( visiting Lecturers)	24,38,171.00	32,72,515.00
i) Expenses on Seminar/Workshops	-	-
j) Medical Expenses for Students	-	-
k) Auditors Remuneration	13,32,255.00	5,21,440.00
l) Professional charges		
m) Advertisement & Publicity	2,41,503.00	2,10,810.00
n) Magazines & Journals	-	-
o) Others(specify)	-	-
i) Ambulance Charges	18,01,038.00	16,16,422.00
ii)Bank Charges	1,45,350.83	23,047.64
iii)Bank charges of Pension A/c	-	-
iv)Campus interview	-	-
v)Consultancy Works	6,64,435.00	1,59,720.00
vi)Contingencies to Institute Research Scholar	1,36,55,937.00	56,68,007.00
vii)Computer Network & Bandwidth	62,71,936.00	48,42,873.00
viii)Departmental Operating Cost	62,29,769.00	35,68,670.00
ix)Drug & Medicine for hospital	23,79,081.00	2,06,976.00
x)Extra-curricular activities	84,94,593.00	8,92,693.00
xi)Upgradation of Inst. Automation Software	27,02,374.00	4,88,340.00
xii)Faculty Amenities	99,249.00	1,24,833.00
xiii)Faculty Professional Development	80,58,377.00	38,85,006.00
xiv)Fuel for DG Set	6,83,760.00	5,41,008.00
xv)General Store Materials	11,28,648.00	23,15,006.00
xvi)Hostel Employees Welfare Account	18,36,474.00	(8,30,713.00)
xvii)Law and Legal Expenses	53,44,518.00	8,73,950.00
xviii)Meeting Expenses	4,73,512.00	1,62,308.00
xix)Miscellaneous Expenses	12,02,495.00	7,04,440.00
xx)Extra-curricular activities	-	-
xxi)Office Expenses	6,06,550.00	1,42,242.00
xxii)Outsourcing	17,25,69,481.00	14,87,36,809.00
xxiii)Rent for Cell at New Delhi	7,00,000.00	
xiv)Remuneration to specialist (Physician)	48,95,405.00	49,66,200.00
xxv)Testing and consultancy expenditure	1,92,781.00	-
xxvi)Accreditation of Engineering Courses	13,10,004.00	-
xxvii)Consumable Charges	38,24,512.00	20,00,496.00
xxviii)Expenses for college Guest		
xxix) Guest House Expenditure	29,70,253.00	14,05,467.00
xxx) Training & Upgradation of Staff	66,687.00	1,34,796.00
xxxi) Membership of professional societies	45,630.00	1,02,630.00



xxxii) New Pension/Pension Subscription	-	36,93,904.00
xxxiii) Library Charges	-	-
xxxiv) Sale Of Application , Tender form	1,06,000.00	-
xxxv) Garbage Bin Expenses	-	2,36,250.00
xxxvi) COVID-19 Expenses	12,750.00	15,22,593.00
xxxvii) TA and Remuneration to Expert/Board member	14,39,144.00	19,36,599.00
xxxviii) TA to staff for Medical Purpose`	64,597.00	-
<b>TOTAL</b>	<b>32,17,77,397.83</b>	<b>22,41,80,453.64</b>

**SCHEDULE 18 - TRANSPORTATION EXPENSES**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
1. Vehicles (owned by educational institution)		
a) Running expenses	-	-
b) Repairs & Maintenance	-	-
c) Insurance expenses	-	-
2. Vehicles taken on rent/lease		
a) Rent/Lease expenses	36,61,973.00	18,08,890.00
<b>TOTAL</b>	<b>36,61,973.00</b>	<b>18,08,890.00</b>

**SCHEDULE 19 - REPAIRS & MAINTENANCE**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
a) Building	1,33,30,284.15	86,35,327.00
b) Furniture & fixtures	2,07,075.00	7,61,138.00
c) Plant & Machinery	-	-
d) Office Equipments	1,53,52,559.00	1,16,38,980.00
e) Cleaning materials & services	2,92,500.00	36,54,508.00
f) Others(specify)		
Contingencies: Medical	2,19,192.00	2,38,314.00
Maintenance of Electrical Installation	90,51,114.00	49,59,892.00
Maintenance of College Computer	2,69,961.00	1,08,192.00
Contingencies: Maintenance	2,05,286.00	37,836.00
Contingencies for M.Tech Scholar	70,012.00	-
Consultancy for various Infra Dev works	24,485.00	-
Main. Of Road Drains, & Internal telephone system.		
<b>TOTAL</b>	<b>3,90,22,468.15</b>	<b>3,00,34,187.00</b>

**SCHEDULE 20-FINANCE COSTS**

(Amount in Rupees)

	<b>Current Year</b>	<b>Previous Year</b>
a) Interest on fixed loans	-	-
b) Interest on other loans-HEFA	42,64,622.00	13,81,352.00
c) Bank charges	-	354.00
d) Others (specify)	-	-
<b>TOTAL</b>	<b>42,64,622.00</b>	<b>13,81,706.00</b>



(Amount in Rupees)

**SCHEDULE 21- OTHER EXPENSES**

	<b>Current Year</b>	<b>Previous Year</b>
a) Provision for Bad and Doubtful Debts/Advances	-	-
b) Irrecoverable Balances Written-off	-	-
c) others(specify) CCMT-NIMCET	-	-
<b>TOTAL</b>	-	-

(Amount in Rupees)

**SCHEDULE 22- PRIOR PERIOD EXPENSES**

	<b>Current Year</b>	<b>Previous Year</b>
a) Prior Period Expense	-	11,97,575.00
c) others(specify)	-	-
<b>TOTAL</b>	-	11,97,575.00



**SCHEDULE - 2A**  
**ENDOWMENT FUNDS**  
(Amount in Rupees)

Sr No.	Name of the Endowment	Opening Balance		Additions during the Year		Expenditure on the object during the year	Closing Balance		TOTAL
		Endowment	Accumulated interest	Endowment	Interest		Endowment	Accumulated interest	
1	GRANT FROM GOI	1,54,80,64,508.27		21,91,00,000.00			1,76,71,64,508.27	-	1,76,71,64,508.27
2	IT FUND	7003661.63					70,03,661.63	-	70,03,661.63
3	OTHER SCHOLARSHIP	12141912.58					1,21,41,912.58	-	1,21,41,912.58
4	DONATION FUND	3003438.50		383185.00		36367.00	33,50,256.50	-	33,50,256.50
5	OTHERS	207959062.53		15473166		9559187.00	21,38,73,041.53	-	21,38,73,041.53
	<b>TOTAL</b>	<b>1,77,81,72,583.51</b>	<b>-</b>	<b>23,49,56,351.00</b>	<b>-</b>	<b>-</b>	<b>2,01,31,28,934.51</b>	<b>-</b>	<b>2,00,35,33,380.51</b>



**SCHEDULE - 3C**  
**UNUTILISED GRANTS FROM UGC, GOVERNMENT OF INDIA AND STATE GOVERNMENT**

	Amount in Rupees	
	Current Year	Previous Year
<b>A. Plan Grants Government of India</b>		
Balance B/F	-	2,37,00,000.00
Add: Receipt during the year	21,91,00,000.00	27,15,53,000.00
<b>Total(a)</b>	<b>21,91,00,000.00</b>	<b>29,52,53,000.00</b>
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure	21,90,99,648.00	23,17,63,174.00
<b>Total(b)</b>	21,90,99,648.00	23,17,63,174.00
<b>Unutilized carried forward (a-b)</b>	-	-
<b>B. UGC Grant : Plan</b>		
Balance B/F		
Add: Receipt during the year		
<b>Total(c)</b>	-	-
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
<b>Total(d)</b>	-	-
Unutilized carried forward (c-d)	-	-
<b>C. UGC Grant : Non Plan</b>		
Balance B/F		
Add: Receipt during the year		
<b>Total(e)</b>	-	-
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
<b>Total(f)</b>	-	-
Unutilized carried forward (e-f)	-	-
<b>D. Grant from State Govt.</b>		
Balance B/F		
Add: Receipt during the year		
<b>Total(g)</b>	-	-
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
<b>Total(h)</b>	-	-
Unutilized carried forward (g-h)	-	-
<b>Grand Total (A+B+C+D)</b>	-	-





NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR :: INDIA  
ANNEXURE TO THE BALANCE SHEET AS ON 31.03.2023

(Amount in Rupees)

1. CORPUS FUND	Opening Balance	Add: During the yr.	Less: During the yr	Closing Balance
A. Corpus Fund	62,81,35,424.14	22,50,811.25	1,11,66,155.95	61,92,20,079.44
<b>TOTAL</b>	<b>62,81,35,424.14</b>	<b>22,50,811.25</b>	<b>1,11,66,155.95</b>	<b>61,92,20,079.44</b>

B. GENERAL FUND	Opening Balance	Add: During the yr.	Less: During the yr	Closing Balance
<b>1. Capital Reserve</b>				
Grant for establishment of Book Bank	1,02,380.00	-	-	1,02,380.00
Grant from UNESCO, Equip and Furniture	31,71,384.19	-	-	31,71,384.19
Repayment of loan capitalised	38,85,828.00	-	-	38,85,828.00
<b>2. General Reserve</b>				
Interest on investment of Corpus Fund	3,52,73,785.00	1,53,44,115.00		5,06,17,900.00
Interest on investment of General Fund	-	-		-
Interest on investment Misc Fund	1,20,35,793.00	13,24,313.00		1,33,60,106.00
Interest on investment Maint. Fund	-	-		-
Interest on Saving A/c Corpus Fund	31,296.00	4,938.00		36,234.00
Interest on Saving A/c Dep Fund	59,442.00	8,497.00		67,939.00
Interest on savings A/c Maint. Fund	35,837.00	5,767.00		41,604.00
Interest on savings A/c Staff Dev Fund	50,233.00	10,101.00		60,334.00
Revenue fund capitalised	1,00,80,598.91	-		1,00,80,598.91
Interest on investment of Donation	-	-		-
<b>3. Special Reserve</b>				
Collection of rent upto 1983-84	8,00,513.44	-		8,00,513.44
Opening Grant in Aid, GOI, Non-recurring/ Plan	4,92,08,67,248.50			4,92,08,67,248.50
<b>TOTAL</b>	<b>4,98,63,94,339.04</b>	<b>1,66,97,731.00</b>	<b>-</b>	<b>5,00,30,92,070.04</b>
Add/Deduct: Balance of net income/(expenditure) transferred from the Income and Expenditure Account	89,15,86,122.00	42,93,52,867.91	-	1,32,09,38,989.91
<b>TOTAL</b>	<b>89,15,86,122.00</b>	<b>42,93,52,867.91</b>	<b>-</b>	<b>1,32,09,38,989.91</b>
<b>GRAND TOTAL</b>	<b>6,50,61,15,885.18</b>	<b>44,83,01,410.16</b>	<b>1,11,66,155.95</b>	<b>6,94,32,51,139.39</b>



<b>2.DESIGNATED/EARMARKED/ENDOWMENT FUNDS</b>				
				<i>(Amount in Rupees)</i>
<b>A. RESTRICTED FUND</b>	<i>Opening Balance</i>	<i>Add: During the yr.</i>	<i>Less: During the yr</i>	<i>Closing Balance</i>
<b>Grant from GOI</b>				
Grant from GOI for Architect fee	1,00,000.00	-	-	1,00,000.00
Grant-in-aid GOI Centre of Excellence	3,09,52,123.00	-	-	3,09,52,123.00
Grant-in-aid GOI Computer Centre	1,37,48,000.00	-	-	1,37,48,000.00
Grant-in-aid GOI CSE	1,37,74,000.00	-	-	1,37,74,000.00
Grant-in-aid GOI Different Sources	42,33,000.00	-	-	42,33,000.00
Grant-in-aid GOI Electric Degree Course	90,11,000.00	-	-	90,11,000.00
Grant -in-aid GOI Env,Eng.	10,00,000.00	-	-	10,00,000.00
Grant -in-aid GOI, Equipment and Furniture	2,86,15,710.63	-	-	2,86,15,710.63
Grant-in-aid GOI, Inds.Instt. Interaction	7,30,426.04	-	-	7,30,426.04
Grant-in-aid GOI, Institutional Work	38,00,000.00	-	-	38,00,000.00
Grant-in-aid GOI, Mod.Lab	2,91,58,000.00	-	-	2,91,58,000.00
Grant-in-aid GOI, Renovation	2,54,87,000.00	-	-	2,54,87,000.00
Grant-in-aid,GOO,VSATwith ERNET	13,00,000.00	-	-	13,00,000.00
Grant-in-aid,GOI & WB,Motor Vehicle	5,71,944.42	-	-	5,71,944.42
Grant-in-aid,GOWB,Land & Dev.	1,10,49,042.35	-	-	1,10,49,042.35
Grant-in-aid, GOI, Over Sight Comm. Non-Plan	32,17,25,000.00	-	-	32,17,25,000.00
Grant-in-aid, GOI, Over Sight Comm. Plan	64,64,00,000.00	-	-	64,64,00,000.00
Grant-in-aid, GOI, TEQIP-I (Net Bal. adjusting Rev Exp.)	18,51,54,978.00	-	-	18,51,54,978.00
Grant-in-aid,AICTE Research (Others)	5,20,000.00	-	-	5,20,000.00
Grant-in-aid,GOI,Research Grant	62,26,783.83	-	-	62,26,783.83
Grant-in-aid,GOI,Plan TSA-35	21,43,28,000.00	21,91,00,000.00	-	43,34,28,000.00
Grant-in-aid,UGC,Sanskrit Language	1,00,000.00	-	-	1,00,000.00
Grant-in-aid, AICTE (QIP Policy)	79,500.00	-	-	79,500.00
Information Technology Fund	18,25,134.25	-	-	18,25,134.25
MCA Course Fund	38,10,974.45	-	-	38,10,974.45
M.Tech, Corrosion Science	13,67,552.93	-	-	13,67,552.93
Other Scholarship (Provision)	1,21,41,912.58	-	-	1,21,41,912.58
<b>TOTAL</b>	<b>1,56,72,10,082.48</b>	<b>21,91,00,000.00</b>	<b>-</b>	<b>1,78,63,10,082.48</b>
<b>B. EARMARKED/ENDOWMENT FUND</b>				
	<b>Opening Balance</b>	<b>Add: During the yr.</b>	<b>Less: During the yr</b>	<b>(Amount in Rupees)</b>
<b>Donation Fund</b>				<b>Closing Balance</b>
Donation -AM Das	1,15,508.90	15,986.00	5,180.00	1,26,314.90
Donation- DM Sen	8,89,850.60	1,00,799.00	21,406.00	9,69,243.60
Donation - DV Sitabai	1,50,000.00	-	-	1,50,000.00
Donation-SN Banerjee (Kalyanshewari Mer)	28,238.00	-	-	28,238.00
Donation-S Pal Chowdhury	1,46,220.00	-	-	1,46,220.00
Donation-S Saha	61,873.00	3,632.00	-	65,505.00
Donation-Prof. D K Pal	2,74,739.00	15,499.00	-	2,90,238.00
Donation-Prof. M S Sinha	3,00,000.00	-	-	3,00,000.00
Donation-Prof. T K Sinha	1,50,000.00	-	-	1,50,000.00
Donation- Parpatidevi Chnadumal Memo	1,62,500.00	-	-	1,62,500.00
Donation - S.N.Roy	48,000.00	-	-	48,000.00
Donation - Anirban Mondal	6,76,509.00	47,269.00	9,781.00	7,13,997.00
Donation - SM Chanda Endowment Fund		2,00,000.00		2,00,000.00
<b>TOTAL</b>	<b>30,03,438.50</b>	<b>3,83,185.00</b>	<b>36,367.00</b>	<b>33,50,256.50</b>



<b>Others</b>				
<b>Depreciation Fund</b>	<b>6,28,14,184.00</b>	<b>52,48,603.00</b>	<b>29,91,122.00</b>	<b>6,50,71,665.00</b>
<b>Hostel Employee Welfare Fund</b>	<b>7,00,643.99</b>	<b>-</b>	<b>-</b>	<b>7,00,643.99</b>
<b>Maintenance Fund</b>	<b>6,75,15,852.00</b>	<b>37,52,509.00</b>	<b>32,00,069.00</b>	<b>6,80,68,292.00</b>
<b>NIMSET Fund</b>	<b>25,06,128.00</b>	<b>13,113.00</b>	<b>-</b>	<b>25,19,241.00</b>
<b>Student aid fund</b>	<b>57,03,192.54</b>	<b>3,87,626.00</b>	<b>1,24,948.00</b>	<b>59,65,870.54</b>
<b>Staff Dev. Fund</b>	<b>6,80,38,989.00</b>	<b>60,71,315.00</b>	<b>32,43,048.00</b>	<b>7,08,67,256.00</b>
<b>Steel Chair Professor Fund</b>	<b>6,80,073.00</b>	<b>-</b>	<b>-</b>	<b>6,80,073.00</b>
<b>TOTAL</b>	<b>20,79,59,062.53</b>	<b>1,54,73,166.00</b>	<b>95,59,187.00</b>	<b>21,38,73,041.53</b>
<b>GRAND TOTAL(A+B)</b>	<b>1,77,81,72,583.51</b>	<b>23,49,56,351.00</b>	<b>95,95,554.00</b>	<b>2,00,35,33,380.51</b>

<b>4. CURRENT LIABILITIES &amp; PROVISIONS</b>		<i>(Amount in Rupees)</i>		
	<b>CURRENT YEAR</b>		<b>PREVIOUS YEAR</b>	
<b>A. CURRENT LIABILITIES</b>				
1. Deposits from Staff				
Security Deposit from Staff (L)	-		-	
Group Insurance	5,23,200.69		5,25,071.69	
CTD/RD	3,31,473.82		16,54,972.82	
Centre Expenses	-	8,54,674.51	-	21,80,044.51
2. Deposits from Students				
Students Health Home	-		-	
Medical Exam. Fees	-		-	
Mess Caution Money	-		-	
Mess Entrance Fees	-		-	
Mess A/c Hall-9 Payable	-		-	
Excess deposit from students	-		-	
College Caution Money	-		-	
Athletic Club Fund	-	-	-	-
3. Sundry Creditors				
a) For Goods & Services				
EMD/SD for suppliers	2,02,03,127.16		1,96,65,062.42	
Security deposit from contractors	15,97,399.00		14,33,695.00	
EMD/SD for suppliers - TEQIP-I	4,82,133.00	2,22,82,659.16	4,82,133.00	2,15,80,890.42
b) Others				
Building and other Capital work Payable	-		-	
PWD (Burdwan Div.) payable	-	-	-	-
4. Advances Received				
	-		-	
5. Interest accrued but not due on:				
a) Secured Loans /borrowings				
	-		-	
b) Unsecured Loans /borrowings				
	-		-	



6. Statutory Liabilities(GPF, TDS, WC TAX, CPF, GIS, NPS):				
a) Overdue	-		-	
b) Others				
Professional Tax	1,48,733.00		1,49,523.00	
Professional Tax (hostel emp.)	16,310.00		16,310.00	
Education Cess	1,062.00		1,062.00	
		1,66,105.00		1,66,895.00
7. Other Current liabilities				
a) Salaries				
Outstanding liabilities- Salary & others	5,55,05,183.62	5,55,05,183.62	9,61,64,746.62	9,61,64,746.62
b) Receipts against sponsored projects				
Project - SK Chatterjee	-		-	
PMGSY Training Project	-		-	
Project DST Green Tech Chemical	-		-	
Project - Ramalingaswami Fellow	-		-	
CEP NIT Durgapur Fund	91,04,831.03		-	
SRCC A/c	25,71,878.00		59,49,186.00	
SRCC Fund A/c	-	1,16,76,709.03	-	59,49,186.00
c) Receipts against sponsored fellowships & scholarships				
a) Other Scholarship	1,48,03,396.93		92,38,000.43	
b) NSS A/C	-	1,48,03,396.93	-	92,38,000.43
d) Unutilised Grants	-		-	
e) Other funds	-		-	
i) Pension & Gratuity Fund	4,83,15,945.75		4,83,15,945.75	
ii) Class Projects	12,679.65		12,679.65	
iii) Cultural Club Fund				
iv) Contributory Provident Fund	9,76,98,663.19		9,76,98,663.19	
v) General Provident Fund	-		41,60,34,551.48	
vi) Interest of GPF Investment	-		37,41,56,584.00	
vii) Interest on Savings Bank A/C-GPF	-		1,52,91,006.68	
viii) Interest on Inv.Pension Aid Fund Invest.	7,08,79,080.00		6,39,57,681.00	
ix) Interest on TEQIP-I Bank A/c	6,26,341.00		5,69,916.00	
x) Interest on savings Bank A/c-Pension & Gratuity	32,94,937.97		31,63,283.97	1,01,92,00,311.72
xi) Interest on savings Bank A/c-CEP NIT Dgp	1,27,525.00	22,09,55,172.56		
g) Other Liabilities				
Festival Advances (hostel employee)	-		-	
Group Insurance (Hostel employee)	-		-	
Advances for scooter / Bi-cycle	8,98,099.00		8,35,138.00	
Fraternity	35,820.00		83,422.00	
Co-Op Credit Society Ltd.	-	9,33,919.00	-	9,18,560.00
<b>TOTAL (A)</b>		<b>32,71,77,819.81</b>		<b>1,15,53,98,634.70</b>



<b>B. PROVISIONS</b>				
1. For Taxation				
2. Gratuity				
3. Super Annuation/Pension				
4. Accumulated leave Encashment				
5. Expenses payable				
6. Trade Warranties/Claims				
7. Others (Specify)				
<b>TOTAL (B)</b>		-		-
<b>TOTAL (A+B)</b>		<b>32,71,77,819.81</b>		<b>1,15,53,98,634.70</b>

<b>5. Investment of Earmarked/Endowment Fund</b>		<i>(Amount in Rupees)</i>	
	<i>Current Year</i>		<i>Previous Year</i>
Investment donation (AM Das)	1,51,698.00		1,41,589.00
Investment donation (DM Sen)	10,81,450.00		9,95,140.00
Investment donation (D K Pal)	3,13,637.00		2,98,138.00
Investment donation(Airvan Mondal)	7,01,387.00		6,66,728.00
Investment donation (SN Banerjee)	30,928.00		29,429.00
Investment donation (S Palchowdhury)	1,63,286.00		1,53,478.00
Investment donation (NG & H SAHA)	73,512.00		69,880.00
Investment donation (SM Chanda)	2,00,000.00		-
Investment - Corpus Fund	18,37,63,551.00		17,31,43,886.00
Investment -Maintenance Fund	6,62,30,784.00		6,28,42,583.00
Investment -NIMSET	25,19,241.00		25,06,128.00
Investment- Staff Development Fund	6,76,24,768.00		6,31,59,090.00
Investment-Depreciation Fund	6,23,65,109.00		5,82,57,770.00
Investment - Students Aid Fund	43,23,440.00		40,65,766.00
Investment - Fixed Deposit- TEQIP-I	10,07,560.00		9,58,718.00
<b>TOTAL (A)</b>	<b>39,05,50,351.00</b>		<b>36,72,88,323.00</b>
<b>Investment of Miscellaneous funds</b>		<i>(Amount in Rupees)</i>	
Investment to SBI, REC Branch	1,84,32,504.00		1,75,38,975.00
Investment -Hostel Employee welfare fund	1,55,336.00		1,47,806.00
Investment- Mess Caution Money	35,03,676.00		33,30,542.00
Investment -Pension aid fund	13,12,08,221.00		12,48,33,169.00
Investment -Student Caution Money	28,75,453.00		28,75,453.00
Investment- Testing and Consultancy	27,89,272.00		25,50,459.00
Investment to General Provident Fund	-		67,92,34,607.00
Investment to General Fund	1,39,60,50,147.00		1,25,53,67,883.00
Investment to New Pension Scheme			1,84,78,592.00
<b>TOTAL (B)</b>	<b>1,55,50,14,609.00</b>		<b>2,10,43,57,486.00</b>
<b>GRAND TOTAL (A+B)</b>	<b>1,94,55,64,960.00</b>		<b>2,47,16,45,809.00</b>



<b>6. Bank Balances</b>		<i>(Amount in Rupees)</i>	
	<i>Current Year</i>		<i>Previous Year</i>
<b>With Schedule Banks</b>			
SBI 1A Rec A/c	2,19,72,77,769.46		2,02,04,37,083.28
SBI, GPF Savings Bank A/c	-		12,62,47,535.16
SBI Continuing Edu. Centre Sav Bank A/c			
SBI Pension & Gratuity Sav. Bank A/c	10,68,971.36		2,17,32,957.36
SBI College Caution Money	8,687.82		8,687.82
Canara Bank Savings Bank A/c No-5494	20,36,810.60		19,78,781.60
Canara Bank Extn. Counter Savings Bank A/c	44,78,958.52		4,93,37,026.08
SBI New Pension Scheme Bank A/c	-		38,88,829.25
Canara Bank A/c No-1111	1,73,422.00		1,68,484.00
Canara Bank A/c No-1113	2,98,327.00		2,89,830.00
Canara Bank A/c No-1114	2,02,500.00		1,96,733.00
Canara Bank A/c No-1115	3,54,654.00		3,44,553.00
Canara Bank TEQIP-I	2,66,249.00		2,58,666.00
RBI A/c No-10680001001	4,71,68,503.00		9,72,242.00
SBI A/c No- 37850318679(CEP NIT Durgapur)	92,32,356.03		
<b>TOTAL</b>	<b>2,26,25,67,208.79</b>		<b>2,22,58,61,408.55</b>

<b>7. LOANS, ADVANCES &amp; DEPOSITS</b>		<i>(Amount in Rupees)</i>		
	<i>Current Year</i>		<i>Previous Year</i>	
1. Advances to employees: (Non- interest bearing)				
a) Salary				
Temporary advance to staff	-		-	
Temporary Advance	33,58,262.09	33,58,262.09	25,81,127.09	25,81,127.09
b) Festival				
Festival Advances	2,39,719.39	2,39,719.39	2,39,719.39	2,39,719.39
c) LTC				
Advance for LTC (Home)	-		-	
Advance for LTC (NER)	(600.00)		(600.00)	
Advance for LTC (J & K)	-	(600.00)	-	(600.00)
d) Medical Advance				
Advances for marriage/treatment	-		-	
Temporary Advance to staff for medical treatment	-	-	-	-
e) Others (to be specified)				
Advances to hostel employee	2,19,559.00		2,21,159.00	
CTD/RD Receivable	27,721.00		27,721.00	
EPF contribution to Hostel employee	13,19,273.00		7,07,437.00	
Imprest Advances to staff	39,182.00		21,783.00	
Co-Op Credit Society Ltd.	10,91,714.77		5,04,318.77	
Workers Welfare Cess	21,275.00		21,275.00	
NSS A/C	1,00,326.00	28,19,050.77	1,00,326.00	16,04,019.77





2. Long Term Advances to employees: (Interest bearing)				
a) Vehicle Loan				
b) Home Loan	-		-	
c) Others (to be specified)				
Advance for Computer to Employees	2,54,990.00	2,54,990.00	3,63,472.00	3,63,472.00
3. Advances and other amounts recoverable in cash or in kind or for value to be received				
a) On Capital account				
Advance to supplier	-		-	
b) To suppliers	-		-	
c) Others				
Library Caution Money	14,60,871.00		9,91,871.00	
Income Tax deposit	3,15,72,133.31		1,36,37,754.31	
Goods & Service Tax Deposit	38,18,799.30		3,49,187.97	
Service Tax Deposit	33,59,658.00		25,62,348.00	
Centre Expenses (BU) Recoverable	-		1,12,750.91	
Hostel employee welfare fund recoverable	-		11,899.00	
Income tax recoverable	-		1,11,400.00	
Mess account recoverable	-		3,29,307.04	
CPWD Advance for Completed Project	15,45,56,375.00		14,11,07,440.00	
NIT Durgapur Interest repayment account	5,000.00		5,000.00	
NIT Durgapur principal repayment account	5,000.00	19,47,77,836.61	5,000.00	15,92,23,958.23
4. Prepaid expenses				
a) Insurance	-		-	
b) Other expenses				
Prepaid expenses for computer Network & Band	-	-	-	-
5. Deposits				
a) Telephone				
DET -Durgapur for Telephone	-		-	
b) Lease Rent	-		-	
c) Electricity	-		-	
d) AICTE, if applicable	-		-	
e) MCI, if applicable	-		-	
f) Others (to be specified)				
DSP- Preparation of College Oval ground	-		-	
NICL- For transit insurance	-	-	-	-
6. Income Accrued				
a) On Investment from earmarked/ endowment fund				
Accrued Interest on Invst.-Corpus Fund	48,92,774.00		71,47,325.00	
Accrued Interest on Invst.-Depreciation fund	11,41,264.00		29,91,122.00	
Accrued Interest on Investment- Donation Anirvan Mondal	12,610.00		9,781.00	



Accrued Interest on Investment- Student aid Fund	1,29,952.00		1,24,948.00	
Accrued Interest on Invst.-Maint Fund	3,64,308.00		32,00,069.00	
Accrued Interest on Invst.-Staff Dev Fund	16,05,637.00		32,43,048.00	
ACCRUED INTERST ON INVESTMENT-DONATION AM DAS	5,877.00		5,180.00	
ACCRUED INTERST ON INVESTMENT-DONATION DM SEN	14,489.00		21,406.00	
b) On investment-others				
Accrued Interest on Invst.-Pension aid fund	48,14,167.00		42,67,820.00	
Accrued Interest on Invst.-General Fund	4,73,56,572.00		3,81,45,742.00	
c) On loans and advances				
d) Others (includes income due unrealized Rs....)		6,03,37,650.00		5,91,56,441.00
7. Other receivables				
a) Sales Tax and works contact Tax	33,155.46		33,155.46	
b)Projects Namami Gange	15,101.00		15,101.00	
c)Project - MOES HILLIUM Project	44,71,998.00		44,71,998.00	
d) TEQIP-II	4,15,500.00		4,15,500.00	
e)Income Tax TDS/TCS Refundable	29,91,939.46		29,91,939.46	
f)Receivable from NPS to 1A Rec.	-		1,11,71,132.00	
g) Project Ramalingswami Fellow	3,71,494.00		3,71,494.00	
h)Project Other	1,60,431.00	84,59,618.92	-	1,94,70,319.92
8. Claims Receivable		-		-
<b>TOTAL</b>		<b>27,02,46,527.78</b>		<b>24,26,38,457.40</b>

<b>SCHEDULE TO RECEIPTS AND PAYMENT ACCOUNTS</b>		
<b>Particulars</b>	<b>Amount (In Rs.)</b>	
	<b>Current Year</b>	<b>Previous Year</b>
<b>I. Opening Balances</b>		
<b>a) Cash Balances</b>	-	-
<b>b) Bank Balances</b>		
<b>i. In Current Account</b>		
SBI 1A Rec A/c	2,02,04,37,083.28	1,94,91,53,530.78
<b>ii. In Deposit Account</b>		
SBI College Caution Money	8,687.82	8,687.82
SBI New Pension Scheme Bank A/c	-	98,59,275.25
	<b>8,687.82</b>	<b>98,67,963.07</b>
<b>iii. In Savings Account</b>		
SBI, GPF Savings Bank A/c	-	15,03,15,796.16
SBI Pension & Gratuity Sav. Bank A/c	2,17,32,957.36	1,85,35,686.36
Canara Bank Savings Bank A/c No-5494	19,78,781.60	19,22,422.60
Canara Bank Extn. Counter Savings Bank A/c 8569101000352	4,93,37,026.08	11,98,15,005.12
Canara Bank A/c No-1111	1,68,484.00	1,63,685.00
Canara Bank A/c No-1113	2,89,830.00	2,81,575.00
Canara Bank A/c No-1114	1,96,733.00	1,91,129.00
Canara Bank A/cNo-1115	3,44,553.00	3,34,740.00
Canara Bank TEQIP-I	2,58,666.00	2,51,299.00
RBI A/C No- 10680001001	9,72,242.00	-
	<b>7,52,79,273.04</b>	<b>29,18,11,338.24</b>



<b>II. Grants Received</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) From Government of India</b>		
GRANT IN AID - GOI - PLAN	21,91,00,000.00	27,15,53,000.00
GRANT IN AID - GOI - NON PLAN	1,58,60,64,622.00	1,26,09,38,354.00
	1,80,51,64,622.00	1,53,24,91,354.00
<b>b) From State Government</b>	-	-
<b>c) From other sources (details)</b>	-	-
<b>III. Academic Receipts</b>	<b>Current Year</b>	<b>Previous Year</b>
REGISTRATION FOR PHD	32,300.00	5,72,000.00
CCB COUNSELLING (CSAB)	15,000.00	-
TUTION FEES	31,28,35,203.00	31,41,37,156.10
INSTITUTE FEES	6,65,80,543.71	3,07,44,854.60
MIGRATION FEES	5,500.00	-
EDUCATION VERIFICATION	2,77,626.00	2,52,500.00
ADMISSION FEES	-	61,100.00
REGISTRATION FEES	21,830.00	-
HOSTEL FEES FROM STUDENTS	3,24,17,807.00	2,70,97,174.00
LIBRARY CHARGES FROM STUDENTS	55,07,700.00	
TRANSCRIPTION FEES	2,000.00	7,000.00
	41,76,95,509.71	37,28,71,784.70
<b>IV. Receipts against Earmarked/ Endowment Funds</b>		
DONATION- SM CHANDA ENDOWMENT FUND	2,00,000.00	-
	2,00,000.00	-

<b>V. Receipts against Sponsored Projects/ Schemes</b>	<b>Current Year</b>	<b>Previous Year</b>
SRCC	52,05,281.00	2,37,19,917.00
PROJECT OTHERS	1,97,863.00	14,55,907.00
	54,03,144.00	2,51,75,824.00

<b>VI. Receipts against sponsored Fellowships and Scholarships</b>	<b>Current Year</b>	<b>Previous Year</b>
OTHER SCHOLARSHIP	60,27,633.50	1,14,69,950.00
SCHOLARSHIP TO INSTITUTE RESEARCH SCHOLAR	1,37,58,420.00	47,98,130.00
SCHOLARSHIP M TECH	7,800.00	72,200.00
	1,97,93,853.50	1,63,40,280.00

<b>VII. Income on Investments from:</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Earmarked/ Endowment Funds</b>		
CORPUS FUND(INSTITUTIONAL)	1,68,324.00	-
NEW PENSION SCHEME FUND	-	-
	1,68,324.00	-



<b>b) Other Investments</b>		
INTEREST ON GPF GENERAL FUND INVESTMENT	1,76,95,583.00	4,87,71,780.00
INTEREST ON PENSION AID FUND INVESTMENT	5,64,24,137.00	-
INTEREST ON GENERAL FUND INVESTMENT	15,92,320.00	
INVESTMENT NEW PENSION SCHEME	-	-
INVESTMENT GENERAL FUND	4,67,56,832.00	-
INVESTMENT IN GENERAL PROVIDENT FUND	7,88,50,943.00	
	<b>20,13,19,815.00</b>	<b>4,87,71,780.00</b>

<b>VIII. Interest received on</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Bank Deposits</b>		
INTEREST FROM TEQIP-I BANK/FD A/C	7,583.00	7,367.00
INTEREST ON BANK A/C- CANARA EXTN	17,24,608.00	48,18,104.00
	<b>17,32,191.00</b>	<b>48,25,471.00</b>

<b>b) Loans and advances</b>	-	-
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<b>c) Saving Bank accounts</b>		
INTEREST ON SAVINGS BANK-GPF	-	15,80,181.00
INTEREST ON SAVINGS BANK-PENSION A/C	1,31,654.00	75,815.00
INTEREST ON SAVINGS ACCOUNT	6,00,85,864.00	5,59,50,653.00
INTEREST ON SAVINGS BANK- CANARA BENACHITY	58,029.00	56,359.00
INTEREST ON SAVINGS BANK- NEW PENSION	-	2,22,340.00
INTEREST ON SAVINGS A/C DEPRECIATION FUND	8,497.00	8,255.00
INTEREST ON SAVINGS A/C CORPUS FUND	4,938.00	4,799.00
INTEREST ON SAVINGS A/C STAFF DEV	10,101.00	9,813.00
INTEREST ON SAVINGS A/C MAINT FUND	5,767.00	5,604.00
	<b>6,03,04,850.00</b>	<b>5,79,13,819.00</b>

<b>IX. Investments encashed</b>	<b>Current Year</b>	<b>Previous Year</b>
CTD/RD	<b>4,02,239.00</b>	<b>5,14,803.00</b>

<b>X. Term Deposits with Scheduled banks encashed</b>	-	-
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<b>XI. Other Income (including Prior Period Income)</b>	<b>Current Year</b>	<b>Previous Year</b>
GUEST HOUSE INCOME	15,37,774.00	8,84,354.00
ELECTRIC CHARGES FROM STAFF	22,13,096.00	21,95,326.00
OVERHEAD CHARGES OF PROJECTS	-	2,43,000.00
	-	585.00
WATER CHARGES RECOVERED	92,777.41	42,643.00
SALE OF TENDER, APPLICATION FORM, XEROX COUPON	34,120.00	11,23,050.00
LIQUIDATED DAMAGES	46,090.00	46,969.00
GARRAGE RENT	840.00	-
ELECTRIC CHARGES AND COLLECTION OF ROOM RENT	38,96,007.39	43,85,819.52
ASSESSED RENT/LICENCED FEES FROM STAFF	11,16,418.00	11,34,848.00
INCOME FROM TESTING AND CONSULTANCY	3,56,800.00	5,89,360.00
TESTING AND CONSULTANCY ACCOUNT	6,72,939.00	11,73,388.00
	<b>99,66,861.80</b>	<b>1,18,19,342.52</b>



XII. Deposits and Advances	Current Year	Previous Year
EMD/SD FOR SUPPLIER	28,63,518.74	37,88,077.00
ADVANCE FOR COMPUTER TO EMPLOYEES	1,58,482.00	78,224.00
ADVANCE FOR HOSTEL EMPLOYEES	1,600.00	-
ADVANCE FOR SCOOTER / BI-CYCLE	62,961.00	1,36,255.00
TAMAL TARU GHOSH	105.00	-
ANIRUDDHA MONDAL, PHYSICS DEPTT	30,000.00	-
HIROK CHOWDHURY	3,145.00	-
TAMAL MONDAL	1,73,894.00	-
MANOJ KUMAR OZHA, AP EES DEPT	9,840.00	-
BARNALI MAJI, BIOTECH	19,116.00	-
ASISH MUKHERJEE	18,240.00	-
CO-OP CREDIT SOCIETY LTD	69,71,177.00	70,98,992.00
SANKAR CHANDRA MOI	7,492.00	-
BALA KRISHNA NAGRAJAN	28,478.00	-
SANDIP MOMDAL, EES	9,543.00	-
SOUMYA SEN SHARMA, REGISTRAR	36,464.00	-
SECURITY DEPOSIT FROM CONTRACTORS	1,63,704.00	17,532.00
SUDIPTA KUMAR DAS	-	2,538.00
SUMANTA ROY, EEC	-	2,538.00
HILLOL MUKHERJEE , PTI	29,524.00	-
IMP.ADV.- HILLOL MUKHERJEE, PTI	6,772.00	-
IMP.ADV.-ANIRBAN SARKAR, DCA	2,700.00	-
IMP.ADV.-ASIT KUMAR, JT REGISTRAR(ESTB)	4,782.00	-
IMP.ADV.-CHINTA MANI MISHRA WARDEN HALL-4	7,680.00	-
IMP.ADV.-DAKSHINA RANJAN KISKU, WARDEN HALL-12	5,473.00	-
IMP.ADV.-MANAB MALLIK, MME	11,340.00	-
IMP.ADV.-SANDIP MOMDAL, EES	283.00	-
IMP.ADV.- KALLOL KHAN, ASSO. PROF OF ME	220.00	-
IMP.ADV.- BARNALI MAJI, BIOTECH	2,210.00	-
IMP.ADV.-MANAS KUMAR MANDAL, ASSO PROF OF MME DEPT AND CHIEF WARDEN.	3,011.00	-
IMP.ADV.-TAMAL MONDAL	3,495.00	-
IMP.ADV.-KAUSHIK MANDAL, HOD DMS	981.00	-
IMP. ADV.- DEEPAK KUMAR, WARDEN -HALL-2	5,370.00	-
IMP.ADV.-KALYAN ADHIKARI, HOD EES DEPT.	3,552.00	-
IMP.ADV.-SAYON BHATTACHERJEE, ASST. REGISTRAR, SW.	2,336.00	-
IMP.ADV.-TANMOY KUMAR SAHA	214	-
IMP.ADV.-DEBJANI DUTTA	3810	-
IMP.ADV.-LAKSHMI KANTA DEY, HOD MATHEMATICS DEPT.	11350	-
IMP.ADV.-DHRUBAJYOTI ROY	191	-
IMP.ADV.-B NAGRAJAN	284	-
IMP.ADV.-BIMAL DAS, WARDEN HALL-09.	1025	-
IMP.ADV.- JOYDEEP BANERJEE	114	-
IMP.ADV.-ABHIRAM HENS CHE DEPT.	810	-
IMP.ADV.- PATHIK KUMBHAKAR	818	-
IMP.ADV.-AMIYA KUMAR SARDAR, AR HOSTEL, WARDEN COUNCIL	6168	-
IMP.ADV.-AMITA BARIK, ASST. PROF. BIO TECH DEPT. AND WARDEN HALL-13	120	-
	1,06,72,392.74	1,11,24,156.00



<b>XIII. Miscellaneous Receipts including Statutory Receipts</b>	<b>Current Year</b>	<b>Previous Year</b>
GST/ GOODS & SERVICE TAX	<b>52,56,973.67</b>	<b>40,62,908.88</b>

<b>XIV. Any other Receipts</b>	<b>Current Year</b>	<b>Previous Year</b>
HEFA INTEREST A/C	-	-
SERVICE TAX AND EDUCATION CESS	-	1,062.00
CONFERENCE AND SEMINAR	4,50,899.00	9,46,000.00
GROUP INSURANCE	5,93,935.00	6,71,966.00
FRATERNITY	-	79,960.00
HOSTEL EMPLOYEES WELFARE A/C	-	24,96,881.00
MISC. RECEIPTS	2,98,493.00	5,66,775.00
OTHER RECEIPT	37,56,196.00	18,85,120.00
PAY AND ALLOWANCE(NPS SUBSCRIPTION)	3,18,42,840.00	-
PAY AND ALLOWANCE(NPS CONTRIBUTION )	4,43,88,739.00	-
NEW PENSION SCHEME(SBI Bank)	1,11,71,132.00	-
INCOME TAX	14,52,40,767.00	11,71,71,703.00
PAY AND ALLOWANCE(GPF SUBSCRIPTION)	6,94,45,882.00	6,77,69,270.00
PROVISIONAL CERTIFICATE FEES	1,000.00	-
	<b>30,71,89,883.00</b>	<b>19,15,88,737.00</b>

<b>Particulars</b>	<b>Amount (In Rs.)</b>	<b>Amount (In Rs.)</b>
<b>I. Expenses</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Establishment Expenses</b>		
GPF FINAL PAYMENT	-	4,86,37,963.00
OUTSTANDING SALARIES AND OTHERS	7,38,09,695.00	1,95,226.00
EPF CONTRIBUTION TO HOSTEL EMPLOYEES	6,11,836.00	7,07,437.00
PROFESSIONAL TAX	790.00	-1,350.00
NEW PENSION SCHEME (SBI Bank )(SUBS & CONT.)	7,60,85,724.00	2,96,59,263.00
PENSION SUBSCRIPTION	6,37,054.00	3,71,702.00
PENSION AND GRATUITY CHARGES	20,45,46,788.00	21,94,85,923.00
LEAVE SALARY	1,42,93,210.00	1,34,18,974.00
LTC EXPENDITURE (NER)	50,988.00	8,57,083.00
LTC EXPENDITURE (ALL INDIA)	63,42,271.00	-
LTC EXPENDITURE (J AND K)	2,53,330.00	44,168.00
TRAINING AND UPGRADATION OF STAFF	66,687.00	1,34,796.00
STAFF AMENITIES	-	26,880.00
PAY AND ALLOWANCE - HOSTEL EMPLOYEES	44,74,764.00	62,50,623.00
PAY AND ALLOWANCE	71,45,75,586.00	65,30,51,018.00
MEDICAL REIMBURSEMENT TO STAFF	1,56,50,358.00	1,34,23,274.00
TA TO STAFF	56,98,026.00	11,32,306.00
CHILDREN EDUCATION ALLOWANCE	59,51,847.00	54,68,682.00
LTC EXPENDITURE (HOME)	42,139.00	1,99,776.00
FACULTY PROFESSIONAL DEVELOPMENT	80,58,377.00	38,85,006.00
DAILY WAGES/CONTRACT WORKERS	17,54,704.00	16,69,703.00
	<b>1,13,29,04,174.00</b>	<b>99,86,18,453.00</b>





<b>b) Academic Expenses</b>		
TESTING AND CONSULTANCY ACCOUNT	8,65,720.00	-
CCB COUNSELLING (CSAB)	15,000.00	15,000.00
TUTION FEES	1,66,58,632.00	1,90,53,860.00
INSURANCE CHARGES FOR STUDENTS	-	3,46,296.00
REGISTRATION FEES	46,45,605.00	1,89,767.00
ADMISSION FEES	-	4,16,400.00
HOSTEL FEES FROM STUDENTS	69,93,900.00	47,94,800.00
CONVOCATION A/C	24,19,380.00	19,07,230.00
INTER NIT MEET	3,95,299.00	-
LIBRARY JOURNAL	13,869.00	6,335.00
STUDENTS AMENITIES	4,60,320.00	-
CELEBRATION OF INDEPENDANCE AND REPUBLIC DAY	99,490.00	81,265.00
CELEBRATION OF COLLEGE WEEK	1,79,000.00	-
EXAMINATION EXPENDITURE	70,76,062.82	33,00,912.00
CONFERENCE AND SEMINAR	8,01,869.00	8,42,520.00
	<b>4,06,24,146.82</b>	<b>3,09,54,385.00</b>

<b>c) Administrative Expenses</b>		
HEFA INTEREST A/C	42,64,622.00	13,81,352.00
GARBAGE BIN	-	2,36,250.00
CONSUMABLE CHARGES	37,88,217.00	19,88,673.00
DEPT. OPT COST-ECE	2,93,776.00	93,279.00
DEPT. OPT COST-DEAN (STUDENT WELFARE)	96,386.00	16,300.00
DEPT. OPT COST-ADMINISTRATIVE	24,937.00	-
CELL AT NEW DELHI	7,00,000.00	-
DEPT. OPT COST-HALL-10	15,000.00	-
DEPT. OPT COST-HALL-1	11,420.00	-
DEPT. OPT COST-HALL-4	15,000.00	-
DEPT. OPT COST-HALL-11	43,147.00	-
DEPT. OPT COST-HALL-13	52,656.00	-
DEPT. OPT COST-HALL-14	44,566.00	-
DEPT. OPT COST-DMS	14,879.00	-
DEPT. OPT COST-REGISTRAR OFFICE	1,08,708.00	62,987.00
FACULTIES AMENITIES	99,249.00	1,24,833.00
AUDIT FEES	13,32,255.00	5,21,440.00
OUTSOURCING	16,81,22,506.00	14,19,14,860.00
CLEANING- OUTSOURCING	2,92,500.00	36,54,508.00
TA AND REMU. TO VISITING LECTURER	24,38,171.00	32,37,515.00
DEPT. OPT COST-ESTATE	7,45,779.00	4,96,816.00
TELEPHONE CHARGES	8,71,891.00	8,54,539.00
DEPT. OPT COST-INTERNAL TELEPHONE	49,766.00	88,834.00
AMBULANCE CHARGES	18,01,038.00	16,16,422.00
COMPUTER NETWORK AND BANDWIDTH	62,71,936.00	48,42,873.00
ACCREDITATION OF ENGINEERING COURSES	13,10,004.00	-
TA AND REMUNERATION TO EXPERT/BOARD MEM	14,39,144.00	19,36,599.00
DEPT. OPT COST-CSE	3,39,212.00	1,16,428.00
MISC. EXPENSES	11,74,987.00	7,04,440.00
DEPT. OPT COST-PHYSICS	1,16,913.00	24,730.00



DEPT. OPT COST-DEAN (RESEARCH AND CONSULTANCY)	10,000.00	20,000.00
DEPT. OPT COST-COMPUTER CENTRE	84,706.00	20,000.00
WATER CHARGES TO DMC	-	12,93,565.00
WATER CHARGES TO DSP	1,86,648.00	3,74,472.00
ADVERTISEMENT EXPENSES	2,41,503.00	2,10,810.00
BANK CHARGES, COMMISSION AND INTEREST	1,45,350.83	23,047.64
DEPT. OPT COST-LIBRARY	77,760.00	1,18,698.00
DEPT. OPT COST- DEAN(ACADEMIC RESEARCH)	39,405.00	37,415.00
POSTAGE AND TELEGRAPH	1,80,110.00	1,68,777.00
CONTINGENCY TO INSTITUTE RESEARCH SCHOLAR	1,35,93,137.00	56,68,007.00
DEPT. OPT COST-WORKSHOP	83,089.00	-
DEPT. OPT COST-STORES	68,648.00	1,76,478.00
PRINTING AND STATIONERY A/C	11,17,045.00	5,78,542.00
DEPT. OPT COST-ACADEMIC SECTION	1,10,380.00	1,01,904.00
INSURANCE CHARGES	27,44,834.00	18,61,301.00
DEPT. OPT COST-FACULTY WELFARE	7,322.00	2,728.00
DEPT. OPT COST-WARDEN	2,37,898.00	1,92,075.00
DEPT. OPT COST-CIVIL ENGG	67,169.00	90,792.00
DEPT. OPT COST-MME DEPT	1,42,306.00	69,752.00
DEPT. OPT COST-DIRECTOR OFFICE	58,256.00	48,192.00
UPGRADATION OF INSTITUTE AUTOMATION	27,02,374.00	4,88,340.00
DEPT. OPT COST-CHEMICAL	2,55,448.00	57,629.00
DEPT. OPT COST-BIO TECH	3,20,220.00	1,02,912.00
FUEL FOR DG SET	6,83,760.00	5,41,008.00
LEGAL EXPENSES	49,39,140.00	8,73,950.00
DEPT. OPT COST-PTI	26,590.00	17,448.00
DEPT. OPT COST-CHEMISTRY (PG)	9,766.00	-
DEPT. OPT COST-HALL-8	-	10,000.00
DEPT. OPT COST-RESEARCH, CONSULTANCY	-	18,650.00
MEMBERSHIP OF PROFESSIONAL SOCIETY	45,630.00	1,02,630.00
OFFICE EXPENSES	4,60,045.00	60,618.00
DEPT. OPT COST-DIRECTOR BUNGLOW	14,645.00	53,016.00
DEPT. OPT COST-HUMANITIES	1,38,668.00	40,753.00
DEPT. OPT COST-HALL-2	25,083.00	14,967.00
DEPT. OPT COST-PERSONNEL SECTION	2,33,604.00	1,37,839.00
DRUGS AND MEDICINE FOR HOSPITAL	23,59,081.00	2,06,976.00
DEPT. OPT COST-STUDENTS WELFARE	85,448.00	63,346.00
CONSULTANCY WORKS	6,88,920.00	1,59,720.00
DEPT. OPT COST-HALL-3	11,070.00	-
HOSTEL EMPLOYEES WELFARE A/C	18,36,474.00	16,66,168.00
WATER CHARGES EXPENDITURE	1,61,377.00	1,11,012.00
REMUNERATION TO SPECIALIST (PHYSICIAN)	45,99,905.00	45,64,800.00
EXTRA CURRICULAR ACTIVITIES	83,01,063.00	8,92,693.00
GENERAL STORES MATERIAL	11,28,648.00	23,15,006.00
MEETING EXPENSES	1,25,790.00	1,20,853.00
GUEST HOUSE EXPENDITURE	27,90,665.00	14,00,617.00
DEPT. OPT COST-MATHEMATICS	93,925.00	59,822.00
DEPT. OPT COST-MECH ENGG	1,61,060.00	81,441.00
DEPT. OPT COST-CHEMISTRY	2,64,440.00	61,619.00
MEDICAL EXPENSES FOR STUDENTS	-	97,802.00



DEPT. OPT COST-ELEC.ENGG.	1,95,865.00	-
ELECTRIC CHARGES TO DSP/DVC	5,79,01,389.00	2,34,77,284.00
DEPT. OPT COST-AUDIT SECTION	41,364.00	29,600.00
DEPT. OPT COST-EARTH AND ENVIN.SCI	1,09,955.00	37,361.00
COVID-19 EXPENSES	12,750.00	15,22,593.00
DEPT. OPT COST-ALUMNI AFFAIR OUTREACH	19,915.00	10,000.00
DEPT. OPT COST-HALL-12	-	14,630.00
DEPT. OPT COST-MBA	9,982.00	-
DEPT. OPT COST-ACCOUNTS SECTION	3,39,665.00	2,00,390.00
DEPT. OPT COST-SRCC	39,831.00	-
BANK CHARGES OF PENSION A/C	-	354.00
	<b>30,62,07,786.83</b>	<b>21,45,84,080.64</b>

<b>d) Transportation Expenses</b>		
TA AND REGN FOR SEMINAR/CONF. IN INDIA AND ABROAD	94,100.00	46,010.00
TA TO STAFF FOR MEDICAL PURPOSE	64,597.00	-
HIRE CHARGES OF CAR FROM OUTSIDE	36,61,973.00	20,76,714.00
	<b>38,20,670.00</b>	<b>21,22,724.00</b>

<b>e) Repairs &amp; Maintenances</b>		
CIVIL MAINTENANCE - STAFF QRTS	7,10,899.00	30,70,740.00
DEPT. OPT COST-HOSPITAL	-	14,975.00
MAINT OF COLLEGE FURNITURE	1,60,135.00	7,61,138.00
CONTINGENCY - MAINTENANCE	1,85,570.00	-
MAINTENANCE OF ELECTRICAL INSTALLATION	84,29,020.00	49,36,148.00
CONTINGENCY FOR MTECH SCHOLAR	77,812.00	-
CONTINGENCY FOR MEDICAL UNIT	2,19,192.00	2,18,314.00
CIVIL MAINTENANCE - HOSTEL	30,23,648.15	5,78,577.00
ELECTRICAL MAINTENANCE- INST. BLDG	1,64,111.00	23,744.00
MAINTENANCE OF COLLEGE COMPUTER	2,69,961.00	1,08,192.00
MAINTENANCE OF COLLEGE EQUIPMENT	1,53,06,695.00	1,16,29,895.00
ELECTRICAL MAINTENANCE- STAFF QRTS	4,57,983.00	-
CIVIL MAINTENANCE- INST. BLDG	95,95,737.00	49,86,010.00
	<b>3,86,00,763.15</b>	<b>2,63,27,733.00</b>

<b>f) Prior period expenses</b>	-	-
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<b>II. Payments against Earmarked/ Endowment Funds</b>	<b>Current Year</b>	<b>Previous Year</b>
HOSTEL EMPLOYEES WELFARE FUND	-	-

<b>III. Payments against Sponsored Projects/ Schemes</b>	<b>Current Year</b>	<b>Previous Year</b>
SRCC	85,82,589.00	1,75,68,231.00
PROJECT OTHERS	3,58,294.00	16,58,407.00
	<b>89,40,883.00</b>	<b>1,92,26,638.00</b>

<b>IV. Payments against sponsored Fellowships and Scholarships</b>	<b>Current Year</b>	<b>Previous Year</b>
SCHOLARSHIP TO INSTITUTE RESEARCH SCHOLAR	8,67,79,503.00	8,77,19,972.00
SCHOLARSHIP M TECH	4,23,63,357.00	6,08,62,764.00
OTHER SCHOLARSHIP	4,62,237.00	10,90,076.00
	<b>12,96,05,097.00</b>	<b>14,96,72,812.00</b>



<b>V. Investments and Deposits made</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Out of Earmarked/Endowments Funds</b>	<b>3,68,324.00</b>	-
<b>b) Out of own funds (Investment- Others)</b>		
INVESTMENT- PENSION AID FUND	5,64,24,137.00	-
INVESTMENT- GENERAL FUND	13,03,09,000.00	16,66,40,306.00
INVESTMENT- GENERAL PROVIDENT FUND	10,00,00,000.00	9,21,48,957.00
	<b>28,67,33,137.00</b>	<b>25,87,89,263.00</b>

<b>VI. Term Deposits with Scheduled Banks</b>	<b>Current Year</b>	<b>Previous Year</b>
CTD/RD	<b>17,25,738.00</b>	<b>6,26,859.00</b>

<b>VII. Expenditure on Fixed Assets and Capital Works-in-Progress</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Fixed Assets</b>		
STUDENT ACTIVITIES CENTRE	5,60,327.00	2,37,500.00
CPWD PROJECTS ONGOING	2,76,12,235.00	21,59,50,596.00
EQUIPMENT- ESTATE DEPTT	5,06,574.00	-
EQUIPMENT- BIO TECH DEPTT	6,13,060.00	-
EQUIPMENT- CHEMISTRY DEPTT	15,300.00	-
EQUIPMENT- CSE DEPTT	71,05,101.00	-
EQUIPMENT- ECE DEPTT	1,99,920.00	-
EQUIPMENT- ELECTRICAL ENGG. DEPTT	3,93,500.00	-
EQUIPMENT- GEOLOGY DEPTT	10,62,710.00	-
EQUIPMENT- MATHEMATICS DEPTT	3,17,509.00	-
EQUIPMENT- MECHANICAL ENGG. DEPTT	1,83,490.00	-
EQUIPMENT- CE DEPTT	3,23,250.00	24,895.00
EQUIPMENT- HUMANITIES DEPTT	-	32,450.00
EQUIPMENT - MME DEPTT	-	2,60,900.00
EQUIPMENT FOR INSTITUTE-PLANT MACHINERY	3,89,49,396.00	1,30,66,891.00
RESEARCH INITIATION GRANT	-	21,43,759.00
FURNITURE FOR INSTITUTE	4,44,32,974.00	41,27,289.00
FURNITURE FOR GUEST HOUSE	18,964.00	-
COMPUTERS AND COMPUTER PERIPHERALS FOR INSTITUTE	3,53,96,674.00	2,47,05,136.00
COMPUTER PERIPHERALS FOR COMP CENTRE	79,53,735.00	-
E-BOOKS, E-JOURNAL, DATA BASE	8,27,00,141.00	3,33,40,625.00
BLDG. AND OTHER CAPITAL WORKS (A)	4,63,844.00	6,40,285.00
EQUIPMENT- CHEMICAL ENGG. DEPTT	72,170.00	58,250.00
LIBRARY BOOKS	1,93,49,577.00	-
COMPUTER SOFTWARE FOR COLLEGE	13,38,000.00	25,44,788.00
CENTRE OF EXCELLENCE	-	11,37,250.00
	<b>26,95,68,451.00</b>	<b>29,82,70,614.00</b>

<b>b) Capital Works-in-Progress</b>		
CPWD PROJECTS ONGOING	-	-

<b>VIII. Other Payments including statutory payments</b>	<b>Current Year</b>	<b>Previous Year</b>
INCOME TAX	16,31,75,146.00	11,24,72,381.00
SERVICE TAX	7,97,310.00	7,92,311.00
GST/ GOODS & SERVICE TAX	1,33,03,486.00	75,74,539.00
	<b>17,72,75,942.00</b>	<b>12,08,39,231.00</b>



IX. Refunds of grants		
	-	-
<b>X. Deposits and Advances</b>	<b>Current Year</b>	<b>Previous Year</b>
EMD/SD FOR SUPPLIER	23,25,454.00	49,56,249.00
AJIT KR BHAGAT, SECURITY OFFICER	76,450.00	51,500.00
ASIT KUMAR, JT. REGISTRAR(ESTABLISHMENT)	20,000.00	-
CO-OP CREDIT SOCIETY LTD	75,58,573.00	70,99,192.00
ABHIRAM HENS CHE DEPT	1,68,000.00	-
ANIRUDDHA MONDAL, PHYSICS DEPT	30,000.00	-
ANUP CHOUDHURY, CASH	1,70,000.00	-
ASISH MUKHERJEE	40,980.00	-
ADITYA PANDEY	52,990.00	-
B NAGRAJAN	47,023.00	-
BALA KRISHNA NAGRAJAN	72,478.00	-
BARNALI MAJI, BIO TECH	1,08,000.00	-
BIMAL DAS , CHEMICAL ENGG.	1,68,000.00	-
CHIRANJIB KOLEY	5,000.00	-
DAKSHINA RANJAN KISKU	50,000.00	-
DEBASHISH MANDAL	1,27,722.00	-
HARSH VARDHAN	62,800.00	-
HIROK CHOWDHURY	23,000.00	-
HILLOL MUKHERJEE, PTI	86,500.00	9,085.00
JAYDEEP HAWLADER	96,430.00	1,13,280.00
LIBRARY CAUTION MONEY (PG)	4,69,000.00	1,87,000.00
SHRI KRISHAN RAI	45,000.00	-
SUBHANKAR ROY BARMAN	1,09,300.00	-
IRFAN AHMED	44,635.00	-
JAYA SIKDER	20,000.00	-
JITAMANYU CHAKRABORTY	20,000.00	-
KALLOL KHAN	21,369.00	-
KALYAN ADHIKARY	29,230.00	-
MANOJ KR OZHA	50,000.00	-
PARAG GUHA THAKURTA	80,000.00	-
NILANJAN CHATTARAJ	10,000.00	-
PARTHA SARATHI BHOWMIK	49,092.00	-
S C MOI	1,85,000.00	-
SEEMA SARKAR	25,000.00	-
SOUMYA SEN SHARMA	2,70,000.00	-
SUTANUKA BANERJEE	10,000.00	-
TAMAL MONDAL	4,43,894.00	-
TAMAL TARU GHOSH	7,000.00	-
TAPAS DAS	1,00,000.00	-
SANDIP DAS	85,000.00	50,000.00
SANDIP MONDAL, EES DEPTT	45,838.00	11,823.00
SOUMITRA BANERJEE	-	1,25,000.00
MANISH KUMAR JAISWAL	35,000.00	-
IMP.ADV.- BARNALI MAJI, BIO TECH	15,000.00	-
IMP.ADV.- TAMAL MONDAL	10,000.00	-
IMP.ADV.-DEBASHISH MANDAL, ASSTT REGISTRAR	10,000.00	9,955.00
IMP.ADV.-SANKAR NARAYAN MAHATO, HOD EE DEPT.	20,000.00	20,000.00



IMP.ADV.- JAYDEEP HOWLADER	10,000.00	9,614.00
IMP.ADV.-RAJAT MAHAPATRA	-	5,926.00
IMP.ADV.-SANTOSH KR SAHA, TECH OFFICER	10,000.00	10,000.00
IMP.ADV.-UDAY CHANDRA MUKHERJEE, JOINT REGISTRAR	10,000.00	9,753.00
IMP.ADV.-CHINTA MANI MISHRA WARDEN HALL-4	15,000.00	12,790.00
IMP.ADV.-JAYA SIKDER	20,000.00	39,271.00
IMP.ADV.-GOPINATH HALDER	-	20,000.00
IMP.ADV.- KALLOL KHAN, ASSO. PROF OF ME	10,000.00	4,960.00
IMP.ADV.-ASIT KUMAR, JT.REGISTRAR (ESTABLISHMENT)	30,000.00	28,783.00
IMP.ADV.-TAPAS KUMAR SAHA	10,000.00	10,000.00
IMP.ADV.- AJIT KR BHAGAT, ESTATE	20,000.00	20,000.00
IMP.ADV.-BANHI KUMAR SARKER,SMO MEDICAL UNIT.	20,000.00	20,000.00
IMP.ADV.-LAKSHMI KANTA DEY, HOD MATHEMATICS DEPT.	20,000.00	15,916.00
IMP.ADV.-DEBJANI DUTTA, HOD BIOTECHNOLOGY DEPT.	20,000.00	19,841.00
IMP .ADV.-ABHIRAM HENS CHE DEPT. -WARDEN HALL-03	15,000.00	14,655.00
IMP.ADV.-S C MOI, CHEMISTRY	20,000.00	9,484.00
MANAB MALLIK, WARDEN HALL-02	15,000.00	12,642.00
IMP.ADV.-SANGHITA BHATTACHARJEE, WARDEN HALL-07.	-	15,000.00
IMP. ADV.-MANAS KUMAR MONDAL, CHIEF WARDEN	10,000.00	5,335.00
IMP.ADV.-APARESH DATTA ,ASST. PROF. OF ME AND WARDEN HALL-1	15,000.00	13,473.00
IMP.ADV.-SUPRIYA BERA, HOD MME	20,000.00	20,000.00
IMP.ADV.-SUBRATA NANDI, HOD CSE	20,000.00	20,000.00
OINDRILLA MUKHERJEE, WARDEN HALL -10	-	15,000.00
IMP.ADV.-KAUSHIK MANDAL, HOD DMS	10,000.00	5,427.00
IMP.ADV.-SURABHI CHOUDHURI, BIO TECH	-	19,117.00
IMP.ADV.-B NAGRAJAN	20,000.00	19,946.00
IMP.ADV.-SUMIT MUKHOPADHYAY	20,000.00	20,000.00
IMP.ADV.-DEBASHISH MANDAL, ASST REGISTRAR	-	8,550.00
IMP.ADV.-DURBADAL MANDAL, HOD ECE DEPT.	20,000.00	20,000.00
IMP.ADV.-SAYANTARI GHOSH, WARDEN -HALL-8	-	10,000.00
ANIRUDDHA BHATTACHARAY	15,000.00	15,000.00
IMP.ADV.-A DAS, ASST.REGISTRAR(AUDIT)	20,000.00	5,000.00
IMP.ADV.-ABHIJIT GHOSH, PHYSICS	15,000.00	7,189.00
IMP.ADV.-SANDIP MOMDAL, EES	15,000.00	12,006.00
IMP.ADV.-S S THAKUR, EE	20,000.00	20,000.00
IMP.ADV.-SEEMA SARKAR(MONDAL), MATH	15,000.00	11,624.00
IMP.ADV.-PINAKI PAL, HOD MATH	-	10,154.00
IMP.ADV.-BIMAL DAS, WARDEN HALL-09.	15,000.00	10,516.00
IMP.ADV.- AMIYA KR SAMANTA	20,000.00	20,000.00
IMP.ADV.-JITENDRA KUMAR, ASST. LIBRARIAN	-	5,330.00
IMP.ADV.-AJIT KUMAR MEIKAP, DEAN (R AND C)	-	10,000.00
IMP.ADV.-CHIRANJIB KOLEY, EE DEPT.	-	20,000.00
IMP.ADV.- A C MINZ	10,000.00	10,000.00
IMP.ADV.-NANDA DULAL JANA, CSE	15,000.00	10,000.00
IMP.ADV.-SUKDEV SAHOO, PROF.PHYSICS	10,000.00	10,000.00
IMP.ADV.- JOYDEEP BANERJEE	20,000.00	5,053.00
IMP.ADV.- BISWAJIT HALDER	-	3,431.00
IMP.ADV.-SHOWMEN SAHA	-	17,890.00
IMP.ADV.- K C GHANTA	10,000.00	10,000.00
IMP.ADV.-DHRUBAJYOTI ROY	10,000.00	10,000.00





IMP.ADV.-HILLOL MUKHERJEE, PTI	10,000.00	3,500.00
IMP.ADV.-DEEPANWITA DAS, IT	-	15,000.00
IMP.ADV.-KALYAN ADHIKARI, HOD EES DEPT.	10,000.00	9,854.00
IMP.ADV.-DAKSHINA RANJAN KISKU, WARDEN HALL-12	15,000.00	15,000.00
IMP.ADV.-SUVAMOY CHONGDER	-	1,600.00
IMP.ADV.-ANIRBAN SARKAR, DCA	10,000.00	10,000.00
IMP. ADV.-AMIYA KUMAR SARDAR	10,000.00	9,525.00
IMP. ADV.-BIMAN KR SAHA ROY	15,000.00	-
IMP. ADV.-DIPTESH DAS	20,000.00	-
IMP. ADV.-SAPNA RANWA	10,000.00	-
IMP. ADV.-SAYON BHATTACHARJEE	10,000.00	-
IMP. ADV.-SUBHASH CHANDRA RANA	20,000.00	-
IMP. ADV.-TANMOY KR SAHA	15,000.00	-
IMP. ADV.-KRISHNA PRIYA	15,000.00	-
IMP. ADV.-AMITA BARIK	15,000.00	-
IMP. ADV.-BIBHASH SEN	30,000.00	-
IMP. ADV.-D R KISKU	10,000.00	-
IMP. ADV.-PATHIK KUMBHAKAR	10,000.00	-
IMP. ADV.-ARINDAM MODAK	20,000.00	-
IMP. ADV.-RAJIB GHOSH CHAUDHURI	15,000.00	-
IMP. ADV.-MANISHA BAL	15,000.00	-
IMP. ADV.-DEEPAK KUMAR	10,000.00	-
	<b>1,43,73,758.00</b>	<b>1,33,76,239.00</b>

<b>XI. Other Payments</b>	<b>Current Year</b>	<b>Previous Year</b>
GPF BANK (SBI 4913) SUBSCRIPTION	6,94,50,882.00	15,11,000.00
GROUP INSURANCE	5,95,806.00	5,51,652.00
HEFA PRINCIPAL LOAN	20,65,11,690.00	16,70,00,000.00
FRATERNITY	2,47,602.00	-
SALE OF TENDER, APPLICATION FORM, XEROX COUPON	1,06,000.00	-
	<b>27,69,11,980.00</b>	<b>16,90,62,652.00</b>

<b>XII. Closing Balances</b>	<b>Current Year</b>	<b>Previous Year</b>
<b>a) Cash Balances</b>	-	-
<b>b) Bank Balances</b>		
<b>i. In Current Account</b>		
SBI 1A Rec A/c	<b>2,19,72,77,769.46</b>	<b>2,02,04,37,083.28</b>
<b>ii. In Deposit Account</b>		
SBI College Caution Money	8,687.82	8,687.82
SBI New Pension Scheme Bank A/c	-	38,88,829.25
	<b>8,687.82</b>	<b>38,97,517.07</b>



<b>iii. In Savings Account</b>		
SBI, GPF Savings Bank A/c	-	12,62,47,535.16
SBI Pension & Gratuity Sav. Bank A/c	10,68,971.36	2,17,32,957.36
Canara Bank Savings Bank A/c No-5494	20,36,810.60	19,78,781.60
Canara Bank Extn. Counter Savings Bank A/c 8569101000352	44,78,958.52	4,93,37,026.08
Canara Bank A/c No-1111	1,73,422.00	1,68,484.00
Canara Bank A/c No-1113	2,98,327.00	2,89,830.00
Canara Bank A/c No-1114	2,02,500.00	1,96,733.00
Canara Bank A/cNo-1115	3,54,654.00	3,44,553.00
Canara Bank TEQIP-I	2,66,249.00	2,58,666.00
RBI A/c No-10680001001	4,71,68,503.00	9,72,242.00
	<b>5,60,48,395.48</b>	<b>20,15,26,808.20</b>



NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR :: INDIA  
NPS TIER - I ACCOUNT

BALANCE SHEET AS AT 31.03.2023

		(Amount in Rupees)	
Liabilities	Amount(Rs.)	Assets	Amount(Rs.)
<b>NPS Tier-I Account</b>		<b>NPS Tier-I Account</b>	
Opening Balance	2,90,59,032.50	Investment	74,80,928.00
New Pension Scheme Fund	1,04,82,053.00	Subscription and Contribution Due	20,82,487.25
Less: Adjustment during the year			
Add: Surplus transfer from Income & Expenditure Account	12,51,203.00		
		<b>Cash at Bank</b>	
		SBI Branch-I	1,02,64,767.25
			<b>1,98,28,182.50</b>
			<b>1,98,28,182.50</b>

**Joint Registrar (F&A)**

**Registrar**

**Director**



**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR :: INDIA  
NPS TIER - I ACCOUNT  
INCOME & EXPENDITURE ACCOUNT FOR THE FINANCIAL YEAR 2022-23**

Expenditure	Amount(Rs.)	Income	Amount(Rs.)
Interest Credited to Subscriber's Account		Interest Earned on Investment	1072446.00
Bank Charges		Interest on Savings Bank A/c	178757.00
		Less: Interest Accrued 31/03/14 interest Accrued but not due	
Excess of Income over Expenditure	1251203.00		
	<b>1251203.00</b>		<b>1251203.00</b>

**Joint Registrar (F&A)**

**Registrar**

**Director**



**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR :: INDIA**  
**NPS TIER - I ACCOUNT**  
**RECEIPTS & PAYMENTS ACCOUNT FOR THE FINANCIAL YEAR 2022-23**

*(Amount in Rupees)*

Receipts	Amount(Rs.)	Payments	Amount(Rs.)
Opening Balance as on 01/04/2022	38,88,829.25	<b>Investment</b>	
		Withdrawal/Refund to NSDL	7,07,87,521.00
<b>NPS Tier-I Account</b>		Payable to NITD	1,11,71,132.00
Own Subscription	3,17,21,461.00	Closing Balance as on 31/03/2023	1,02,64,767.25
University Contribution	4,43,64,263.00		
Investment Encashed	1,15,62,893.00		
Interest Received on Investment	5,07,217.00		
Interest on Savings Bank A/c	1,78,757.00		
	<b>9,22,23,420.25</b>		<b>9,22,23,420.25</b>

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**Registrar**

**Director**







<b>PROVIDENT FUND ACCOUNT</b> <b>NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR INDIA</b> <b>INCOME AND EXPENDITURE ACCOUNTS FOR THE FINANCIAL YEAR 2022-2023</b>			
			(Amount in Rupees)
<b>Expenditure</b>	<b>Amount(Rs.)</b>	<b>Income</b>	<b>Amount(Rs.)</b>
Interest Credited to:		Interest earned on Investment	38,93,282.00
GPF/CPF	-	Add: Interest accrued	3,09,15,703.00
		Add: Tax recovered on Interest-Refund to	
Institute Contribution	-	be obtained	-
NPS Tier-II Account	-	Add: Interest on SB	7,185.00
Excess of Income over Expenditure	3,48,16,170.00		
	<b>3,48,16,170.00</b>		<b>3,48,16,170.00</b>

**Joint Registrar (F&A)**

**Registrar**

**Director**



<b>PROVIDENT FUND ACCOUNT</b> <b>NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR INDIA</b> <b>RECEIPTS AND PAYMENTS ACCOUNTS FOR THE FINANCIAL YEAR 2022-2023</b>			
(Amount in Rupees)			
<b>Receipts</b>	<b>Amount(Rs.)</b>	<b>Payment</b>	<b>Amount(Rs.)</b>
Opening Balance as on 01/04/2022		GPF Withdrawal	3,68,53,625.00
SBI Branch-I	12,62,47,535.16	GPF Adv	5,83,200.00
GPF Subscription	6,94,50,882.00	NPS Tier-II	-
CPF Subscription	-	Institute Contribution Withdrawal	-
GPF Loan Refund	12,967.00		
CPF Institute Contribution	-		
NPS Tier-II Account	-	Investment during the year	-
Investment Encashed	-		
Interest Received	39,00,467.00	<b>Closing Balance</b>	
		SBI Branch-I	16,21,75,026.16
	<b>19,96,11,851.16</b>		<b>19,96,11,851.16</b>

**Joint Registrar (F&A)**

**Registrar**

**Director**



# NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

## SPONSORED RESEARCH AND CONSULTANCY CELL

Balance Sheet as at 31st March ,2023

SOURCES OF FUNDS		Sch	Current Year	Previous Year
<b>CORPUS/CAPITAL FUND AND LIABILITIES</b>				
CAPITAL FUND		1	3,42,40,088.40	3,84,65,137.51
EARMARKED /ENDOWMENT FUNDS		2	12,44,362.90	-
CURRENT LIABILITIES AND PROVISIONS		3	12,02,84,721.47	11,65,12,413.26
<b>TOTAL</b>			<b>15,57,69,172.77</b>	<b>15,49,77,550.77</b>
<b>APPLICATION OF FUNDS</b>				
<b>FIXED ASSETS</b>				
		4		
- Tangible Assets			4,42,39,916.54	97,96,370.08
- Intangible Assets				
Capital Work in Progress				
INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS		5	-	-
INVESTMENTS - OTHERS		6	9,34,69,335.00	8,00,000.00
CURRENT ASSETS		7	1,59,23,961.45	14,39,50,352.69
LOANS , ADVANCES & DEPOSITS		8	21,35,959.78	4,30,828.00
<b>TOTAL</b>			<b>15,57,69,172.77</b>	<b>15,49,77,550.77</b>
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS		26		

Deputy  
Registrar(SRCC)

Dean(R&C)

**NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR**

## SPONSORED RESEARCH AND CONSULTANCY CELL

Income and Expenditure account for the year ended 31st March ,2023

PARTICULARS		Schedule	Current Year	Previous Year
(Amount In Rupees)				
<b>INCOME</b>				
Income from Consultancy Projects	9	1,68,40,360.02	1,08,83,053.18	
Income from Research Projects	10	25,94,631.65	11,47,361.05	
Income from Intellectual Property Right(IPR)	11	-	-	
Grant/Subsidies	12	-	-	
Income from Investment	13	34,69,335.00	10,596.00	
Interest Earned	14	24,85,147.00	28,45,512.00	
Other Income	15	37,35,983.25	42,08,088.50	
Prior Period Income	16	4,877.00	-	
<b>TOTAL(A)</b>		<b>2,91,30,333.92</b>	<b>1,90,94,610.73</b>	
<b>EXPENDITURE</b>				
Consultancy Projects Expenditures	17	1,25,71,623.81	86,67,602.40	
Sponsored Projects - Research Expenditure	18	31,03,365.30	9,03,675.54	
Staff Payments & Benefits- ( Establishment Expense)	19	-	-	
Administrative and General Expenses	20	71,95,369.58	46,92,261.11	
Transportation Charges	21	-	-	
Repair & Maintenance	22	-	-	
Finance Cost	23	-	-	
Depreciation	4	37,20,944.44	12,05,226.32	
Other Expenses	24	-	-	
Prior Period Expenses	25	46,60,036.00	-	
<b>TOTAL(B)</b>		3,12,51,339.13	1,54,68,765.37	
<b>Balance being excess of Income over Expenditure(A-B)</b>		<b>(21,21,005.21)</b>	<b>36,25,845.36</b>	
<b>BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND</b>		<b>(21,21,005.21)</b>	<b>36,25,845.36</b>	

Deputy Registrar (SRCC)

Dean(R&C)

**NATIONAL INSTITUTE OF TECHNOLOGY , DURGAPUR**





SPONSORED RESEARCH AND CONSULTANCY CELL  
RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31st March ,2023

RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
<b>Opening Balance</b>			GST Paid	47,31,400.00	19,52,224.00
a)Cash balances			TDS Paid	1,97,123.00	70,362.00
b)Bank balances	14,22,67,641.69	9,18,86,857.93	Project Fund Payment	1,53,22,900.20	63,96,500.16
Interest received from investment	-	-	Scholarship Paid	-	32,000.00
Interest received from Banks	24,85,147.00	10,596.00	Bank Charges Paid	32,183.96	14,347.24
Project Fund Receipts	4,59,95,598.00	28,45,512.00	Travelling Allowances Other Cost	66,35,953.20	62,000.00
NIT Durgapur	444.00	7,73,75,817.00	Fellowship	1,83,69,540.40	1,48,85,154.85
Consultancy and Research Fees	2,55,44,037.00	61,37,723.00	Consumables	57,53,244.68	48,99,048.48
Workshop	5,00,000.00	1,03,64,221.05	Contingencies	19,38,943.42	11,47,417.56
Grant	95,577.00	-	Assets Purchased	3,81,64,490.90	1,09,89,520.40
Scholarship receipts	-	-	Professional Charges	59,000.00	48,380.00
			Other Payments	65,41,375.61	58,88,130.60
			Investments(Fixed Deposits)	9,00,00,000.00	-
			Civil Works	49,455.00	-
			Karyashala	4,10,003.00	-
			Consultancy	1,52,84,506.67	-
			Refund to Funding Agency	11,68,377.00	-
			<b>Closing Balance</b>		
			a)Cash balances		
			b)Bank balances		
<b>Total</b>	<b>21,68,88,444.69</b>	<b>18,86,52,726.98</b>	<b>Total</b>	<b>21,68,88,444.69</b>	<b>18,86,52,726.98</b>



**Balance Sheet Schedule**

SCHEDULE -1

Capital Fund	Opening balance	Add. During the yr.	Less During the yr.	Closing Balance
Capital Fund	3,84,65,137.51	(21,21,005.21)	21,04,043.90	3,42,40,088.40
<b>Total</b>	<b>3,84,65,137.51</b>	<b>(21,21,005.21)</b>	<b>21,04,043.90</b>	<b>3,42,40,088.40</b>

SCHEDULE -2

**Earmarked /Endowment Funds**

Particulars	Opening balance	Add. During the yr.	Less During the yr.	Closing Balance
Institute Research & Development Fund(IRDF)		1683235.00	859681.00	823554.00
Departmental Promotional Accounts(DPA)		210404.45	-	210404.45
Research Management Fund(RMF)		210404.45	-	210404.45
<b>Total</b>		<b>21,04,043.90</b>	<b>8,59,681.00</b>	<b>12,44,362.90</b>

SCHEDULE -3

<b>Current Liabilities and Provisions</b>		
Particulars	Amount Rs.	Amount Rs.
<b>Sundry Creditors:</b>		
Amiya Kumar Samanta	460347.00	112000.00
Aniruddha Bhattacharya	1017.00	1017.00
Department Overhead Shares	2586044.42	841617.60
Dilip Kumar Singh Roy	1797528.69	632914.80
Diptes Das	3649000.00	662000.00
Dutta Prints	1790.00	1790.00
Eastern Coal Fields Ltd	1536236.00	312000.00
Essar Oil Gas Exploration	943410.00	566400.00
Hindustan Petroleum Corporation Limited	1.05	1.05
Ins National Institute of Technology	532948.00	532948.00
MDI Murshidabad	0.00	24850.00
N B Sai Prasad	1000.00	1000.00
Neo Metaliks	0.00	429520.00
Nibrain Consultancy Service	14000.00	14000.00
NIT Durgapur	0.00	337480.00
Project PI Overhead Shares	4187583.75	1262426.40
Pronab Roy	577000.00	150000.00
Puja E F Bricks	1764.00	1764.00
Rowdra Ghatak	111250.00	111250.00
Sandip Kumar Lahiri	1.00	1573340.67
Science and Engineering Research Board	211649.00	211649.00
Showmen Saha	529113.66	96753.39
Shree Rajlaxmi Travels Co	8142.00	8142.00
Shyam Sel and Power LTD	18101.00	118000.00
Somnath Karmakar	129167.35	609344.35
SP Enterprises	22632.00	22632.00
Stup Conseltants Pvt Ltd.	86400.00	86400.00
Supriya Pal	127560.73	3180026.73
A.K Samanta & Diptesh Das	380000.00	-
Bandhan Bandhu Majumdar	5250.00	-





Madan Mohan Ghosh	116500.00	-
R P Nanda	240000.00	-
Sabasachi Biswas	129173.00	-
Debojyoti De	1.00	-
Majumdar Enterprise	0.02	-
Nayak Tour & Travels	9672.00	-
S S Solution	5369.00	-
Supriya Bera(Consultant)	289.00	-
Tapabrata Chakraborty	444.00	-
Vaibhavi Lab Products	42876.00	-
Agni Shanti Buildtech Pvt Ltd	100000.00	-
Ashok Kumar Dutta	73750.00	-
Associated Architect & Engg Co-Operative Society	4602.00	-
Bhavyabharat Infrastructure and Construction	127322.00	-
Central Board of Irrigation and Power	27000.00	-
DAV Model School KSTP Asansol	0.50	-
DCS Limited	46020.00	-
Girraj Ji Stone Crusher Pvt Ltd	118000.00	-
Modern Road Makers Pvt Ltd	19942.00	-
M/S Santosh Sahewala	236000.00	-
National River Conversation Directorate	153000.00	-
Scheme for Promotion of Academic & Research Collabor	0.04	-
Techno India Group Public School, Durgapur	47200.00	-
Vilniaus Gedimino Technikos Universitetas	123676.00	-
WB Tourism Development Corporation	62500.00	-
Sudip Shekhar Mukhopadhyay	296847.52	-
<b>Total (A)</b>	<b>19899120.73</b>	<b>11901266.99</b>
<b>Other Liabilities</b>		
Security Deposit	21119.00	-
Karyashala Workshop	89997.00	-
Overhead Fund Utilised	691357.00	-
<b>Total (B)</b>	<b>802473.00</b>	-
<b>Statutory Liabilities:</b>		
GST Payable	594455.31	571647.64
TDS Payable	7783.70	93816.00
<b>Total (B)</b>	<b>602239.01</b>	<b>665463.64</b>
<b>Fund:</b>		
Project Fund	50518233.82	92956162.23
Project Fund Utilised (Assets)	48462654.91	10989520.40
<b>Total (C)</b>	<b>98980888.73</b>	<b>103945682.63</b>
<b>Grand Total (A+B+C)</b>	<b>120284721.47</b>	<b>116512413.26</b>

#### SCHEDULE -6

##### Investment -Others

Particulars	Amount Rs.	Amount Rs.
Canara Bank FD-(8569401001713/1)	0.00	700000.00
Canara Bank FD( 8569401001735/1 )	0.00	100000.00
Fixed Deposit (140052417450/1)	10392902.00	-
Fixed Deposit (140052494355/1)	10391273.00	-
Fixed Deposit (140052669038/1)	10388015.00	-
Fixed Deposit (140053009379/1)	10383129.00	-
Fixed Deposit (140053103350/1)	10381500.00	-
Fixed Deposit (140053199057/1)	10379871.00	-
Fixed Deposit (140053285031/1)	10378243.00	-
Fixed Deposit (140052887788/1)	10384758.00	-
Fixed Deposit (140052568529/1)	10389644.00	-
<b>Total</b>	<b>93469335.00</b>	<b>800000.00</b>

**Schedule-7****Current Assets**

<b>Particulars</b>	<b>Amount Rs.</b>	<b>Amount Rs.</b>
<b><u>Sundry Debtors:</u></b>		
Ajit Kumar Meikap	16902.00	16902.00
Amrita Mukherjee	35960.00	35960.00
Aniruddha Mondal	34609.00	34609.00
Anirudhha Chandra	2360.00	2360.00
Anjan Sen and Associates	35500.00	35500.00
Arjyayoti Goswami	0.00	199.00
Ashish Bhattacharjee	23233.00	23233.00
Barb Bhowan Simeco	2950.00	2950.00
Binary Centre	7850.00	7850.00
Biochem	18900.00	18900.00
Datta Prints	26550.00	26550.00
Durbadal Mandal	0.00	33532.00
Elmack Engineering PVT LTD	0.00	96600.00
Esar Enterprise	3150.00	3150.00
Frontiers Media	51155.00	51155.00
Icon Solution	4248.00	4248.00
Indrani Sarkar	34500.00	34500.00
Interlab Instruments and Equipments	14000.00	14000.00
IRD Account IITD	0.00	66313.00
Japan Society for Plan	78875.00	78875.00
MBA Syndicate	4850.00	4850.00
Mriganka Sekhar Mukhopadhyay	0.00	5421.00
MS Mukhopadhyay	130098.00	124677.00
P Enterprises	22632.00	22632.00
Pratik Chakraborty	114300.00	114300.00
Promptech Instruments PVT LTD	92718.00	92718.00
Radical Scientific Equipments PVT LTD	40000.00	40000.00
S Ali	92502.00	88514.00
Sheru Ali	0.00	3988.00
Shubhadip Atta	30000.00	30000.00
Sree Rajlaxmi Travels	8142.00	8142.00
S Saha	176477.00	176477.00
Subashis Karmakar	0.00	20220.00
Sudit Sekhar Mukhopadhyay	28570.00	28570.00
Switching AVO Electro Power LTD	15360.00	15360.00
Tamal Mondal	0.00	34476.00
Tata Consultancy(29250)	87750.00	29250.00
Tech Science Pvt Ltd	250000.00	250000.00
V K Kharwar	0.00	5730.00
CGCEL(Rupam Diwedi)	29500.00	-
Project Director, NHAI Durgapur	1875000.00	-
NIT Durgapur	285152.00	-
V INFOSYS SOLUTION	0.80	-
S Karmakar	20220.00	-
<b>Total (A)</b>	<b>3694013.80</b>	<b>1682711.00</b>



<b>Bank Balances:</b>		
<b>With Schedule Banks:-</b>		
a)Canara Bank A/c No.8569101003197	12229947.65	142267641.69
<b>Total (B)</b>	<b>12229947.65</b>	<b>142267641.69</b>
<b>Grand Total(A+B)</b>	<b>15923961.45</b>	<b>143950352.69</b>

**SCHEDULE -8**  
**Loan, Advances and Deposits**

Particulars	Amount Rs.	Amount Rs.
TDS Receivable	1237703.00	430828.00
ITC Receivable	610891.78	-
other receipts	287365.00	-
<b>Total</b>	<b>2135959.78</b>	<b>430828.00</b>

**SCHEDULE-9**  
**Income From Consultancy Project**

Particulars	Current Year	Previous Year
Durgapur Real Estate Pvt Ltd.	-	275000.00
Ramkrishna Engineering	-	125000.00
Ram Chandra Paul	-	100000.00
Narayan Kumar	-	200000.00
SSk Infrastructures	-	580000.00
Gayatri Projects Ltd.	-	240000.00
East India Pharmaceutical Works Ltd	-	100000.00
Chakraborty and Company	-	260000.00
HNGIL Rishra	-	125000.00
DP Construction	-	85000.00
Nimbus Irrigation Pvt Ltd.	-	25424.00
Srijan Home Maker	-	75000.00
NRIDA	-	544084.75
WBSRDA Purba Burdwan Division	-	62500.00
Mishra and Associates	-	50000.00
ISMU Project Division Dhanbad	-	794879.00
Dascon Sourav Commercial Private Limited	-	77966.20
Parashmani Medical Center Pvt Ltd	-	75000.00
Electro Mech Engineers	-	78000.00
ADDA	-	36400.00
Srijon Nirman	-	265874.56
ACE Pipeline Contracts Pvt Ltd	-	30000.00
Chittaranjan Locomotive Works	-	477500.00
Mars Development	-	40000.00
Bright Project Private Limited	-	350000.00
PIR Projects Consultancy	-	68750.00
Scientific Design Company,USA	-	1966674.67
Apex Engineering	30000.00	-
Arun Kumar Mohanty	400000.00	-
Ashok Kumar Dutta	187500.00	-



Bengal Aerotropolis Projects Limited	130000.00	-
Bhavya Bharat Infrastructure & Construction Pvt. Ltd.	52008.00	-
Bivab Developers Pvt Ltd	450000.00	-
C.B. Enterprise	37500.00	-
CE Testing	50000.00	700000.00
CGCEL	25000.00	-
ECL	2625000.00	2625000.00
EE & SM (C-II) Rajarhat CPWD Kolkatta	39808.48	-
ESSAR Oil and Gas Exploration and Production Ltd	480000.00	-
Executive Engineer ISMU Project Division, Dhanbad (CPWD)	257838.00	-
Executive Engineer ISMU Project Division, Dhanbad (CPWD)	59220.00	-
Girrajji Stone Crusher Pvt Ltd.	200000.00	-
Growever Infra Pvt Ltd	500000.00	-
IDI Infra Pvt. Ltd.	170000.00	-
Jawahar Lal Singh	65000.00	-
Jra Infratech	500000.00	-
K.M Kumar (Executive Engineer & SM (C-II)	227661.86	-
Lloyd Insulation India Ltd	100000.00	-
M/S Metal Craft Engineering	87500.00	75000.00
M/S R P Mishra & Associates	37500.00	-
M/S Santosh Sahewalla	875000.00	-
MDI Murshidabad	2340.68	-
National Council of Science Museums	156640.00	-
Neo Metaliks Ltd	364000.00	-
NHAI Durgapur	1837500.00	-
NSC Projects Pvt Ltd	310872.00	-
Project Director NHAI Durgapur	1875000.00	-
Ram Kripal Singh Construction Pvt Ltd	300000.00	300000.00
Ranjit & Associates	125000.00	-
S.S. Solution	750000.00	-
Shyam Sel & Power Limited	776000.00	-
Swami Resorts Pvt. Ltd.	475000.00	-
Techno India Group Public School	23400.00	-
V.K. Gupta & Associates	300000.00	-
Vilniaus Gedimino Technikos Universitetas	167321.00	-
Vrinda Engineers Pvt. Ltd.	212500.00	75000.00
Fertis India Pvt Ltd	500000.00	-
Tata Consultancy	1056250.00	-
Other Consultancy	22000.00	-
<b>Total</b>	<b>16840360.02</b>	<b>10883053.18</b>



**SCHEDULE-10**  
**Income From Research Project**

Particulars	Current Year	Previous Year
ACE Pipeline Contracts Pvt Ltd	-	21000.00
Anindya Kumar Majumder	-	4550.00
Bharat Trading Company	-	30291.00
Bhawani Construction & Suppliers	-	1495.00
ewanganj Stone Company	-	8645.00
Effluent and Watertreatment	-	6000.00
HI Tech Sweetwater Tech Pvt	-	3510.00
Jyotirmoy Mukherjee	-	3510.00
Kamlaaditya Construction Pvt Ltd.	-	45500.00
L and T Power Ltd.	-	4550.00
Partha Sarathi Ghosh	-	4121.00
Pave Cap	-	11830.00
Pevco Associates	-	1500.00
Priyanshu Enterprise	-	1500.00
Puja E F Bricks	-	21125.00
R&S Brothers	-	4121.00
R.V. Engineering	-	15925.00
Rafic Enterprise	-	1500.00
Rajlaxmi Construction	-	5200.00
Rattan Ispat Pvt Ltd	-	1495.00
S S Enterprise	-	2366.00
Samridh Enterprise	-	39000.00
Sanjoy Kumar Brothers	-	6825.00
Shapoorji Pallonji and Co	-	4490.00
Shyam Steel	-	12900.00
Sibnath Dubey	-	27301.70
Sona Construction	-	15500.00
Sushil Kumar Kataruka	-	14325.35
Tata Consultancy(29250)	-	568750.00
Techno Trade Co	-	3000.00
Trikon Enterprise	-	1755.00
Western India Mining Services Pvt Ltd	-	7500.00
Chatterjee Enterprise	7150.00	-
NSC Projects Pvt Ltd	170300.00	-
S Enterprise	1950.00	-
Abhinanadan Enterprises	1755.00	-
Associated Construction and Consultancy	240000.00	-
B.B.S. Enterprise	26000.00	-
B.M Construction	3900.00	-
Bhavyabharat Infrastructure & Co. Pvt. Ltd	91000.00	-
Blue Enterprise	5850.00	-
Captain Steel India Ltd.	96850.00	-
Chatterjee Construction	5850.00	-
Dascon Sourav Commercial Pvt Ltd	54600.00	-
DAV Model School, KSTP Asansol	105625.00	154700.00
Deal Magsil	52702.00	15000.00
Dutta Enterprise	3510.00	-
Garg Engineering & Construction Pvt Ltd	22750.00	-



Ghosh Construction	11700.00	-
Ghosh Enterprise	1950.00	-
Gita Construction	39000.00	-
Joy Santosi Enterprise	35100.00	-
Joyous Block & Panels Pvt. Ltd.	31459.32	-
K & K Minerals Pvt. Ltd	66300.00	34580.00
Kakali Enterprise	201500.00	-
M/S Associated Architect & Engg	3900.00	-
M/S Megastruct	48750.00	-
M/S NSC Projects Pvt Ltd	66132.00	-
M/S R K Enterprise	5850.00	-
Ma Manasa Enterprise	39000.00	-
Maan Steel & Power Ltd.	1950.00	-
Maithan Steel & Power Limited	65000.00	-
Mangalmoy Gorai	9282.00	-
Manpasand Cements Pvt Ltd.	22100.00	-
MDI Murshidabad	21059.33	32500.00
Metcon Water system pvt ltd	20917.00	-
Montecarlo Ltd	8644.92	-
MR Enterprise	13000.00	-
MS BM Construction	3900.00	-
National Institute of Technology Durgapur	376.00	-
NCC Limited	52000.00	-
Nirman Construction	39650.00	-
OHMS Electrical & Co.	11700.00	-
OM Traders	3900.00	-
Orchid Engineers Co-operative Society Ltd	10556.00	-
Orchid Realty	3900.00	-
P. K. Thakur & Company Ltd	1755.00	9500.00
Paras Nath Singh	89700.00	-
Reliable Uniseven Struc Mech (JV)	1950.00	-
RIC Steel and Power pvt. Ltd.	3900.00	-
RK Construction	1950.00	-
Royal India Construction	39005.08	-
S.B Enterprise	7800.00	-
Sanjay Kumar Upadhaya	71500.00	-
Shyam Set & Power Ltd	18200.00	-
Sing Construction Corporation	1755.00	-
Sonu & Saroj	89700.00	-
SPS Infrabuild Pvt. Ltd	183300.00	-
Sri Ganseh Engineering Works	131300.00	-
Srijon Nirman	1950.00	-
Sudhamoy Das	3900.00	-
Suhana Enterprise	1950.00	-
Sylvanous Supply Syndicate	35100.00	-
Tapoban Housing Development Pvt Ltd	54600.00	-
TESCON	52650.00	-
Triveni Engicons Pvt. Ltd.	19048.00	-
Umesh Kumar Singh	55250.00	-
<b>Total</b>	<b>2594631.65</b>	<b>1147361.05</b>



**SCHEDULE -13****Income from investment**

Particulars	Current Year	Previous Year
Interest From Fixed Deposits	3469335.00	10596.00
<b>Total</b>	<b>3469335.00</b>	<b>10596.00</b>

**SCHEDULE -14****Interest Earned**

Particulars	Current Year	Previous Year
Interest Received (Canara Bank A/c No.8569101003197)	2485147.00	2845512.00
<b>Total</b>	<b>2485147.00</b>	<b>2845512.00</b>

**SCHEDULE -15****Other Income**

Particulars	Current Year	Previous Year
Overhead Income of Projects	3704983.25	4208088.50
Fellowship & Manpower	31000.00	0
<b>Total</b>	<b>3735983.25</b>	<b>4208088.50</b>

**SCHEDULE -16****Prior Period Income**

Particulars	Current Year	Previous Year
Project NITD/SRCC/PPG/MATH/2019/16 (48565)	2341.00	-
Project NITD/SRCC/SG/CY/2020/7(165283)	2536.00	-
<b>Total</b>	<b>4877.00</b>	<b>-</b>

**SCHEDULE-17****Consultancy Project Expenditure**

Particulars	Current Year	Previous Year
Amiya Kumar Samanta	158726.00	112000.00
Aniruddha Bhattacharya	-	20339.00
Dilip Kumar Singh Roy	401872.54	324493.00
Diptesh Das	2970000.00	662000.00
Pronab Roy	300000.00	115000.00
Sandip Kumar Lahiri	-	1573340.67
Showmen Saha	213976.27	246075.00
Somnath Karmakar	1220000.00	2437828.00
Atul Krishna Banik	480000.00	-
R P Nanda	1080000.00	-
Kalyan Adhikari	384000.00	-
Supriya Pal	4059132.00	3176526.73
Sabyasachi Biswas	76923.00	-
Samarjit Kar	125491.00	-
A.K Samanta & Diptesh Das	380000.00	-
Showmen Saha & Somnath Karmakar	253646.00	-
Shalini Das	360000.00	-



Majumdar Enterprise	24780.00	-
Biswajit Singh Kapoor	10950.00	-
Sneha Konar	10950.00	-
Nightangle	19906.00	-
Maa Trading	6431.00	-
SC Das	10200.00	-
SP Enterprise	24640.00	-
<b>Total</b>	<b>12571623.81</b>	<b>8667602.40</b>

**SCHEDULE-18**

**Sponsored Projects-Research Expenditure**

Particulars	Current Year	
Dilip Kumar Singh Roy	790352.78	308421.80
Pronab Roy	182000.00	35000.00
Rowdra Ghatak	810000.00	437500.00
Showmen Saha	143140.00	80855.89
Somnath Karmakar	3000.00	17307.85
Supriya Pal	259115.00	3500.00
Sarbamangla Scientific	-	6732.00
Avijit Dalal	-	210.00
Ajit Kumar Meikap	-	14148.00
Supriya Bera	289.00	-
R P Nanda	128000.00	-
Diptesh Das	17000.00	-
Amiya Kumar Samanta	299621.00	-
Sabyasachi Biswas	57500.00	-
Madan Mohan Ghosh	116500.00	-
Sudip Shekhar Mukhopadhyay	296847.52	-
<b>Total</b>	<b>3103365.30</b>	<b>903675.54</b>

**SCHEDULE -20**

**Administrative and General Expenses**

Particulars	Current Year	Previous Year
Interest to Funding Agencies	2997597.00	2368428.00
Project PI and Department Overhead Shares	3299098.01	2104044.00
Consultancy Charges	141306.00	146070.00
Office Expenses	80766.57	10991.87
Professional Charges	10620.00	48380.00
Bank Charges	1847.00	14347.24
Post Doctoral Fellowship	301397.00	-
Salary for Contractual Employee	311719.00	-
Travelling & Conveyance Expenses	17554.00	-
Repairing & Maintenance of Equipment	33465.00	-
<b>Total</b>	<b>7195369.58</b>	<b>4692261.11</b>

**SCHEDULE -25****Prior Period Expenses**

<b>Particulars</b>	<b>Current Year</b>	<b>Previous Year</b>
Apurba Layek PI Overhead Share	58200.00	-
Bibhash Sen PI Overhead Share	76200.00	-
Amit Kumar Chakraborty PI Overhead Share	138000.00	-
Ankush Acharyya PI Overhead Share	18345.00	-
Animesh Dutta PI Overhead Share	256275.00	-
Aniruddha Mondal PI Overhead Share	76772.00	-
Apurba Kumar Patra Pi Overhead Share	150000.00	-
Ashish Bhattacharjee PI Overhead Share	35.00	-
Bijoy Kumar Saha PI Overhead Share	46974.00	-
Chiranjib Koley PI Overhead Share	95122.00	-
Debojyoti De PI Overhead Share	668.00	-
Durbadal Mandal (ECE) PI Overhead Share	52916.00	-
Gopinath Halder PI Overhead Share	2599.00	-
Kazi Sufia Khannam PI Overhead Share	30000.00	-
Laxmi Kanta Dey Pi Overherad Share	6228.00	-
Mamta Dulai Computer Science(PI Share)	75300.00	-
Manas Kumar Mondal PI Overhead Share.	45000.00	-
Oindrilla Mukherjee Pi Overhead Share	35.00	-
Partha Sarathee Bhowmik Pi Overhead Share	48000.00	-
Pathik Kumbhakar PI Overhead Share	4253.00	-
Pijush Topadar PI Overhead Share	162139.00	-
Pinaki Pal PI Overhead Share	24681.00	-
Rajat Mahapatra PI Overhead Share	117535.00	-
Rajnarayan Saha PI Overhead Share	46477.00	-
Sankar Chandra Moi PI Overhead Share	99000.00	-
Satya Bagchi Pi Overhead Share	6450.00	-
Sayantari Ghosh PI Overhead Share	21000.00	-
Shibendu Shekhar Roy PI Overhead Share	91500.00	-
Soumen Basu Pi Overhead Share	73410.00	-
Sougata Saha PI Overhead Share	14800.00	-
Sudip Chattopaddhyay Pi Overhead Share	162063.00	-
Sudipta Mondal Pi Overhead Share	45000.00	-
Sudit Sekhar Mukhopaddhyay PI Overhead Share	52886.00	-
Sujit Kumar Mondal PI Overhead Share	72000.00	-
Sujit Sankar Panja Pi Overhead Share	75654.00	-
Sukadev Sahoo PI Overhead Share	21821.00	-
Supriya Pal Project Pi Overhead Share	39156.00	-
Swapna Ranawa Pi Overhead Share	35544.00	-
Tamal Mondal PI Overhead Share	36000.00	-
Tanmoy Kumar Saha Pi Overhead Share	59400.00	-
Tapas Kumar Saha Pi Overhead Share	17607.00	-
Utpal Adhikary Pi Overhead Share	97606.00	-
MS Mukhopadhyay	4038.50	-
Sandip Kumar Lahiri	361321.00	-
Dilip Kumar Singh Roy	32035.00	-
Diptes Das	112327.00	-
Amiya Kumar Samanta	115218.00	-
Avijit Saha	9446.00	-



Sheru Ali	7144.00	-
Pronab Roy	68000.00	-
R.P Nanda	88000.00	-
Sheru Ali	4038.50	-
Somnath Karmakar	8077.00	-
Ajit Kr. Meikap Pi Overhead Share	22836.00	-
Avijit Saha	136234.00	-
Avijit Saha	12957.00	-
Amiya Kumar Samanta	214285.00	-
Dilip Kumar Singh Roy	193931.00	-
Sheru Ali	38114.00	-
Amiya Kumar Samanta	222168.00	-
Diptes Das	124250.00	-
Dilip Kumar Singh Roy	14534.00	-
Pronab Roy	14200.00	-
Chiranjib Koley	10000.00	-
Chiranjib Koley	25000.00	-
Nirmal Kumar Roy (Consultant)	25000.00	-
Partha Sarathee Bhowmik	10000.00	-
Sujit Kumar Mondal	10000.00	-
Aniruddha Bhattacharya	10000.00	-
Rowdra Ghatak	10000.00	-
Avijit Saha	20520.00	-
Sheru Ali	13680.00	-
Amiya Kumar Samanta	25650.00	-
Pronab Roy	35150.00	-
MS Mukhopadhyay	52308.00	-
Sheru Ali	3892.00	-
Madan Mohan Ghosh	10200.00	-
Supriya Bera (Consultant)	3000.00	-
Partha Sarthy Banerjee	13200.00	-
MK Das	10200.00	-
H Bairagya	16431.00	-
<b>Total</b>	<b>4660036.00</b>	<b>-</b>

Cost of Acquisition	Addition During the Year	Deletion During the year	Total Cost of Acquisition	Opening Depreciation	During the year Depreciation	Total Depreciation	Amount Rs.	
							WDV of Assets 31.03.2023	WDV of Assets 31.03.2022
4056892.00	5486139.76	0.00	9543031.76	811378.40	1603920.97	2415299.37	7127732.39	3245513.60
1864508.00	32446851.14	0.00	34311359.14	139838.10	1854332.40	1994170.50	32317188.64	1724669.90
5080196.40	0.00	0.00	5080196.40	254009.82	254009.82	508019.64	4572176.76	4826186.58
	231500.00		231500.00		8681.25	8681.25	222818.75	0.00
<b>11001596.40</b>	<b>38164490.90</b>	<b>0.00</b>	<b>49166087.30</b>	<b>1205226.32</b>	<b>3720944.44</b>	<b>4926170.76</b>	<b>44239916.54</b>	<b>9796370.08</b>



8. DETAILED SCHEDULE OF DEPRECIATION FOR THE YEAR 2022-23

(Amount in Rupees)

Particulars	Opening depreciation as on 01.04.2022	Depreciation during the year	Total depreciation	WDV as on 31.03.2023	WDV as on 31.03.2022
Land	-	-	-	10305688.62	10305688.62
<b>Total (A)</b>	-	-	-	<b>10305688.62</b>	<b>10305688.62</b>
<b>Buildings</b>					
Mod. Of Lab -AM & Drugs	19,81,460.46	0	1981460.46	1	1
Mod. Of Lab -Chemical	19,86,948.36	0	1986948.36	1	1
Mod. Of Lab -Chemistry	6,94,361.70	0	694361.7	1	1
Mod. Of Lab -Civil	25,21,373.89	2233	2523606.889	89340.36137	91573.36137
Mod. Of Lab -Electrical	34,12,386.32	0	3412386.32	1	1
Mod. Of Lab -Geology	20,45,716.63	0	2045716.63	1	1
Mod. Of Lab -Library	16,90,936.13	0	1690936.13	1	1
Mod. Of Lab -Maths	78,799.50	0	78799.5	1	1
Mod. Of Lab -Mech	48,13,257.31	6100	4819357.306	243993.1341	250093.1341
Mod. Of Lab -Metallurgy	19,40,464.04	0	1940464.04	1	1
Mod. Of Lab -Micro Processor	5,98,840.41	0	598840.41	1	1
Mod. Of Lab -Physics	25,95,176.50	0	2595176.5	1	1
Mod. Of Lab -Printed Circuit	5,06,924.67	0	506924.67	1	1
Mod. Of Lab -Workshop	28,34,188.23	0	2834188.23	1	1
Bldg. & Other Cap works (A)	11,35,03,694.16	928920	114432614.2	40219291.56	29838732.56
Boys Hostel-360	2,60,94,764.41	372347	26467111.41	14893893.22	15266240.22
Conf. Hall	26,66,899.42	32687	2699586.425	1307494.855	1340181.855
Const. high Vol. Lab	29,96,997.31	55487	3052484.309	2219469.691	2274956.691
Const. of Shed	7,32,979.50	8647	741626.5042	345864.9958	354511.9958
Const. of Store,Elec. HP Lab	5,26,491.12	4244	530735.1212	169746.9988	173990.9988
Const. of Out of Int Sav./A.c	4,54,371.58	0	454371.58	1	1
Elect. M.ch. Shop	7,92,264.34	12300	804564.3377	491984.2223	504284.2223
Extn. 2nd Floor CSE & ECE	22,51,544.53	39227	2290771.528	1569062.472	1608289.472
Ext. Guest house	29,76,468.66	65562	3042030.659	2622475.051	2688037.051
Ext. Hospital	77,75,512.48	191287	7966799.476	7651484.744	7842771.744
Ext. Comp. centre	33,81,711.04	1784	3383495.04	71371.5002	73155.5002
Girls Hostel	3,33,70,543.09	5282971	38653514.09	237434906.9	242717877.9
Hostel Annexed to Exist Hostel	66,38,532.00	1659633	8298165	74683501	76343134
Lab. Bldg. CE Dept.	3,18,726.40	0	318726.4	1	1
Liab. Bldg.	31,93,492.17	22169	3215661.171	886739.8987	908908.8987
Overhead Tank	20,441.79	331	20772.78871	13227.21129	13558.21129
Renovation Works	5,67,30,329.05	8285117	65015446.05	373981161.2	342576278.2
Student Activity Centre	1,43,12,627.59	407038	14719665.59	16319530.66	16493818.66
Designing Mural & Wall Cladding	41,549.07	767	42316.07319	30683.92681	31450.92681
Boundary Wall	86,63,895.97	1476334	10140229.97	69553589.03	10345502.03
Boys Hostel-120	24,93,643.87	48151	2541794.865	1926044.835	1974195.835
Constn.of 3 storied IT	68,08,075.64	131369	6939444.637	5254753.743	5386122.743
Constn.of IT Bldg.	3,38,128.20	6699	344827.1953	267979.8047	274678.8047
Constn. Cafeteria	4,94,565.44	9550	504115.4432	381992.6868	391542.6868
Constn. Lec. Gallery	40,08,635.50	84443	4093078.499	3377709.971	3462152.971
Constn. New Class	35,43,304.38	73093	3616397.378	2923703.502	2996796.502
Extn Academic Centre	15,64,258.22	30205	1594463.22	1208205.19	1238410.19
Covered Space 500sq for CSE	7,86,013.80	16579	802592.7979	663138.2021	679717.2021
Fountain in front of Acc.Bldg.	8,84,283.85	17075	901358.8464	683006.1536	700081.1536
Construction Gallery at Lords gr.	7,52,083.32	20684	772767.3209	827362.6791	848046.6791
Const of Staff Club	9,27,824.38	38989	966813.3804	1559543.62	1598532.62
Upgradation of Drains	53,35,470.53	224205	5559675.53	8968210.47	9192415.47
Upgradation of Roads	2,34,86,897.81	1563755	25050652.81	66510200.19	68073955.19
Subsidiary Drainage	7,57,215.00	47385	804600	1895400	1942785
Const of Boys Hostel 1250 Seated	-	0	0	0	0
New Academic Block Construction	6,23,04,884.10	3898915	66203799.1	155956600.9	159855515.9
Constn. of Lab Chem/Biotech	3,23,99,800.98	2027515	34427315.98	81100584.03	83128099.03
Constn. Faculty accommodation	6,99,79,429.85	4379173	74358602.85	175166904.2	179546077.2

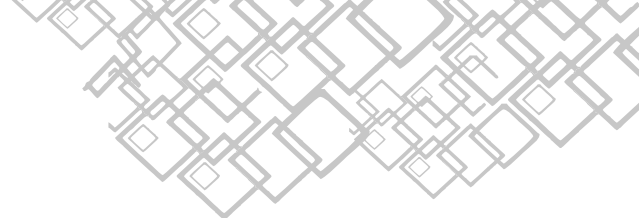


Construction of G1 Market Complex	2,38,25,336.20	1490942	25316278.2	59637672.8	61128614.8
Construction of International Student Hostel	5,04,81,000.00	3159000	53640000	126360000	129519000
500 Seated Girls Hostel	-	0	0	0	0
Fixing of Wire nets in hostels	5,32,855.00	33345	566200	1333800	1367145
Renovation/Extension of Hostels CPWD	47,80,214.44	360135	5140349.438	14405400.56	14765535.56
Pipeline & Sewage line	32,75,937.82	752682	4028619.823	35243300.18	4537982.177
VIP GUEST HOUSE	95,98,944.00	2399736	11998680	107988120	110387856
Roof Treatment of Quarters	11,49,845.00	71955	1221800	2878200	2950155
Construction of S.N. Roy Memorial Bldg	3,84,63,885.51	1798274	40262159.51	71930965.49	73729239.49
Extension of existing Hostel (Hall-1)	1,53,95,064.37	646926	16041990.37	25877027.63	26523953.63
Construction Boys/Girls Hostel	10,04,51,058.77	6901218	107352276.8	276048706.2	282949924.2
Augmentation of CSE Dept Shed on Chemistry Dept- Assets Addition- 2021-22	2,78,000.00	278000	556000	13344000	13622000
Boys Hostel 1250 Seated Asset Addition- 2021-22	1,81,24,000.00	18124000	36248000	869952000	888076000
Construction of EE measurement labs- Assets Addition- 2021-22	1,94,000.00	194000	388000	9312000	9506000
<b>Bldg. And Other Capital Works Addition 2022-23</b>	<b>-</b>	<b>9277</b>	<b>9277</b>	<b>454567</b>	
<b>Student Activity Centre Addition 2022-23</b>	<b>-</b>	<b>11207</b>	<b>11207</b>	<b>549120</b>	
<b>Total (B)</b>	<b>79,85,59,325.79</b>	<b>67703667</b>	<b>866262992.79</b>	<b>2968785046.65</b>	<b>2892089892.65</b>

**2017-18**

Particulars	Opening	Depreciation	Total	WDV as on	WDV as on
	Depreciation as	during the	Depreciation	31.03.2023	31.03.2022
	on 01.04.2022	year			
<b>Plant, Machineries &amp; Equipment</b>					
Antenna Proj.	1,83,257.48	385	183642.4844	4620.515633	5,005.52
Centre of excellence	3,07,15,865.74	6632	30722497.74	79582.60725	86,214.61
Cont. Edn.Centre	55,813.26	101	55914.26046	1219.739535	1,320.74
Elec.Dgree Course	85,12,990.72	0	8512990.72	1	1.00
Env. Engg. Mon.of Ind.waste	9,99,999.00	0	999999	1	1.00
EPBAX College	44,45,786.43	23700	4469486.429	284395.5712	3,08,095.57
Equip.CE Dept.(testing & con.)	51,102.90	0	51102.9	1	1.00
Equip.C.E	1,39,85,586.35	235128	14220714.35	2823712.188	30,58,840.19
Equip.Chemical	80,77,140.01	139727	8216867.01	1689675.33	18,29,402.33
Equip.Chemistry	42,15,435.02	74211	4289646.015	913028.9849	9,87,239.98
Equip.C-Nance	1,50,796.78	397	151193.7758	4764.224245	5,161.22
Equip.Comp.Centre	17,77,841.04	29870	1807711.041	358437.9592	3,88,307.96
Equip.Comp.Sc.& Engg	24,64,204.46	31620	2495824.462	379439.6175	4,11,059.62
Equip.Elec.& Comm	77,40,871.72	95135	7836006.72	1141623.28	12,36,758.28
Equip.Elect.	66,48,773.56	156040	6804813.562	1929256.558	20,85,296.56
Equip.Mch.Shop	2,32,848.13	948	233796.1283	11372.57167	12,320.57
Equip.UNESCO	31,71,233.69	0	3171233.69	1	1.00
Equip.Humanities	9,71,287.39	156650	1127937.392	2467733.888	26,24,383.89
Equip.Inst.Mgmt	1,54,77,975.58	254083	15732058.58	3048988.135	33,03,071.14
Equip.IT	93,87,853.23	79106	9466959.226	949264.8138	10,28,370.81
Equip.Maths	2,86,460.10	2886	289346.0954	34634.98455	37,520.98
Equip.MCA	38,23,984.57	33256	3857240.568	399076.6319	4,32,332.63
Equip.Mech.	92,32,387.99	182550	9414937.99	2192473.73	23,75,023.73
Equip.Metalurgical	69,22,771.95	101383	7024154.955	1216597.245	13,17,980.25
Equip.PG	92,207.00	0	92207	1	1.00
Equip.Physics	36,34,910.59	55899	3690809.592	688395.1078	7,44,294.11
Equip.Applied Mechanics	18,37,172.19	8917	1846089.187	107011.2735	1,15,928.27
Equip.Purc.out of Resc. Fund	43,19,403.08	0	4319403.08	1	1.00

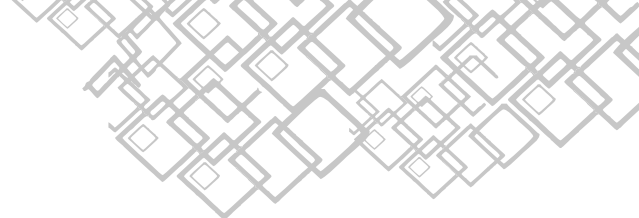




Exp-GOI for Faculty Resch	62,565.42	110	62675.41978	1325.380224	1,435.38
Inst. Net work	35,59,566.98	0	3559566.98	1	1.00
MODROB Workshop	6,84,126.17	3190	687316.1733	38275.82671	41,465.83
M.Tech Corrrission Sc.	12,15,666.17	0	1215666.17	1	1.00
Personal Comp Laptop	10,77,999.00	0	1077999	1	1.00
REC- Phy. Poly Proj 01-02	2,199.00	0	2199	1	1.00
Resc. Proj	81,40,831.52	145557	8286388.52	1746689.26	18,92,246.26
Teaching Aids	39,42,385.80	13332	3955717.804	159979.7658	1,73,311.77
VSAT with ER Net	14,59,854.27	0	1459854.271	0.998694984	1.00
Equip. & Fur Exam Cell	23,64,245.73	283937	2648182.73	4224464.27	45,08,401.27
Equip. High Vol.Lab	1,25,98,218.59	132047	12730265.59	1584568.412	17,16,615.41
Equip.MBA	55,449.40	11675	67124.39572	174890.6043	1,86,565.60
Tot.Stn. & polter for Constn. Cell	2,11,350.82	2098	213448.8201	25171.17992	27,269.18
Equip.Physics Traning Lab	5,15,242.00	8658	523900.0025	103891.9975	1,12,550.00
Dissel Gen.Set	85,30,335.74	106206	8636541.736	1274473.264	13,80,679.26
Equip. Bio Tech	97,50,143.48	161293	9911436.483	1935512.517	20,96,805.52
Equip. Internal Tele	42,22,012.20	65317	4287329.2	783801.8004	8,49,118.80
Equip.Geology	8,66,794.96	19627	886421.9618	235520.0382	2,55,147.04
Equip.Earthquake lab	16,15,014.54	22018	1637032.539	264217.4613	2,86,235.46
Equip. Workshop	1,43,185.36	2158	145343.3563	25897.64369	28,055.64
Equip. Constn.cell	36,841.28	677	37518.27572	8117.724281	8,794.72
Equip.Estate Deptt	17,37,003.97	57449	1794452.967	689392.0333	7,46,841.03
Equip.Liabrary	19,27,327.17	52968	1980295.166	635609.8336	6,88,577.83
Solar water heating system	42,25,728.88	82252	4307980.882	987019.1184	10,69,271.12
Equip.Store	2,93,954.54	4973	298927.5395	59672.46049	64,645.46
Equip. Video Conf.	35,87,527.20	65892	3653419.199	790695.8011	8,56,587.80
Equipment for institute	2,01,98,780.66	3121928	23320708.66	43593301.07	4,67,15,229.07
Equipment purchased	25,78,993.70	274390	2853383.7	3292678.3	35,67,068.30
Equipment- Estate Dept.	7,212.00	2404	9616	38459	40,863.00
Equipment for institute- 2020-21 ADDITION	23,44,476.00	1172238	3516714	19928049	2,11,00,287.00
Centre of excellence -2021-22 Addition	56,863.00	56863	113726	1023524	10,80,387.00
Equipment- CE Deptt -2021-22 Addition	1,245.00	1245	2490	22405	23,650.00
Equipment- Chemical Engg. Deptt 2021-22 Addition	2,913.00	2913	5826	52424	55,337.00
Equipment for Institute- Plant Machinery- 2021-22 Addition	6,53,345.00	653345	1306690	11760201	1,24,13,546.00
Equipment- Humanities Deptt- 2021-22 Addition	1,623.00	1623	3246	29204	30,827.00
Equipment- MME Dept	13,045.00	13045	26090	234810	2,47,855.00
Equipment for Institute- Plant Machinery- 2022-23 Addition		1947469.9	1947469.9	37001926.1	-
Equip.Chemistry 22-23 Addition		765	765	14535	-
Equip. Bio Tech 2022-23 Addition		30653	30653	582407	-
Equip.C.E 2022-23 Addition		16162.5	16162.5	307087.5	-
Equipment- Chemical Engg. Deptt 2022-23 Addition		3608.5	3608.5	68561.5	-
Equip.Comp.Sc.& Engg 22-23 Addition		355255.05	355255.05	6749845.95	-
Equip.Elec.& Comm 2022-23 Addition		9996	9996	189924	-
Equip.Elect. 2022-23 Addition		19675	19675	373825	-
Equipment- Estate Dept. 2022-23 Addition		24997.5	24997.5	474952.5	-
Equip.Estate Deptt 2022-23 Addition		331.2	331.2	6292.8	-
Equip.Geology 2022-23 Addition		53135.5	53135.5	1009574.5	-
Equip.Maths 2022-23 Addition		15875.45	15875.45	301633.55	-
Equip.Mech. 2022-23 Addition		9174.5	9174.5	174315.5	-
<b>Total (C)</b>	<b>24,81,00,026.50</b>	<b>10697151.1</b>	<b>258797177.6</b>	<b>163704438.6</b>	<b>12,46,59,609.72</b>



<b>2017-18</b>					
<b>Particulars</b>	<b>Opening Depreciation as on 01.04.2022</b>	<b>Depreciation during the year</b>	<b>Total Depreciation</b>	<b>WDV as on 31.03.2023</b>	<b>WDV as on 31.03.2022</b>
<b><u>Vehicles</u></b>					
Motor Vehicle	17,49,957.22	0	1749957.22	1	1.00
<b>Total (D)</b>	<b>17,49,957.22</b>	<b>0</b>	<b>1749957.22</b>	<b>1</b>	<b>1.00</b>
<b><u>Furniture &amp; Fixture</u></b>					
Equipment / Furniture for institute	4,37,81,869.83	2170817	45952686.83	15195719.99	1,73,66,536.99
Research Initiation Grant	82,58,737.68	1487438	9746175.68	11324384.32	1,28,11,822.32
Furniture for Class Room	67,29,382.59	194229	6923611.586	1359603.874	15,53,832.87
Furniture for 360 Boys Hostel	11,52,508.88	35909	1188417.879	251359.1213	2,87,268.12
Furniture for Guest house	32,723.73	1159	33882.73024	8117.26976	9,276.27
Furniture for Bio tech	48,747.19	2497	51244.18543	19192.81457	21,689.81
Furniture for Institute	6,82,57,382.85	9235462	77492844.85	67630185.15	7,68,65,647.15
Furniture for PTI	4,729.86	222	4951.864978	1548.135022	1,770.14
Furniture for CSE Deepth.	2,83,216.72	13269	296485.7197	92886.28026	1,06,155.28
Furniture UPS- 2019-20	3,14,619.00	104873	419492	978808	10,83,681.00
Equipment / Furniture for institute- 2020-21 ADDITION	2,19,248.00	96349	315597	1323051	14,19,400.00
Research Initiation Grant- 2020-21 ADDITION	5,49,848.00	96349	646197	5400455	54,96,804.00
Research Initiation Grant- 2021-22 Addition	1,60,782.00	160782	321564	1822195	19,82,977.00
Furniture for Institute 2021-22- Addition	3,09,547.00	309547	619094	3508195	38,17,742.00
Furniture for Guest house 22-23 Addition		1422.3	1422.3	17541.7	
Furniture for Institute 2022-23- Addition		3332473.275	3332473.275	41100500.73	
<b>Total (E)</b>	<b>13,01,03,343.33</b>	<b>17242797.58</b>	<b>147346140.9</b>	<b>150033743.4</b>	<b>12,28,24,602.95</b>
<b><u>Office Equipment</u></b>					
Industry institute Interaction	7,12,754.95	0	712754.95	1	1.00
Digital Copier & Xerox Machine	2,23,092.33	26708	249800.325	169149.675	1,95,857.68
<b>Total (F)</b>	<b>9,35,847.28</b>	<b>26708</b>	<b>962555.275</b>	<b>169150.675</b>	<b>1,95,858.68</b>
<b><u>Computer Peripherals</u></b>					
Computer Centre	1,15,74,766.90	0	11574766.58	0	(0.32)
Comp.Sc. & Engg	1,30,60,868.20	0	13060868.2	1	1.00
Comp. Soft.for College	17,99,840.36	0	1799840	0.000166739	(0.36)
PC's with Access.	2,83,66,914.56	0	28366915	0.004418116	0.44
Computers and comp. peripherals for Institute	4,40,79,706.64	0	44079706.64	0	-
Comp.peripherals for Comp.Cent	57,93,959.29	133870.71	5927830.001	-0.000522624	1,33,870.71
Computer Software- 19-20	13,58,704.00	0	1358704	0	-
Computer Software- 20-21	35,08,000.00	877000	4385000	0	8,77,000.00
Computers and comp. peripherals for Institute- 20-21 ADDITION	64,15,906.00	3207953	9623859	6415906	96,23,859.00
Computer and Computer Peripherals- 2021-22 Addition	49,41,027.00	4941027	9882054	14823082	1,97,64,109.00
Computer Software for College- 2021-22 Addition	5,08,958.00	508958	1017916	1526872	20,35,830.00
Computers and comp. peripherals for Institute 2022-23 Addition		7079335	7079335	28317339	
Comp.peripherals for Comp.Cent 2022-23 Addition		1590747	1590747	6362988	
Computer Software for College- 2022-23 Addition	-	267600	267600	1070400	
<b>Total (G)</b>	<b>12,14,08,650.95</b>	<b>18606490.71</b>	<b>140015141.4</b>	<b>58516588</b>	<b>3,24,34,669.47</b>



<b>Electrical Installation</b>					
11 KV Elec. Inst.	6,06,639.95	0	606639.95	1	1.00
33 KV Transmission line	4,48,28,600.55	2142345	46970945.55	25708139.45	2,78,50,484.45
Elec. Sub Stn.	21,87,172.75	88251	2275423.749	1186093.191	12,74,344.19
250KV line with Elec.Sub.Stn.	2,85,881.53	2953	288834.5319	35428.4881	38,381.49
Equipments for Institute	-	0	0	0	-
Furniture for Institute	-	0	0	0	-
<b>Total (H)</b>	<b>4,79,08,294.78</b>	<b>2233549</b>	<b>50141843.78</b>	<b>26929662.13</b>	<b>2,91,63,211.13</b>
<b>Liabrary Books</b>					
Book bank	47,94,860.53	346853	5141713.532	1387410.738	17,34,263.74
Liabrary Book Bank	1,92,35,382.41	1860108	21095490.41	7440434.592	93,00,542.59
Liabrary Books	9,58,71,899.14	11012404	106884303.1	45899852.42	5,60,46,507.42
Revenue fund Capitalised	1,00,80,598.91	0	10080598.91	1	1.00
Library Journal (Assets)	71,22,010.54	1559564	8681574.539	7126315.461	86,85,879.46
Library Books- 22-23 ADDITION	-	1934957.9	1934957.9	17414619.1	-
<b>Total (I)</b>	<b>13,71,04,751.53</b>	<b>16713886.9</b>	<b>153818638.4</b>	<b>79268633.31</b>	<b>7,57,67,194.21</b>
<b>Intangible Assets</b>					
E Book Ejournal & Data base	15,07,41,759.00	28389716.52	179131475.5	6668124.998	(0.00)
E Book Ejournal & Data base 2022-23 ADDITION	-	7251677.4	7251677.4	10877516.6	-
<b>Total (I)</b>	<b>15,07,41,759.00</b>	<b>35641393.92</b>	<b>186383152.9</b>	<b>17545641.6</b>	<b>(0.00)</b>
	<b>15,07,76,617.01</b>				
	<b>34,858.01</b>				
<b>TEQIP Assets</b>					
Building (TEQIP-I)	-	0	0	9897307	98,97,307.00
Equipment TEQIP-I	-	0	0	155065026	15,50,65,026.00
Vehicle(TEQIP-I)	-	0	0	515937	5,15,937.00
Furniture (TEQIP-I)	-	0	0	7998127	79,98,127.00
Library Books (TEQIP-I)	-	0	0	11513246	1,15,13,246.00
<b>Total (K)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>184989643</b>	<b>18,49,89,643.00</b>
<b>Grand Total (A+B+C+D+E+F+G+H+I+K)</b>	<b>1,63,66,11,956.38</b>	<b>168865644.2</b>	<b>1805477600</b>	<b>3660248237</b>	<b>58,03,40,478.77</b>



**SCHEDULE - 3C  
UNUTILISED GRANTS FROM UGC, GOVERNMENT OF INDIA AND STATE  
GOVERNMENT**

Amount in  
Rupees

	Current Year	Previous Year
<b>A. Plan Grants Government of India</b>		
Balance B/F	23700000.00	23700000
Add: Receipt during the year	271553000.00	271553000
Total(a)	<b>295253000.00</b>	295253000
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure	231763174.00	231763174
Total(b)	<b>231763174.00</b>	231763174
Unutilized carried forward (a-b)	<b>63489826.00</b>	63489826
<b>B. UGC Grant : Plan</b>		
Balance B/F		
Add: Receipt during the year		
Total(c)	0	0
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total(d)	0	0
Unutilized carried forward (c-d)	0	0
<b>C. UGC Grant : Non Plan</b>		
Balance B/F		
Add: Receipt during the year		
Total(e)	0	0
Less: Refund		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total(f)	0	0
Unutilized carried forward (e-f)	0	0
<b>D. Grant from State Govt.</b>		
Balance B/F		
Add: Receipt during the year		
Total(g)	0	0
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total(h)	0	0
Unutilized carried forward (g-h)	0	0
<b>*Grand Total (A+B+C+D)</b>	<b>63489826.00</b>	63489826



**Scanned Copy of  
Separate Audit Report  
Of the Annual Account  
For the year  
2022-23**



O/O THE DIRECTOR GENERAL OF AUDIT (CENTRAL),  
KOLKATA  
महानिदेशक लेखा परीक्षा का कार्यालय (केंद्रीय) , कोलकाता  
8 K S Roy Road  
GIP Building  
Kolkata , West Bengal  
PIN 700001



Ltr No: INSPECTION WING/2023-2024/DIS-1143162  
Date: 22 Sep 2023

To,

1 The Director, National Institute of Technology, Durgapur, Mahatma Gandhi Avenue, Durgapur, PIN-713209

Subject: Separate Audit Report on the accounts of the National Institute of Technology, Durgapur, for the financial year 2022-23

Sir/Madam,

A copy of the Separate Audit Report, alongwith Annexure, on the accounts of the National Institute of Technology, Durgapur, for the financial year 2022-23, is forwarded to the Director, National Institute of Technology, Durgapur, Mahatma Gandhi Avenue, Durgapur, PIN-713209, for information and necessary action.

Arrangement may please be made for preparation of Hindi Version of the Separate Audit Report, with Annexure, at your end, and for sending the same directly to the Ministry.

It may please be ensured that the Audited Accounts and the Separate Audit Report, along with Annexure, are placed before the apex body, for consideration and adoption, before the same are sent to the Government for being placed in the Parliament.

A copy of the printed Annual Report, for the financial year 2022-23 (both English and Hindi Version), containing the Audited Accounts and the Separate Audit Report, along with Annexure, as laid before the Parliament, may please be forwarded to this office, for necessary action at this end.

Yours faithfully,

Encls: As above

TANUSHREE BISWAS  
Deputy Director

Copy to:-

Ltr No: INSPECTION WING/2023-2024/DIS-1143162/C1  
1 Finance and Accounts Section, NIT, Durgapur for information  
Ltr No: INSPECTION WING/2023-2024/DIS-1143162/C2  
2 OAD-AB Section, for information







## **Separate Audit Report on the accounts of the National Institute of Technology, Durgapur for the year ended 31 March 2023**

We have audited the attached Balance Sheet of the National Institute of Technology, Durgapur, as at 31 March 2023, the Income and Expenditure Account and Receipts and Payments Account, for the year ended on that date, under Section-19(2) of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971, read with Section 22(2) of the National Institutes of Technology Act, 2007. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements, based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller and Auditor General of India (CAG) on the accounting treatment only, with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions, with regard to compliance with the Law, Rules and Regulations (i.e., Propriety and Regularity aspects) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/CAG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.



4. Based on our audit, we report that:
- i. We have obtained all the information and explanations, which, to the best of our knowledge and belief, were necessary for the purpose of our audit;
  - ii. The Balance Sheet and Income and Expenditure Account/Receipts and Payments Account, dealt with by this report, have been drawn in the revised format of Accounts prescribed by the Ministry of Education (erstwhile Ministry of Human Resource Development), Government of India, for Central Education Institutions, vide order No.29-4/2012-PD dated 17 April 2015.
  - iii. In our opinion, proper books of accounts and other relevant records have been maintained by the National Institute of Technology, Durgapur, as required, insofar as it appears from our examination of such books.
  - iv. We further report that

#### **Comments on Accounts**

##### **A Balance Sheet**

##### **1.1 Liabilities**

##### **1.1.1 Current Liabilities and Provisions (Schedule 3): ₹33.30 crore**

Despite similar mention in the previous year's audit report, and in violation of the Format of Accounts approved by MoE, the above head was overstated by ₹9.77 crore, due to inclusion of the fund balances and interest, of the 'Contributory Provident Fund' (₹9.77 crore). This also resulted in overstatement of the 'Current Assets' (Schedule 7) by same amount.

##### **1.2 Assets**

##### **1.2.1 Current Assets (Schedule 7): ₹261.97 crore**

The above head was understated by an amount of ₹3.44 crore due to non-depiction of Prepaid expense (proportional expense) in respect of annual subscription of e-journal for 2023-24. The Institute has erroneously booked an amount of ₹4.93 crore as intangible assets which are annual



Subscriptions for database and e-journals spanning over the period 22-23 (₹1.49 crore) and 23-24 (₹3.44 crore). This has also resulted in overstatement of fixed assets by the same amount.

## **B Income and Expenditure Accounts**

### **2.1 Expenditure**

#### **2.1.1 Academic Expenses (Schedule 16): ₹1.61 crore**

The Institute has erroneously booked an amount of ₹4.93 crore as intangible assets which are annual subscriptions for database and e-journals spanning over the period 2022-23 and 2023-24. Resultantly, Academic Expenses did not include an amount of ₹1.49 crore as proportional expenditure incurred for annual subscription of e-journals and databases for the year 2022-23 which needed to be booked as Academic Expenses. This has resulted in understatement of Academic Expenses and overstatement of excess of income over expenditure by the same amount.

#### **2.1.2 Depreciation (Schedule 4): ₹19.56 crore**

The above head was understated by an amount of ₹0.27 crore due to charging of depreciation at the rate of 20% (applicable for 'Computer Peripherals') instead of 40% as applicable for 'Compute Software (intangible Asset)', as the Institute had included Computer Software valuing ₹1.37 crore under the Asset head 'Computer Peripherals'. This has further resulted in overstatement of excess of Income over Expenditure.

## **C General Comments**

3.1 The Institute had not collected any Certificate of Accrued Interest from Bank. Instead calculated Accrued Interest on their own, considering a flat rate of Interest for all Investments.

3.2 In contravention to the Format of Accounts as prescribed by the MoE (Erstwhile MHRD), the Institute has not depicted its utilisation of Capital Grants in Schedule 10 and Schedule 3C. Instead, it has depicted the Unutilised Capital Grants received from the Ministry under Schedule 2 (Earmarked Fund).





3.3 The Institute had booked capital expenditure during the financial year as ₹1.89 crore in the 'Corpus/ Capital Fund' (Schedule 1), 0.96 crore in the 'Earmarked Fund', ₹21.91 crore in the 'Current Liabilities and Provisions' (Schedule 3C), ₹40.20 crore in the 'Fixed Assets' (Schedule 4) and ₹26.96 crore in the Receipts and Payments Account. This discrepancy of figures needs to be reconciled. Similar observation was raised in previous report.

3.4 The difference between Receipt of Plan Grant and Utilization is ₹352 which has not been depicted under Unutilised Grant.

3.5 As per Schedule 4 (Fixed Assets), Addition to Fixed Assets under the head Library Books was ₹1.93 crore. However, as per the Accession Register, the figures for the year 22-23 was shown as ₹0.77 crore. The figures need to be reconciled.

3.6 Current Liabilities amounting to ₹4.82 lakh has remained unadjusted under the head 'Sundry Creditors EMD/SD for suppliers-TEQIP-1' for more than 5 years. Effective steps need to be taken for early disposal of the same.

3.7 In contravention to the Format of Accounts as prescribed by the MoE (Erstwhile MHRD), Investments from Earmarked Funds (Schedule 5) has not been depicted separately by the Institute.

3.8 Despite mentioned in the previous Report, the Institute has not made any actuarial provision towards retirement benefits and leave encashment of eligible employees, in terms of Accounting Standard 15.

3.9 Investments matured during the financial year could not be verified in audit due to non-availability of copy of investment certificates which are submitted in the Banks during encashment/reinvestment.

3.10 Despite mentioned in previous audit, in deviation from the Format of Accounts prescribed by MoE, three reserve funds, with a total balance of ₹5.00 crore, were created under the head 'Corpus/Capital Fund' (Schedule 1).



3.11 The Institute did not exhibit “Schedule-3(a) Sponsored Projects and Schedule 3(b) sponsored Fellowship and scholarship, as per the format of Accounts (MoE).

**D. Grants-in-Aid**

The National Institute of Technology Durgapur (NITD), is mainly financed by grants from the Government of India (GoI). For the financial year 2022-23, it received grants from the GoI, amounting to ₹180.52 crore (Revenue: ₹158.61 crore, which includes HEFA Interest: ₹0.43 crore and Capital: ₹21.91 crore). In addition, it had an opening balance of ₹6.71 crore from the previous financial year’s unspent grants. Out of the total grants of ₹187.23 crore, so available, it spent ₹179.18 crore (Revenue: ₹152.22 crore and Capital: ₹26.96 crore), leaving an unspent balance of ₹8.05 crore, as on 31 March 2023.

**E. Net Effect**

The net effect of the comments given in preceding paragraphs was that both-the Assets, as well as Liabilities-were overstated by ₹9.77 crore, as at 31 March 2023, and the surplus (being the Excess of Income over Expenditure) was overstated by ₹1.76 crore, for the year ended 31 March 2023.

v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income and Expenditure Account and Receipts and Payments Account, dealt with by this report, are in agreement with the books of accounts.

vi. In our opinion, and to the best of our information, and according to the explanations given to us, the said financial statements, read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in the Annexure to this Separate Audit Report, give a true and fair view, in conformity with accounting principles generally accepted in India.

a. insofar as it relates to the Balance Sheet, of the state of affairs of the National Institute of Technology, Durgapur, as at 31 March 2023 and



b. insofar as it relates to Income and Expenditure Account, of the *surplus*, for the year ended on that date.

**For and on behalf of the C&AG of India**

Place: Kolkata  
Date: 22.09.2023

*Debolina Thakur*  
(Debolina Thakur)  
Director General of Audit  
(Central), Kolkata





## Annexure

### **A. Adequacy of the Internal Audit System**

The Internal Audit System of the Institute is inadequate, on account of the following:

- i. There is no Internal Audit Manual, for use in the Internal Audit Wing.
- ii. The Internal Audit Wing functions as a pre-checker of all bills, before payments are made to vendors. The wing did not, however, prepare any Internal Audit Report.

### **B. Adequacy of the Internal Control System:-**

The Internal Control System of the Institute is inadequate, on account of the following:

- i. Charts of accounts are not in use.
- ii. Chart of accounts and accounting manual are not periodically verified and amended.
- iii. All suppliers' invoices are not routed through the accounting department.
- iv. The Fixed Asset Register is not being tallied with the financial accounts, on a periodic basis. Further, basic information in regard to Fixed Assets, such as the rates of depreciation, estimated life spans, accumulated depreciation, estimated salvage values etc., are not available in the Register.
- v. There is no procedure in place, for verification of the Fixed Assets of the Institute, on a periodic basis.
- vi. Stocks are not physically verified on annual basis.

### **C. Physical verification of Fixed Assets and Inventory**

The Institute did not conduct physical verification of its Fixed Assets and Inventories, during the financial year 2022-23.

### **D. Regularity in payment of Statutory Dues:**

The Institute was regular in payment of its statutory dues, for the financial year 2022-23.





# 63rd

## Annual Report

### 2022-2023

(APRIL 01, 2022-MARCH 31, 2023)

राष्ट्रीय प्रौद्योगिकी संस्थान दुर्गापुर  
**NATIONAL INSTITUTE OF TECHNOLOGY  
DURGAPUR**

M. G. Avenue, Durgapur -713209, West Bengal, India



An Institute of National Importance under Ministry of Education, Government of India