Annual Report

2023-24

राष्ट्रीय प्रौद्योगिकी संस्थान सिक्किम

National Institute of Technology Sikkim

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राष्ट्रीय प्रौद्योगिकी संस्थान सिक्किम

National Institute of Technology Sikkim

Contents

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INSTITUTE'S VISION

India has the capability and the responsibility to offer the World Science & Technology essentially with sustainability, through philosophy, conscience and value system. NIT Sikkim will play its role.

INSTITUTE'S MISSION

To develop the students as 'Thinking Engineers' by nurturing them in attaining and enjoying the technical and scientific excellence, global exposure and at the same time in beholding the philosophy and the values for India and the world as a whole.


SIKKIM

Message from the Director

Jean Piaget wisely observed, "The goal of education is not to increase the amount of knowledge, but to create the possibilities for a child to invent and discover, to create individuals capable of doing new things." Reflecting this vision, it is my privilege to present the National Institute of Technology Sikkim Annual Report for the financial year 2023-2024. This year, NIT Sikkim has made remarkable strides, demonstrating innovation, resilience, and creativity, even while operating from a temporary campus in a remote location. Despite these challenges, the Institute has excelled in academics and research, implementing advanced methodologies to achieve impressive outcomes. Our students have secured strong placements and contributed to the entrepreneurial ecosystem through their ventures. We also made significant improvements in our placement strategies and expanded national and international industry links, ensuring bright career opportunities for our graduating students.

NIT Sikkim offers a range of programs including four-year B.Tech. degrees in five disciplines, two-year M.Tech. and M.Sc. programs, and PhDs across engineering, sciences, and humanities. As part of our commitment to global education, the Institute actively participates in initiatives like Study in India (SII), ICCR, and DASA, facilitating diverse student admissions. This year, we enrolled 208 students, bringing the total student body to nearly 736. Aligned with the National Education Policy (NEP) 2020, we have updated our curriculum to support the Multiple Entry and Exit Policy and launched new B.Tech. and M.Tech. programs in Artificial Intelligence and Machine Learning. Our research partnerships with institutions such as IIT Gandhinagar and DRDO have been further strengthened, while initiatives like faculty development programs, traditional arts courses with 'The Art of Living,' and entrepreneurship programs continue to foster innovation and continuous learning. Additionally, the Academic Bank of Credit ensures seamless credit transfers across programs, empowering students with flexible educational pathways.

We continue to emphasize student integration and peer learning. Our Induction Program helps new B.Tech. students adjust to the academic environment, while the Peer Group Learning initiative promotes mentorship,

as senior students guide their juniors. Professional Practice courses in the B.Tech. program engage industry professionals to enhance employability. The digitization of academic awards through the National Academic Depository (NAD) has also improved efficiency. Furthermore, NIT Sikkim organizes educational exposure visits for school children and provides career counseling, aligning with our commitment to guiding the next generation of engineers.

During the financial year 2023-24, NIT Sikkim hosted two convocation ceremonies. The Fifth Convocation was held on April 8, 2023, at Tathagata Tsal (Buddha Park), Ravangla, and was graced by Padma Shri Dr. Bibek Debroy, Chairman of the Economic Advisory Council to the Prime Minister of India, as the Chief Guest. Dr. Komal Kapoor, Chairman and Chief Executive of the Nuclear Fuel Complex, served as Guest of Honor. During this ceremony, Director's Gold Medals for exceptional overall performance and Institute Gold Medals for academic excellence were awarded, along with eleven Departmental Gold Medals. The Sixth Convocation, held on November 25, 2023, at the same venue, saw Hon'ble Shri Lakshman Prasad Acharya, Governor of Sikkim, as the Chief Guest, with Hon'ble Shri Ramesh Kumar Saraogi, Chairman of the Board of Governors, NIT Sikkim, presiding over the ceremony. A total of 198 degrees were conferred, including 7 Ph.D.s, 31 M.tech.s, 16 M.Sc.s, and 144 B.Tech.s. As in previous years, top-performing students were honored with the Institute Gold Medal, Director's Gold Medal, and nine Departmental Gold Medals for outstanding achievements across both UG and PG programs.

Our focus on linking academic learning with industry requirements has equipped students for success in global markets. During the fiscal year, we hosted impactful webinars and sessions on VLSI careers, TOEFL and GRE preparation, Artificial Intelligence, Machine Learning, and opportunities in the Indian Navy. These activities have significantly enhanced students' technical skills and global exposure. Placement outcomes were impressive, with 113 offers and an average package of 9.86 LPA. Students secured positions at top firms such as Nvidia, Infineon, and IBM. Additionally, 250 B.Tech. students landed internships at renowned companies, while several pursued higher studies at prestigious institutions like IIT Madras and the University of Houston.

Campus life at NIT Sikkim has remained vibrant, with a wide range of cultural, sports, and awareness events. Highlights include the grand socio-cultural fest 'UDGAM 2k23,' which celebrated Indian culture with performances and guest artists, and 'Mission LiFE' on World Environment Day, focusing on environmental sustainability. The Institute also organized month-long yoga sessions to mark 'International Yoga Day' and held events for 'International Day Against Drug Abuse' and 'Akhil Bhartiya Shiksha Samagam.' Other key events such as 'Partition Horrors Remembrance Day,' 'Independence Day,' and 'Ek Bharat Sanskriti Sangam' promoted national unity and heritage, with one of our students winning a national dance competition. We also participated in the 'Jal Shakti Abhiyan' water conservation drive, 'G20 University Connect,' and 'Meri Maati Mera Desh,' fostering nationalism and civic responsibility. Events like 'Khadi Mahotsav' promoted traditional crafts, while 'Vigilance Awareness Week' raised awareness about corruption. Additionally, the 'Mera Pehla Vote Desh Ke Liye' seminar educated first-year students on their voting rights, and 'ATHLETIFIESTA 2023' showcased student athleticism.

This report is a brief overview of our progress, but the Annual Report 2023-2024 provides a more detailed narrative of our accomplishments. As we move forward, I am confident that NIT Sikkim is poised for even greater achievements. With sustained effort and commitment, we will continue to elevate the Institute to the highest levels of academic excellence and contribute meaningfully to building a strong, self-reliant India.

I would like to express my deep gratitude to the Ministry of Education and the Board of Governors for their continued guidance and support. I also extend my heartfelt appreciation to our dedicated students, staff, and faculty for their hard work and commitment, which have propelled NIT Sikkim to a new level of academic and scientific distinction.

With warm regards,

Jai Hind!

Introduction

Sikkim is an exotic North-Eastern state nestled in the Eastern Himalayas. Founded in the 17th century as a Buddhist Kingdom by Nyingma lamas, the school of Tibetan Buddhism, Sikkim takes immense pride in its rich and unique cultural heritage.

During its inception, Sikkim was populated by the Bhutias who migrated from Tibet as well as the Lepchas who were the original inhabitants of Sikkim and who are also described as "one of the most primitive communities of the world". The etymological name of 'Sikkim' is derived from two Limbu words: *Su* meaning 'new' and *Khyim* meaning 'palace' or 'house'. Today, Sikkim has earned international acclaim and recognition by becoming the first 100% Organic State in the world. Earning the title of "Organic State" and being internationally acclaimed has certainly brought laurels to the country. Sikkim added more feathers to its glory as it surpassed 50 other nominated policies to win the Gold Award for its State Policy on Organic Farming (2004) and Sikkim Organic Mission (2010), enabling it to become the first 100% Organic State in the world. The endeavor to win recognition by keeping alive the unique traditional methods of farming in compatibility with the modern mechanism of farming is indeed commendable. Organic farming is considered the agricultural system closest to the traditional Sikkimese way of farming, which is rain-fed with low external inputs and is in complete apathy to the use of chemicals.

The splendor and diversity of Sikkim's art, literature, rituals, culture, and dance are distinct and unique in its kind. The word 'Sikkim' perhaps connotes a mystic land of diverse culture and multifarious ethnic communities existing in oneness and peace. Nepali is the lingua franca of the state, but different communities speak different languages. Sikkim has eleven official languages viz, Nepali, Bhutia, Lepcha, Tamang, Limbu, Newari, Rai, Gurung, Mangar, Sunwar and English. The predominant religions are Hinduism and Buddhism; however, there are people who also follow Christianity, Islam, and Jainism. The Lepchas consider Munism as their traditional religion, which coexists with Buddhism and Christianity. Perhaps, Sikkim, fulfils the concept of unity in diversity by looking beyond the petty rituals of cultural disparity as it embraces the innate primary consciousness of its unique culture and tradition.

Sikkim remained a kingdom for a long time and a protectorate state of India before its merger in 1975 as the 22nd State. The Government of India has ventured to foster innovation and creativity in the North-Eastern States of India. Hence, the Government of India took an important decision to establish such institutions in this region along with other States of India. NIT Sikkim is the outcome of such an endeavor that aims to impart quality technical education to students by providing world-class infrastructure and advanced pedagogical tools.

The National Institute of Technology (NIT) Sikkim is foremost an educational Institution catering to the needs of high-quality technical education in the state of Sikkim. It is one among the ten newly sanctioned National Institutes of Technology by the Government of India through an Act of the Parliament as a part of

the 11th Five-year Plan in the year 2010. The objective of this establishment is to impart technical education of excellence and quality and also to foster research and development activities in the field of Science and Technology in order to produce quality human resources. The Government of India has accorded NIT Sikkim the status of "An Institute of National Importance" keeping in view its role in developing human resources of the highest skill and caliber in different fields of Science and Technology. Governed by the NIT Council, the Institute has four statutory bodies, namely, the Board of Governors, the Finance Committee, the Building and Works Committee and the Senate. The Institute is fully funded by the Ministry of Education, Government of India, New Delhi. The Institute enjoys the full financial and academic autonomy.

Since its inception in August 2010, the Institute is operating from a temporary campus, situated at Ravangla, South Sikkim. Despite various challenges that include but are not limited to extreme climate, poor transport, and small space of the campus, the Institute has been able to mitigate the teething problems and has progressed slowly but steadily in its pursuit of academic excellence. The Institute believes that rural development is essential for a balanced development of the nation; to this end the Institute makes every possible effort to enable unhindered exchange of knowledge as well as the benefit of Science and Technology to the poor and underprivileged. The Faculty Members, Staff and Students are engaged in extending help to other academic institutions across the state by being actively involved in social developmental activities. A remarkable feature of the Institute is its endeavor to bestow a sense of societal responsibility and belongingness to the people associated with it. This has paved the way for numerous initiatives by the Students, Faculty Members and Staff of NIT Sikkim for transforming the underprivileged into sound, empowered souls of the Nation.

National Institute of Technology Sikkim started its journey with three (3) Undergraduate Programs in Computer Science & Engineering, Electronics & Communication Engineering and Electrical & Electronics Engineering, with an intake of thirty (30) students each. At the moment, around seven hundred five (705) students are enrolled in NIT Sikkim. The Institute offers Undergraduate Programs in Civil Engineering, Computer Science & Engineering, Electrical & Electronics Engineering, Electronics & Communication Engineering, and Mechanical Engineering. The Postgraduate Programs are offered in Computer Science & Engineering, Electrical Engineering (Control, Power, and Electric Drives), Electronics & Communication Engineering and Chemistry. The Institute also offers Ph.D. Programs in all Engineering disciplines, Basic Sciences and Humanities.

The Institute believes in the holistic development of students. They are empowered with an insight into inculcating a strong inclination towards co-curricular and extra-curricular activities like technical, cultural, literary, and sports events. Under the guidance and leadership of Staff and Faculty Members, events like *Abhiyantran* – the Annual Technical Event, *Udgam*– the Annual Cultural Event and the Annual Sports have been organized. Such events help in nurturing the young

and energetic students of the institute as it tries to accomplish the growth of new ideas in the field of Science and Technology amidst an atmosphere of learning through innovation. An exhibition is held during the technical event where the students display prototype working models. Several workshops on emerging technologies and seminars by experts from industry and academia are organized during the event and otherwise. NIT Sikkim empowers the youth of the country through education and encourages them to participate in the holistic development of the nation which is an absolute necessity of the time.

As an Institute of higher learning, NIT Sikkim aims to impart technical knowledge, and instills moral values so that the graduating students become good citizens and good human beings benefitting society and the nation. The Institute is intent on exploring how the cultural diversity and traditional and religious heterogeneity of the state could impact the developing learners' intellectual capacity. Embracing such diversities of culture and tradition could lead to the germination of ideas of innovation and excellence and could also sharpen the intellect of the students through holistic development. Students at the institute have displayed commendable growth as they have adapted to the physical environment of Sikkim with its extremities of weather conditions and diversity in culture. The Institute justifies the meaning of complete learning by developing an aptitude for living in amity with new surroundings. Besides, its natural diversity exposes them to the world of flora and fauna and gradually trains their mind to appreciate nature and acknowledge its value which is a great need for this generation of students. In this rapidly evolving world of technology and brisk modernization, it is necessary to develop in students a judgment of living with and not without our rich biodiversity. Along with the learning programs offered, the Institute also offers a platform to the students to recognize and protect nature, breaking the myth of technical institutes being oblivious to such needs of preservation of nature and biodiversity.

Location

Sikkim is an ever-enchanting state with its elegant natural beauty of snowing mountains, luxuriant forests with exotic flora and fauna, pristine waterfalls, sacred lakes, holy caves, medicinal hot springs, and gentle streams. The snow-capped greenery with accessible mist and clouds magnifies the spectacular beauty of the place. It boasts of the third highest mountain in the world- Mt. Khanchendzonga which is also revered as the Guardian Deity of Sikkim. NIT Sikkim, since its inception in the year 2010, has been functioning from a temporary campus which is situated at Ravangla in South Sikkim.

Ravangla or Rawangla or Ravongla is a small town situated at an elevation of eight thousand (8000) ft in Namchi district of the Indian state of Sikkim. It experiences the Himalayan or high mountain type of climate where the weather fluctuates with altitude as well as snow and ice in the elevated areas. Ravangla witnesses snowfall during winter which can dip the temperature to sub-zero levels. The serene, tiny semi-urban agglomeration is situated at 60 kms from Gangtok, the capital city of Sikkim. This small town has been widely acclaimed for the construction of a one hundred and thirty (130) feet high statue of Lord Gautam Buddha at 'Buddha Park'.

The nearest railway station from the campus is New Jalpaiguri Railway Station, West Bengal which is approximately one hundred and eighteen (118) kms away from the campus. Air connectivity is available from Bagdogra & Pakyong Airport which is approximately one hundred and thirty-two (132) kms& seventy-four (74) kms respectively away from the Campus. The Institute has been successfully carrying out academic and research activities from the temporary campus confronting various obstacles placed by its physiography and other factors.

Campus

National Institute of Technology Sikkim at Ravangla is based on a campus that initially served as a 'Shelter home' for the citizens of Sikkim. This shelter home posed several teething challenges in getting transformed into a campus of 'An Institute of National Importance'. However, the Institute has carved a niche by establishing a name and reputation despite the limited resources that it had to make use of. Overpowering such hurdles of limited resources and hardships of space and environment through strong determination and reformative measures to enhance its aura and growth, NIT Sikkim is definitely an inspiration.

NIT Sikkim has invested arduous efforts to renovate existing structures into instructional buildings, administrative blocks, hostels, residence for Faculty and Staff etc.by compromising the size of each building so as to accommodate different branches of learning within the limited space. It is to be noted that due to the locational disadvantages, poor infrastructural facilities and minimum required living amenities in the campus and in Ravangla town such as improper housing facility, lack of medical facility, schools, and other basic essential services, retention of Faculty and Staff has been a huge challenge before the Institute administration. The numbers of Faculty and Staff leaving the Institute have been increasing over the years; however, in last few years the institute has been trying hard to retain good Faculty and Staff in the Institute by providing some basic living facilities knowing fully well that even it would not be as per even the minimum standards.

The Institute, within its limited campus area, is equipped with outdoor playgrounds, medical unit, and gymnasium for boys and girls along with other obligatory establishments. The present temporary campus of the Institute fails to accommodate all the students within the Institute premises, due to the increase in student intake. Therefore, the Institute has hired several well-constructed and semi-furnished buildings in the Ravangla town and are using them as Hostels. The Institute has total of fourteen building blocks which accommodates Six hundred and twenty seven students in one hundred and seventy-three rooms utilized as Boys' Hostel & Girls' hostels. Four building blocks which consists of twenty-four apartments are utilized as faculty and staff quarters.

A separate well-built Academic Building consisting of Classrooms, Computer Laboratory, Faculty Rooms and the Office of the Dean Student Welfare and the Dean Academic finds place within the campus. The first ever supercomputer in Sikkim "Param Kanchenjunga" is also situated in the old Academic Building. The Training and Placement Cell of the Institute is also housed in the same Block. However, the Super-computer Center is now old and is in need for up-gradation. The classrooms are now converted into smart classrooms and are equipped with room heaters and projectors.

The Administrative Building of the Institute has been recently renovated and houses the Director's Office and Secretariat, the Registrar Office, Office of the Dean Administration, Accounts Section, Conference/ Meeting Room, Examination Cell and a Pantry Room. Adjacent to the Administrative Building a Central Store and offices of Executive Engineer, Junior Engineer Civil and Electrical is now fully functional.

The Institute, previously, was unable to provide even the basic Laboratory facilities compelling the students to travel to distant educational institutions for completing their Laboratory Courses. As Laboratories are the crux of the curricula of any technical institution, the Institute has created sheds and is able to increase the build-up space in the temporary campus to mitigate the problem of paucity of space for Laboratory facilities and classrooms. But, considering the all-around rapid growth and to meet the desire of the Ministry to diversify the branches and departments of the Institute, these temporary arrangements are still inadequate. The temporary campus hinders the growth of the Institute. The establishment of the permanent campus for the Institute is the only viable solution to solve these long pending issues. A permanent campus with state-of-the-art facilities and World Class Infrastructure will not only take the Institute to new heights but also aid in human-capital formation and steer our students to world leaders.

At present a total area of 98.97 acres of land out of the 100 acres allocated by the Government of Sikkim for construction of permanent campus of NIT Sikkim at Dung Dung Block, Khamdong, Gangtok District, Sikkim has been handed over to the Institute. The BoG of the Institute has selected NBCC as the PMC for the construction of the permanent campus. The Institute awaits the fully developed campus to deliver more to the technical education and contribute to the development of the country with full caliber which the present temporary campus prohibits to undertake. However, strenuous efforts are made to provide adequate facilities to students to maintain the quality of learning.

The town of Ravangla is located at a distance of just 2.5 kms from the campus. Though the town offers essential utilities and services such as Banks, Post Offices and a Primary Health Centre but being a small town, it has limited amenities and Health Care facilities. The Institute is housed at a picturesque location with abundance of natural and scenic beauty. Kanchenjunga, Mt. Pandim, Mt. Siniolchu, Mt. Kabru are just a few of the major peaks that are clearly visible from Ravangla. The climate at this place is severe and extremely varied largely due to the variation in altitude. Moreover, the remote location and inadequate infrastructure pose huge challenges to the management of the Institute through its temporary campus.

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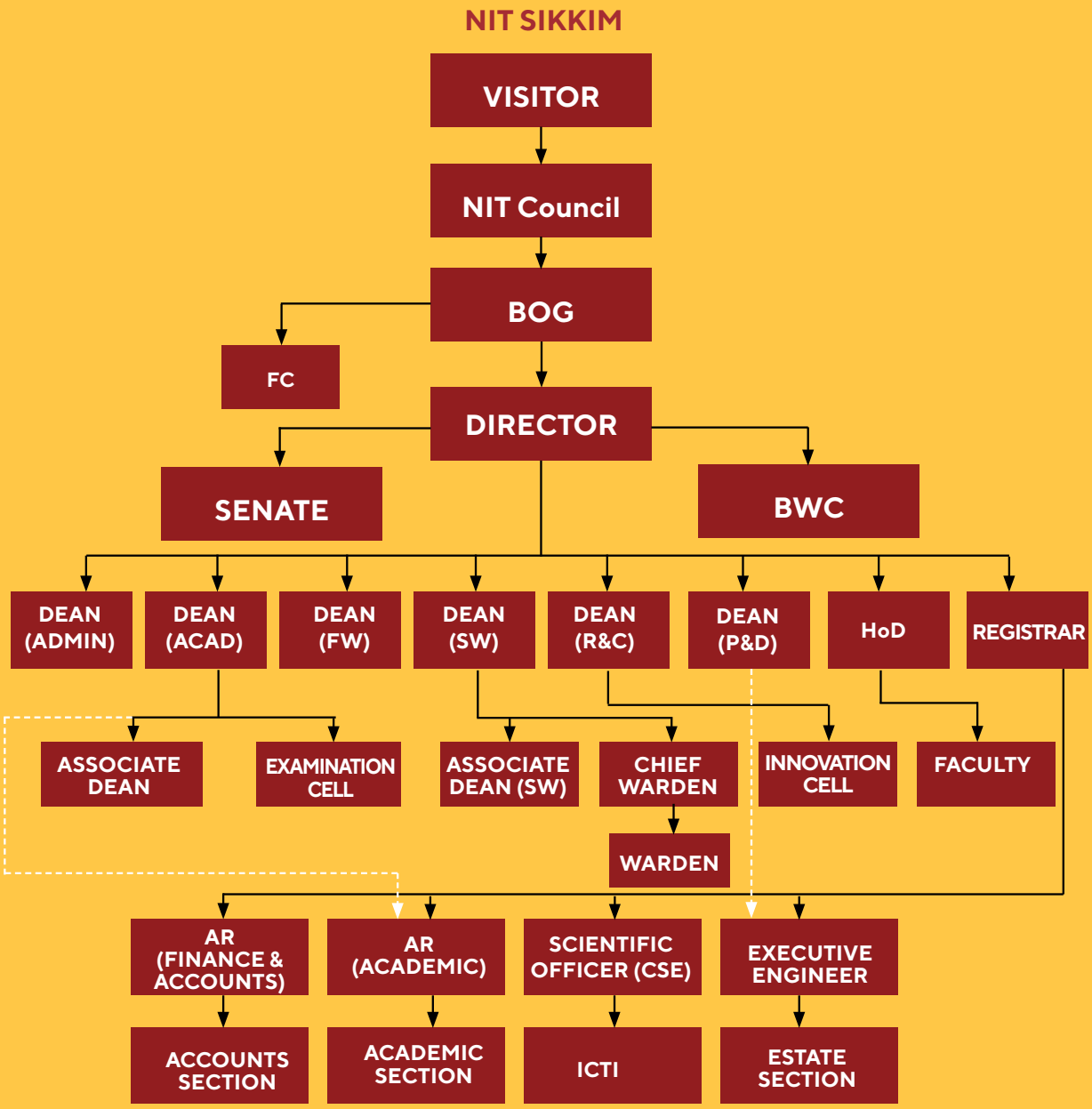
Administration

NIT Sikkim is an autonomous institution under the Government of India. As per NITSER Act 2007, the Institute is headed by the Director and administered by a Board of Governors. In the Board, there are representatives from the Government of India, the Government of Sikkim, industries, other institutions and the faculty members. The Director is the Principal Academic and Executive Officer of the Institute. He is assisted in his day-to-day work by Deans, Heads of the different Departments, Professor-in-Charges, Registrar and other officers and various committees of the Institute.

Organizational Structure



The Institute provides certain opportunity to students to administer their own affairs affecting the co-curricular residential and recreational activities through various committees, such as Institute Canteen Committee, Student's Aid Welfare Committee, Hostels and Mess Committee etc.

The BoG and Other Administrative Committees

BOARD OF GOVERNORS

Shri Ramesh Kumar Saraogi
Chairperson, Board of Governors, NIT Sikkim
Director, Saraogi Udyog Private Limited (SUPL), Kolkata, West Bengal, India
Email: chairman@nitsikkim.ac.in/ ramesh@sarogiudyog.com

Prof. Mahesh Chandra Govil
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NIT Council Nominee – 1

NIT Council Nominee (Woman) – 2

Director, IIT Guwahati/His Nominee
Director, IIT Guwahati
Email: director@iitg.ac.in

Dr. Ranjan Basak
Registrar (I/c) & Secretary, NIT Sikkim
Ravangla, South Sikkim
Email: registrar@nitsikkim.ac.in

FINANCE COMMITTEE

Shri Ramesh Kumar Saraogi
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Director, Saraogi Udyog Private Limited (SUPL), Kolkata, West Bengal, India
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Prof. Mahesh Chandra Govil
Director, NIT Sikkim
Ex-officio Member
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BUILDING AND WORKS COMMITTEE

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Shri Raj Kumar Mittal
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Dr. Aurobinda Panda
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Dr. Ranjan Basak
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MEMBERS OF THE SENATE

A	**Director**	
	Prof. Mahesh Chandra Govil Director, NIT Sikkim, Ex-officio Chairman	Chairman
B	**Prof. Virendra Singh** Professor, IIT Bombay	Member
C	**External Members**	
	Prof. Adrijit Goswami Department of Mathematics, IIT Kharagpur	Member
	Prof. Lalit K. Awasthi Director, NIT Uttarakhand	Member
	Prof. Nupur Tandon Dept. of Humanities & Social Science, MNIT Jaipur	Member
D	All HoDs & Deans, NIT Sikkim	Member
E	**Dr. Ranjan Basak** Registrar (I/c), NIT Sikkim	Secretary

REGISTRAR

Dr. Ranjan Basak Registrar (I/c) NIT Sikkim, Ravangla, South Sikkim 737139	Email: registrar@nitsikkim.ac.in

DEANs & HoDs

Dean Academic	Dr. Ranjan Basak
Dean Administration	Dr. Achintesh Narayan Biswas
Dean Faculty Welfare	Dr. Dhananjay Tripathi
Dean Student Welfare	Dr. Sourav Mallick
Dean Research & Consultancy	Dr. Pratyay Kuila
Dean Planning & Development	Dr. Aurobinda Panda
Associate Dean Academic (PG)	Dr. Molay Roy
Associate Dean Student Welfare	Dr. Debajit Saha
HoD Computer Science and Engineering	Dr. Pratyay Kuila
HoD Electronics and Communication Engineering	Dr. Sanjay Kumar Jana
HoD Electrical and Electronics Engineering	Dr. Aurobinda Panda
HoD Mechanical Engineering	Dr. Anil Lal S
HoD Civil Engineering	Dr. Joy Pal
HoD Mathematics	Dr. Ravi Srivastava
HoD Physics	Dr. Md. Nurujjaman
HoD Chemistry	Dr. Achintesh N. Biswas
HoD Humanities and Social Sciences	Dr. Dhananjay Tripathi

Officer In-Charge (FICs)

Sl. No.	Name of the Committee/ Cell/ Section	Faculty in-Charge/Officer in -Charge
1	Examination Cell	Dr. Sumit Saha
2	Health Care Services	Dr. Om Prakash
3	Games and Sports	Dr. Jai Gopal Gupta
4	Cultural Activities	Dr. Richa Mishra & Dr. Kriti Tewari
5	Central Library	Dr. Taraknath Kundu
6	Entrepreneurship and Innovation Cell	Dr. Hemant Kr. Kathania
7	External Relations and Outreach Activities	Dr. Anindya Biswas
8	Training and Placement Cell	Dr. Dhananjay Tripathi
9	Store and Purchase Section	Dr. Aurobinda Panda
10	Alumni Affairs Cell	Dr. Sangram Ray
11	ICTI (FIICTI shall be the Convener/Chief Coordinator)	Dr. Pratyay Kuila, Coordinator, Computing Devices
		Dr. Sarfaraj Alam Ansari , Coordinator, Campus Wide Networking
		Dr. Pankaj Kr. Keserwani, Advisor, Institute Website Development & Maintenance Mr. Gajendra S. Shekhawat, Coordinator, Institute Website Development & Maintenance
12	Publication and Printing	Dr. Dhananjay Tripathi

Sl. No.	Name of the Committee/ Cell/ Section	Faculty in-Charge/Officer in -Charge
13	Community Development and Awareness Programme (CDAP)	Dr. Pankaj Kr. Keserwani
14	Promotion of Indian Language	Dr. Dhananjay Tripathi
15	Vehicle and Transport Management Cell	Dr. Sourav Mallick
16	Landscaping, Gardening and Environmental Protection Cell	Dr. Anjan Kumar Ray
17	Chief Warden	Dr. Ravi Srivastava
18	Swachh Bharat Abhiyan and Fit India Movement	Dr. Om Prakash
19	Fit India Movement and Ek Bharat Shrestha Bharat	Dr. Sanjay Kumar Jana Dr. Pratyay Kuila
20	Outsource Manpower	Mr. Rewa Nath Sharma
21	Estate - Electrical	Dr. Pradeep Kumar
22	Estate - Civil	Mr. Rewa Nath Sharma
23	Annual Report	Dr. Dhananjay Tripathi

INTERNAL COMPLAINTS COMMITTEE

Committee Members

1.	Dr. Reshmi Dhara	Presiding Officer
2.	Dr. Nupur Tandon	External Member
3.	Mr. Jaslal Pradhan	External Member
4.	Dean Student Welfare	Member
5.	Dean Faculty Welfare	Member
6.	Ms. Chandra Kumari Rai	Member
7.	Mrs. Nishita Chettri	Member

List of Faculty Members

Sl.No.	Name of Employee	Department
1	Dr. Joy Pal	Civil Engineering
2	Dr. Anirban Banik	
3	Dr. Ankit Bhardwaj	
4	Dr. Krishna Kumar Maurya	
5	Dr. Pratyay Kuila	Computer Science & Engineering
6	Dr. Sangram Ray	
7	Dr. Md. Sarfaraj Alam Ansari	
8	Dr. Pankaj Kumar Keserwani	
9	Dr. Krishna Kumar	
10	Dr. Bam Bahadur Sinha	

Sl.No.	Name of Employee	Department
11	Dr. Sanjay Kumar Jana	Electronics and Communication Engineering
12	Dr. Hemant Kumar Kathania	
13	Dr. Reshmi Dhara	
14	Dr. Jeetendra Singh	
15	Dr. Vishal Vishnoi	
16	Dr. Neha Kailash Nawandar	
17	Dr. Aurobinda Panda	Electrical & Electronics Engineering
18	Dr. Anjan Kumar Ray	
19	Dr. Sourav Mallick	
20	Dr. Molay Roy	
21	Dr. Pradeep Kumar	
22	Dr. Nimai Charan Patel	
23	Dr. Abhishek Rajan	
24	Dr. Vivek Kumar	
25	Dr. Anil Lal S	Mechanical Engineering
26	Dr. Ranjan Basak	
27	Dr. Shambhunath Barman	
28	Dr. Jai Gopal Gupta	
29	Dr. Debajit Saha	
30	Dr. Biswajit Roy	
31	Dr. Achintesh N. Biswas	Chemistry
32	Dr. Taraknath Kundu	
33	Dr. Sumit Saha	
34	Dr. Dhananjay Tripathi	Humanities and Social Sciences
35	Dr. Ravi Srivastava	Mathematics
36	Dr. Om Prakash	
37	Dr. Md. Nurujjaman	Physics
38	Dr. Anindya Biswas	

List of Staff Members

S.No.	Name	Designation
1	Mr. Ram Prasad Nepal	Assistant Registrar, Academic & Student Welfare
2	Mr. Sahil Minda	Assistant Registrar, Finance & Accounts
3	Mr. Gajendra Singh Shekhawat	Scientific Officer, ICTI
4	Mr. Rewa Nath Sharma	Executive Engineer, Civil (Estate Section)

S.No.	Name	Designation
5	Mr. Amrit Sharma	Assistant Engineer, Electrical (Estate Section)
6	Mr. Bhaskar Bhattarai	Senior Technical Assistant, Civil (Estate Section)
7	Mr. Rahul Kumar Byahut	Senior Superintendent, Finance & Accounts
8	Ms. Chandra Kumari Rai	Superintendent, Finance & Accounts
9	Mr. Vishnu Kumar Sharma	Superintendent, Director Office
10	Mr. Amit Tamang	Senior Technical Assistant, ECE
11	Ms. Deepika Chettri	Senior Technical Assistant, EEE
12	Mr. Sumit Kumar	Technical Assistant, CE
13	Mr. Anil Gurjar	Technical Assistant, EEE
14	Mr. Pawan Kumar Kathaniya	Technical Assistant, EEE
15	Mr. Suneel Kumar Kushawaha	Technical Assistant, ME
16	Mrs. Chanda Moktan	Senior Technician, CE
17	Mr. Tapan Chhetri	Senior Technician, CSE
18	Mr. Sidharth Pradhan	Senior Technician, ECE
19	Mr. Manish Kumar	Senior Technician, EEE
20	Mr. Amit Maity	Senior Technician, ME
21	Mr. Suman Pathak	Senior Technician, CHEM
22	Mrs. Chandrama Majumdar	Senior Technician, CHEM
23	Mr. Happy Mondal	Senior Technician, PHY
24	Mr. Bapi Mondal	Senior Assistant, Director Office
25	Mr. Bharat Pradhan	Senior Assistant, Finance & Accounts & Store & Purchase
26	Mrs. Nishita Chettri	Senior Assistant, Registrar Office & Estb. Section
27	Mrs. Tshering Zangmo Bhutia	Senior Assistant, Student Welfare
28	Mr. Saikat Mistry	Technician, EEE
29	Mr. Mahaveer Gurjar	Technician, EEE
30	Mrs. Sonam Choden Tamang	Junior Assistant, Academic
31	Mr. Rajesh Kumar Gupta	Junior Assistant, Registrar Office
32	Mrs. Punam Singh	Senior Office Attendant, Student Welfare
33	Mr. Arvind Gupta	Office Attendant, Finance & Accounts
34	Mr. Bhavesh Chettri	Office Attendant, Director Office
35	Ms. Dil Kumari Chettri	Lab Attendant, CSE

ACADEMIC PROGRAMS AND AWARD OF DEGREES

Academic Programs

The Institute offers Four-year Undergraduate Programs leading to the Bachelor of Technology (B.Tech.) Degree in five disciplines, two years of Full-time Postgraduate Programs in specialized areas in the field of Engineering and Sciences leading to the Master of Technology (M. Tech.) and Master of Science (M.Sc.) Degrees. Similarly, Full-time/Part-time Research Programs leading to Ph.D. Degrees in the areas of Engineering/Technology/Sciences/ Humanities and Social Sciences are also offered.

Table-1: Department wise Programs offered

S. No	Departments	UG Programs	PG Programs	Ph.D. Programs
1	Civil Engineering	B. Tech. in Civil Engineering		Ph.D. in Civil Engineering
2	Computer Science & Engineering	B. Tech. in Computer Science & Engineering	M. Tech. in Artificial Intelligence and Machine Learning	Ph.D. in Computer Science & Engineering
3	Electronics & Communication Engineering	B. Tech. in Electronics and Communication Engineering	• M. Tech. in VLSI and Embedded System; • M. Tech. in Communication and Signal Processing	Ph.D. in Electronics & Communication Engineering
4	Electrical and Electronics Engineering	B. Tech. in Electrical and Electronics Engineering	• M. Tech. in Electrical Engineering (Power and Energy Systems) • M. Tech. in Electrical Engineering (Power Electronics and Drives)	Ph.D. in Electrical and Electronics Engineering
5	Mechanical Engineering	B. Tech. in Mechanical Engineering		Ph.D. in Mechanical Engineering
6	Chemistry		M.Sc. in Chemistry	Ph.D. in Chemistry
7	Mathematics			Ph.D. in Mathematics
8	Physics			Ph.D. in Physics
9	Humanities and Social Science			Ph.D. in English/ Economics

These Programs are planned and overseen by the Senate of the Institute. The Senate is the highest academic decision-making body of the Institute. The Senate is assisted by the Senate Standing Committee (SSC), the Senate Undergraduate Board (SUGB), and the Senate Postgraduate Board (SPGB) which help in implementing the decisions of the Senate. The Programs are periodically reviewed by the departments in consultation with the Expert Committee constituted by the Senate. The Expert Committees review and moderate the curriculum, syllabi, evaluation process, etc. of the Programs. The medium of instruction and evaluation of all the Programs are done in English. All the Academic activities are carried out as per the Academic Calendar approved by the Senate.

There was a delay in new admission for UG and PG programs by two-three months as compared to the normal situation, through Centralized Counselling for M.Tech. (CCMT), Centralized Counselling for M.Sc. (CCMN) and Central Seat Allocation Board (CSAB) 2022.

1.1 Admission Procedure:

Bachelor of Technology (B.Tech.): Admission to the B.Tech. Programs is done as per the Common Policy of the Government of India for CFTIs/NITs, based on merit in a National Level Test, namely, Joint Entrance Examination (JEE) Mains, conducted by the National Testing Agency (NTA). The seats are allocated by the joint Seat Allocation Authority (JoSAA)/ (CSAB) with 50% of the sanctioned seats filled under Home State Quota from the state of Sikkim and the remaining 50% from candidates of other States, purely based on merit/ ranking in JEE Main Examination through a Centralized Counseling System devised by the MoE, Govt. of India. Furthermore, a specified number of seats for foreign nationals/NRIs, selected under the policy laid down by Govt. of India (DASA, ICCR, SII, etc.), are reserved for direct admission to1st year of the Programs. Seats are also reserved for candidates belonging to the Scheduled Castes, Scheduled Tribes, Persons with Disabilities (PwD), Other Backward Classes, and Economically Weaker Sections as per the guidelines issued by the MoE.

Master of Technology (M.Tech.): The Admission to M.Tech. Degree Programs for the GATE qualified candidates are made through a Common Admission Process called Central Counseling for Masters' of Technology (CCMT). Admission for Sponsored candidates from Government Organizations/ Industries/CFTIs etc., through a Test/Interview/GATE Score, on a full-time basis, is also available. Sponsored candidates in M.Tech. Programs are not eligible to receive scholarships even if they qualify for GATE. Seats remaining vacant after the CCMT allocation are filled through an Institute Admission Test (IAT) conforming to the eligibility criteria set by the CCMT.

Master of Science (M.Sc.): The Admission to the M.Sc. course is made based on the IIT-JAM score through the process of Centralized Counseling for M.Sc. in NITs (CCMN). Seats remaining vacant after the CCMN allocation are filled through an Institute Admission Test (IAT) conforming to the eligibility criteria set by the CCMN.

Doctoral Programs (Ph.D.): Admissions to Ph.D. Programs (Regular/Part-time/Sponsored) are done through Institute Level Test/ Personal Interview conducted by the respective Departments.

Admission of Foreign Students: NIT Sikkim also considers application from foreign students for the following schemes:

a. Study in India (SII): https://www.studyinindia.gov.in/
b. Indian Council for Cultural Relations (ICCR): https://www.iccr.gov.in/
c. Direct Admission of Student Abroad (DASA): https://dasanit.org/dasa2023/

During 2023-24 one (1) student was admitted through DASA. Similarly, three (3) students joined through ICCR in 2022-23.

1.2 Admission Data 2023-24:

Table-2: Students Admitted in the Academic Year 2023-24

S. No	Departments	B. Tech.		M. Tech.		M.Sc.		Ph.D.
		Intake Strength	Actual Admission	Intake Strength	Actual Admission	Intake Strength	Actual Admission	Actual Admission
1	Civil Engineering	30	27					2
2	Computer Science and Engineering	40	40	15	13			7
3	Electronics & Communication Engineering	30	29	15	3			3
4	Electrical and Electronics Engineering	30	23	15	3			8
5	Mechanical Engineering	30	22					4
6	Chemistry					15	10	8
7	Physics							2
8	Mathematics							2
9	Humanities and Social Science							2
	TOTAL	**160**	**141**	**45**	**19**	**15**	**10**	**38**

Chart 1: Chart Showing the intake Strength and Actual Admission in 2023-24

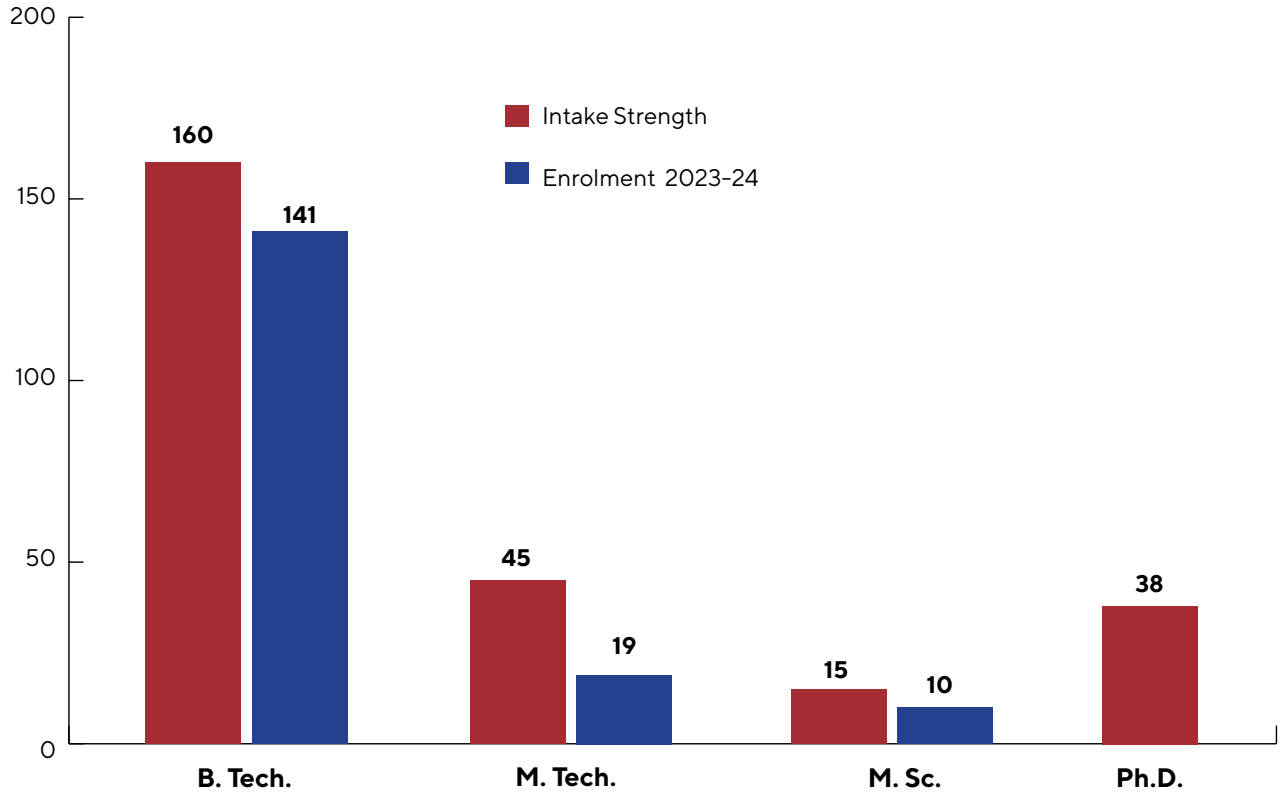


Table-3: Category and Gender wise breakup of Admission in the Academic Year 2023-24

Programs	Departments	Actual Admission in 2023-24	Category						Gender		Special Category
			SC	ST	OBCNCL	EWS*	GEN	Total	Male	Female	PwD
B. Tech.	CE	27	4	4	11	NA	8	27	20	7	0
	CSE	40	6	3	15	NA	16	40	33	7	1
	ECE	29	5	3	10	NA	11	29	23	6	1
	EEE	23	4	5	9	NA	5	23	19	4	0
	ME	22	4	3	9	NA	6	22	18	4	0
M.Tech.	CSE	13	2	1	4	NA	6	13	12	1	0
	ECE	3	1	0	1	NA	1	3	3	0	0
	EEE	3	0	1	2	NA	0	3	1	2	0
M.Sc.	Chemistry	10	2	3	2	NA	3	10	4	6	0
Ph.D.	All Dept.	38	3	0	11	NA	24	38	26	12	0
TOTAL		**208**	**31**	**23**	**74**		**80**	**208**	**159**	**49**	**02**

*Reservation of EWS to the Admission in B.Tech., M.Tech.& M.Sc. Programs in the year 2023-24 were not considered as it is exempted for the NIT Sikkim by the MoE.

Chart 2: Category wise percentage of admission in 2023-24 across the programs

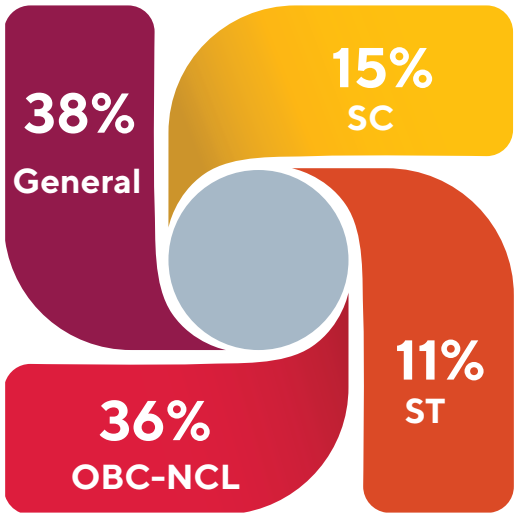


Chart 3: Gender wise distribution of students admitted in 2023-24

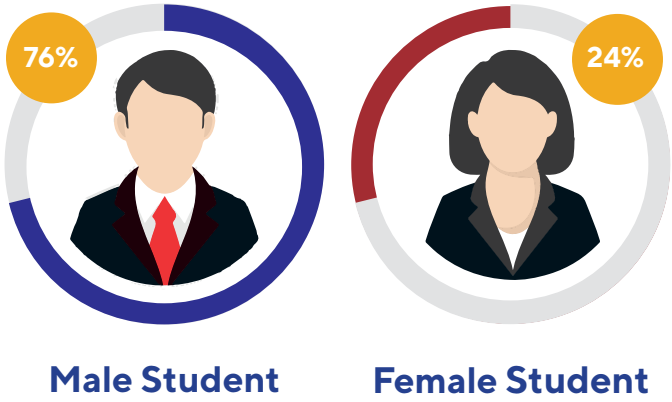
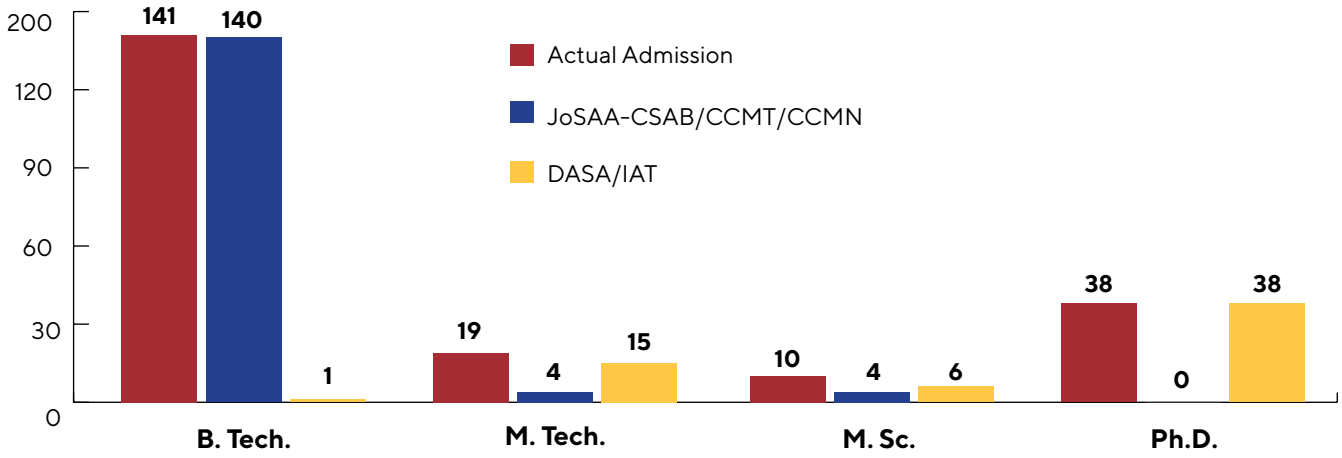


Chart 4: Model of admission in various programmes

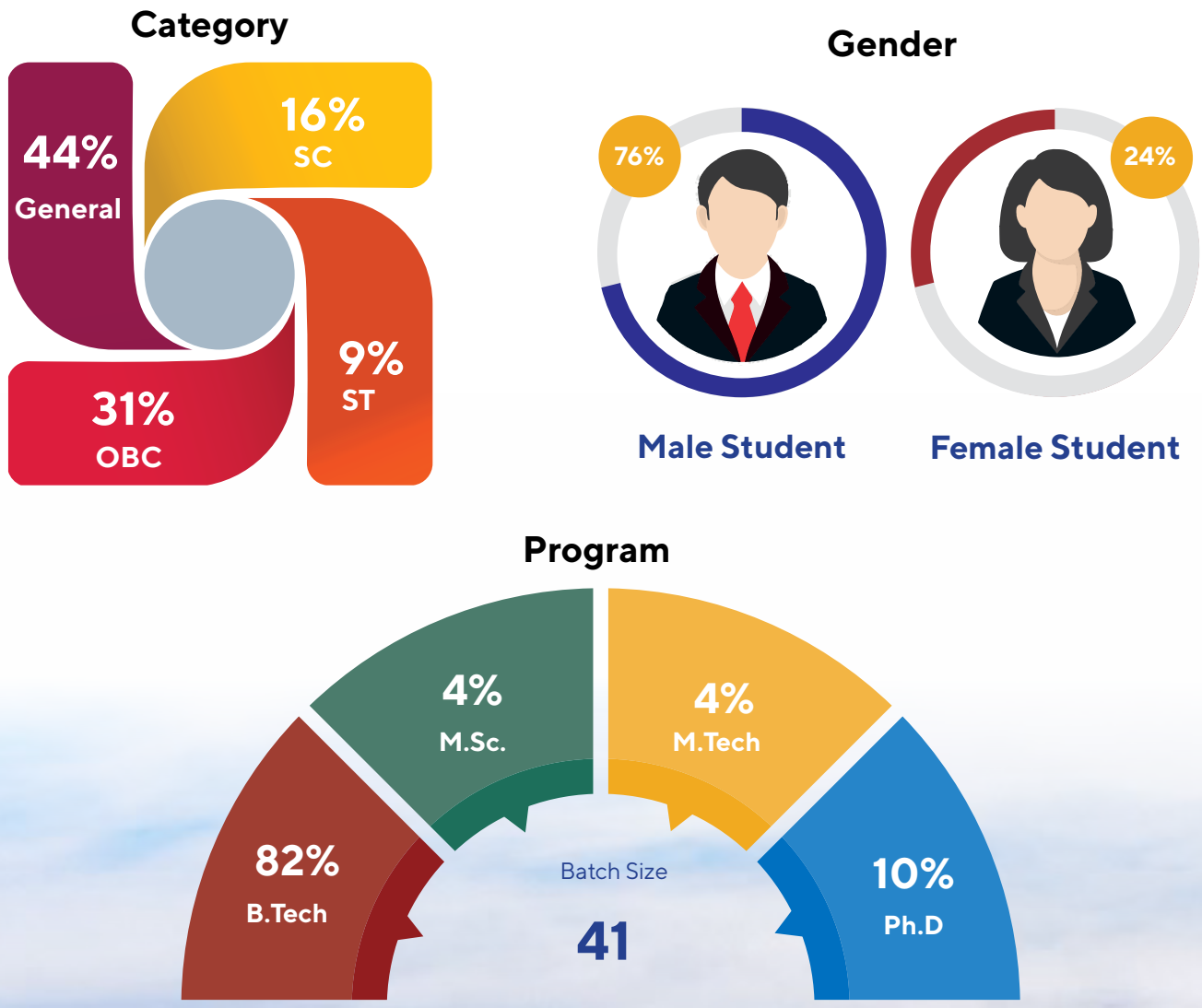


1.3 Total Students on Roll in the year 2023-24:

Table-4: Cumulative Strength of the Students during 2023-24

Program	Category				Gender			PwD
	SC	ST	OBC	GEN	TOTAL	Male	Female	
B.Tech.	97	61	196	225	579	455	124	6
M.Tech.	3	2	7	8	20	15	5	0
M.Sc.	2	3	5	9	19	7	12	0
Ph.D.	12	4	23	50	89	67	22	0
TOTAL	114	70	231	292	707	544	163	06

Chart-5: Distribution of Students in percentile (Category, Gender and Program wise)



1.4 Academic Calendar:

The Academic Calendar is prepared in such a way that all the curricular, co-curricular, and other related activities/ Programs of the Students are well distributed over the Semester.

The Academic Calendar prepared by the Academic Office is approved by the Senate. The major activities of Academic Calendar for the 2023-24 Academic Sessions are:

Table 5: Academic Calendar of Odd Semester 2023-24

Sl. No	Activities	B. Tech. 2nd, 3rd , 4th year (III/V/VII Sem), M. Tech. and M. Sc. 2nd year (III Sem)	B.Tech., M.Tech. & M.Sc. 1st Year
1	Orientation/ Induction Program		August 22 -26, 2023
2	Commencement of Class	July 24, 2023	August 28, 2023
3	First Mid-Term Examination	August 28-30, 2023	October 03 -05, 2023
4	Second Mid-Term Examination	October16-18, 2023	November 28 -30, 2023
5	Mid Semester Break	October 20-27, 2023	
6	Sports and Technical Fest "Abhiyantran"	November 17-19, 2023	
7	End of Theory Class	NA	December 08, 2023
8	Revision and Problem-Solving Class	NA	December 11 -15, 2023
9	End Term Examination	November 23-December 04, 2023	December 18 – 29, 2023
10	Practical/ Sessional Examination	December 06-09, 2023	January 15- 20, 2024
11	Winter Vacation	NA	January 01 – 12, 2023
12	Declaration of Result	December 20, 2023	January 29, 2024
13	Commencement of Even Semester	January 22, 2024	

Table 6: Academic Calendar of Even Semester 2023-24

Sl. No	Activities	B. Tech. 1st, 2nd, 3rd , 4th year (II, IV/VI/VIII Sem), M. Tech. and M. Sc. 1st & 2nd year (IIand IV Sem)
1	Commencement of Class	January 22, 2024
2	First Mid-Term Examination	February 26-28, 2024
3	SecondMid-Term Examination	April 8-10, 2024
4	End Term Examination	May 6-18, 2024
5	Practical/Sessional Examination	May 20-25, 2024
6	Declaration of Result	June 03, 2024
7	Summer course and Supplementary Examination	June-July 26, 2024
8	Commencement of Odd Semester 24-25	July 29, 2024

1.5 Institute Fees for 2023-24 Academic Session (per Semester):

Table-7

Programs	General/OBC {Annual Family Income 5 lakh and above} (in Rs.)	General/OBC {Annual Family Income between 1 to 5 lakh}** (in Rs.)	General/OBC {Annual Family Income less than lakh}** (in Rs.)	SC/ST/PwD** (in Rs.)
B.Tech.	70,160.00	28,494.00	7,660.00	7,660.00
M.Tech.	42,440.00	NA	NA	7,440.00
M.Sc.	14,940.00	NA	NA	7,440.00
Ph.D.	15,350.00 (FT) / 14,470.00 (PT)	NA	NA	7,850 .00 (FT) / 6,970.00 (PT)

FT= Full time, PT= Part-time
Note: The above fee doesn't include the Hostels / Mess Charges

***Tuition fee Waiver/Remission:** The tuition fees of B. Tech. Students belonging to SC, ST and PwD categories are fully waived as per MOE guidelines. Further, the General/ OBC Students whose Annual Family Income is less than one lakh get full tuition fee waiver and with Annual Family Income bracket between one lakh to five lakh get 2/3rd of the tuition fees remission from 2016 onward vide MOE notification no.33-4/2014-TS.III.*

The GATE-qualified M. Tech. Students receive Fellowships as do the Ph.D. Scholars. A good fraction of the remaining students of the Institute also receive Scholarships from NSP, State Governments, and other various Agencies.

1.6 Beneficiaries of Tuition Fee Exempted, Full Waivers, 2/3rd Fee Remission Categories of Students across the Programs:

Table-8

Programs	Full Tuition Fee Exempted		Full Tuition Fee Waiver	2/3rd Tuition Fee Remission	Tuition Fee Charged fully
	No. of SC/ST Students	No. of PwD Students	No. of OBC-NCL/ GEN Students {Annual Family Income less than lakh}	No. of OBC-NCL/ GEN Students {Annual Family Income between 1 to 5 lakh}	No. of OBC-NCL/GEN Students {Annual Family Income 5 lakh and above}
B.Tech.	158	06	197	85	124
M.Tech.	05	00	NA*	NA*	15
M.Sc.	05	00	NA*	NA*	14
Ph.D.	14	00	NA*	NA*	73

1.7 Examination and Evaluation:

All Undergraduate, Postgraduate Examinations and Ph.D. Course Work of the Institute are conducted by the respective Departments and centrally monitored by the Academic Section/ Examination Cell. The medium of examination for all examinations including dissertations and thesis is English.

The performance of a student is evaluated in terms of two indices viz; the Semester Grade Point Average (SGPA) for a Semester and Cumulative Grade Point Average (CGPA) which is the Grade Point Index for all the completed Semesters at any point of time. The Semester Grade Point Average (SGPA) is calculated based on Grades obtained in all courses in a Semester and Cumulative Grade Point Average (CGPA) is calculated based on Pass Grades in all completed Semesters.

For each course, a Grade is awarded based on Continuous Internal Assessment, Mid-Term Examinations, and End-Term Examinations for theory subjects with weightage of 20%, 30%, and 50% respectively. The paper setting and evaluation are done by the concerned Course Instructor of the Department. All evaluated answer scripts are shown to the students by the respective Course Instructors before submission of Grades to the Examination Cell.

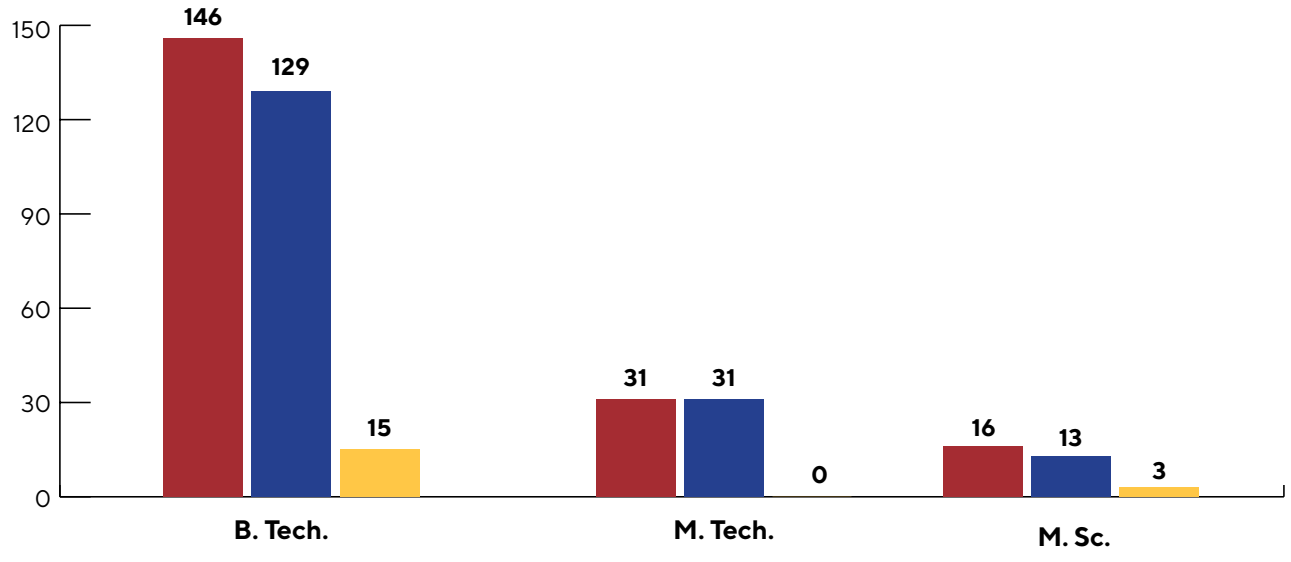
Award of Degrees

2.1 Final Year Result (June 2023):

Table-9

S. No.	Program and Departments	Exam Appeared	Scored MORE than 6.5 CGPA	Scored LESS than 6.5 CGPA	Total Pass	Pass Percentage
1	B.Tech. in Civil Engineering	24	23	01	24	98.6%
2	B.Tech. in Computer Science & Engineering	41	37	04	41	
3	B.Tech. in Electronics & Communication Engineering	29	28	01	29	
4	B.Tech. in Electrical & Electronics Engineering	32	28	03	31	
5	B.Tech. in Mechanical Engineering	20	13	06	19	
B.Tech. Total		146	129	15	144	
6	M. Tech in Computer Science & Engineering	11	11	00	11	100%
7	M. Tech in Microelectronics & VLSI Design	10	10	00	10	
8	M. Tech in Electrical Engineering (Control, Power and Electric Drives)	10	10	00	10	
M. Tech. Total		31	31	00	31	
9	M.Sc. in Chemistry	16	13	03	16	100%
M.Sc. Total		16	13	03	16	

Chart-6: Examination Appeared and Pass Outcomes in 2023



2.2 Award of Ph.D. Degree in April 2023- March 2024

Table-10

S. No.	Department	Name	Title of Thesis
1	Computer Science and Engineering	Mr. Uddalak Chatterjee	Development of Lightweight Authentication and Key Management Schemes for Internet of Things Frameworks and its Applications Using Elliptic Curve Cryptography.

S. No.	Department	Name	Title of Thesis
2	Physics	Mr. George Biswas	Entanglement and Other Quantum Correlations in Many-Body Systems.
3	Electronics and Communication Engineering	Mr. Somnath Mahato	Multi-Constellation Global Navigation Satellite System in Standalone and Real Time Kinematic Operation towards Enhanced Position Solution Accuracy.
4	Electronics and Communication Engineering	Mr Atanu Santra	Studies on Advantages of 'Navigation with Indian constellation' With Existing Global Navigation Satellite Systems in Obtaining Position and Timing Solutions.
5	Chemistry	Ms. Srijana Subba	Synthetic Studies on Macrolides: A Class of Antibiotics.
6	Electrical and Electronics Engineering	Mr. Sudhansu Sekar Das	Design and Development of Novel ZSI/QZSI Topologies and its Applications
7	Mechanical Engineering	Mr. Prasan Ralp Dewan	Experimental Investigation on Electric Discharge Machining of Nimonic C/263

Other Academic Activities

3.1 Implementation of New Education Policy 2020:

The National Education Policy 2020 (NEP 2020), which was approved by the Union Cabinet of India on 29 July 2020, outlines the vision of India's new Education System. The new Policy replaces the previous National Policy on Education, 1986. The Policy is a comprehensive framework for elementary education to higher education as well as vocational training in both rural and urban India. The Institute is committed towards the implementation of the National Education Policy 2020 as envisioned by the Government of India. The activities taken under NEP are as follows :

- Identification of thematic area and report prepared by refining the short-term and long-term goals for the implementation mechanism on NEP
- Implemented Multiple Entry and Exit Policy for UG and PG Programmes.
- Revision of Curriculum and syllabus in of UG and PG Programmes.
- Introduction of new courses i.e. B.Tech. and M.Tech. in AIML.
- Established academic and research collaborations with other reputed Institutions/Universities such as IIT Gandhinagar, IIT Delhi, IIT Rourkee, IIT Bombay, DRDO, NHIDCL etc. through MoU.
- Faculty Development Program (FDP).
- Adoption of ONE course initiated by 'The Art of Living' based on the concept of Lok Vidya for promotion of traditional arts.
- Introduction of ONE credit courses of Entrepreneurship and Start-Ups in UG curriculum.
- Introduction of Professional Practice courses in UG Programmes
- Implementation of Academic Bank of Credit (ABC) for transfer of credits.


SIKKIM EXPRESS

NIT Sikkim has holistically embraced and implemented NEP: Director

3.2 Induction Program:

A week-long Online Induction Program for the newly admitted students of B.Tech. Program was conducted. It aims to help the students to acclimatize with the new teaching-learning environment, rediscover the joy of learning, absorb curricular material and the institutional ethos with greater ease, and enrich the quality of Faculty-Student interactions in the years to come. The program contains a series of activities including testing the ability of students in literary areas, departmental induction, lectures on effective handling of peer pressure, universal human values, extra-curricular activities such as yoga, meditation and lectures from eminent personalities from reputed industries, social activists and entrepreneurs.

3.3 Peer Group Learning:

The Institute has launched a novel initiative of Peer Group Learning wherein the senior Students/ alumni are invited to teach/ mentor the junior Students. The initiative has been envisaged to develop aspects of professionalism in student tutors, supplement the regular teaching-learning process and contribute to the development of fellowship in the student community.

3.4 Professional Practice:

Professional Practice forms an important part of the Undergraduate B.Tech. Curriculum. In order to broaden the horizon of the students, experts working in various professional organizations are invited to deliver lectures to students, as a part of this course. The initiative is likely to enhance the employability of the students in professional organizations.

3.5 Memorandum of Understanding (MOUs):

The Institute is striving to expand its horizons for the growth and development of Academic Research in diverse fields of science and technology. In the past, the Institute has signed many Memorandum of Understanding (MoU) for Academic Research and Collaboration with reputed academic institutions and organizations viz, •IIT Bombay •IIT Bhilai •IIT Guwahati •IIT Delhi •IIT Roorkee •IIT Gandhinagar •MNIT Jaipur •The Chatterjee Group (TCG) Lifesciences, Kolkata, •NHIDCL •DRDO •SIST •NIPER Kolkata •VNIT Nagpur • Bureau of Indian Standards.

3.6 Digitization of Academic Awards under National Academic Depository (NAD):

The academic awards of the students in the form of grade sheets and degree certificates of pass-out batches of UG and PG programs and existing students till the year 2023 have been published in the National Academic Depository (NAD) through Digi-locker platform under the Ministry of Electronics and Information Technology (MeitY). This will facilitate the students to access the true certified copy of their awards as and when required. NIT Sikkim has hosted a workshop on NAD, Digilocker and ABC for all the educational establishments of Sikkim to sensitize on digital empowerment, digital transformation and mandates of academic depository as envisioned in the NEP 2020.

3.7 Educational Exposure for School Students:

The Institute invites School Students for educational tours/ exposure visits from across the state of Sikkim. The purpose of this activity is to inspire and motivate students of the state to take up higher learning in Science and Engineering. The Technical Staffs of the Institute take them on a guided tour of the campus including various Laboratories and Workshops, the Super Computer and Smart Classrooms. The Faculty Members also interact with School Students and apprise them of the myriad opportunities available in the fields of Science and Engineering and the Entrance Examinations which lead to these opportunities.

3.8 Awareness Generation and Career Counseling for School Students:

Higher technical educational institutes in the state of Sikkim are few in number. Realizing the needs and interest of the school students, NIT Sikkim has developed and distributed posters, banners and leaflets to all the higher secondary schools of Sikkim with readymade information on the Joint Entrance Examination (JEE), admission procedure in the CFTIs/ University in the higher technical education. The information also contains professional advice on a student's career path based on their academic performance, aptitude, and interests. The objective is to encourage school children to pursue the subject of their choice and be better equipped to make more informed decisions about their future. It allows them to explore possible pathways and be more practical in their approach towards the desired goal.

3.9 Senate Meeting:

The Senate is the highest Academic Body of the Institute. It is constituted under Section 14 of the NIT Act 2007. All the major decisions related to academic matters are considered and approved by the Senate. The Director of the Institute is the Chairman of the Senate. The Meetings of the Senate were convened on the following dates during 2023-24:

- 24thSenate Meeting on 27th May, 2023
- 25thSenate Meeting on 18th July, 2023
- 26thSenate Meeting on 20thNovember, 2023
- 27thSenate Meeting on 9th February, 2024

3.10 Convocation:

During the financial year 2023-24, the Institute has organized two convocation events for graduated students of 2022 and 2023.

3.10.1. Fifth Convocation:

The Fifth Convocation Ceremony was observed on the 8th of April 2023 at Tathagata Tsal (Buddha Park) Ravangla. The Chief Guest of the occasion was Padma Shri Dr. Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister of India. Dr. Komal Kapoor, Chairman and Chief Executive, Nuclear Fuel Complex, Department of Atomic Energy, Govt. of India graced the occasion as the Guest of Honor. Prof. Mahesh Chandra Govil, Director of NIT Sikkim presided over the 5thConvocation ceremony.

The Director Gold Medal was awarded to Ms. Aditi Parashar for her best overall performance and Institute Gold medal to Ms. Anjali Roy for her best academic performance among the B. Tech graduates. Apart from the above, eleven students received the Departmental Gold Medals for academic excellence.

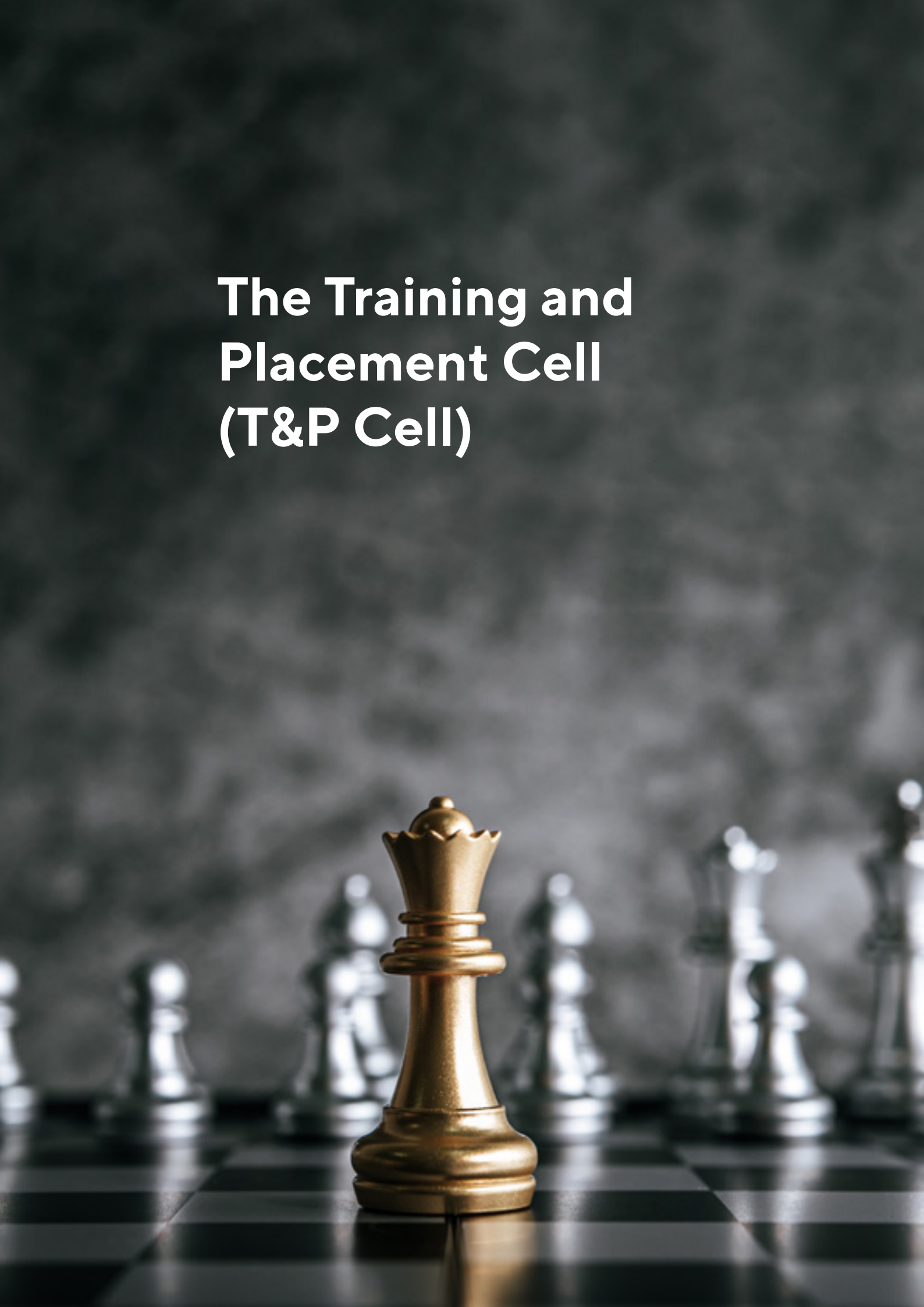
3.10.2. Sixth Convocation:

The 6th Convocation ceremony was organized on 25th November, 2023 at Buddha Park, Ravangla. The Hon'ble Governor of Sikkim Shri Lakshman Prasad Acharya graced the event as the Chief Guest. The ceremony was presided over by Shri Ramesh Kumar Saraogi, Chairman, Board of Governors, NIT Sikkim. Prof. Mahesh Chandra Govil, Director of NIT Sikkim chaired the event and presented the Institute report on the 5th Convocation ceremony.

A total of 198 degrees were awarded to the graduating students of 2023 during the convocation. It included 7 Ph.D., 31 Master of Technology, 16 Master of Science and 144 Bachelor of Technology.

Ms. Milisha Mahapatra was awarded the Institute Gold Medal for best academic performance; Ms Aanchal Sony was awarded with the Director Gold Medal for her best overall performance among the B.Tech. graduates. Other 9 (nine) graduates were awarded the Departmental Gold medal for their academic performance in UG & PG Programs.

The Training and Placement Cell (T&P Cell)



The Training and Placement Cell (T&P Cell)

The Training and Placement Cell (T&P Cell) at the National Institute of Technology (NIT) Sikkim operates year-round with a rationale to build a robust interface between the corporate sector and the institute. This critical liaison serves a dual purpose: it not only equips students with the necessary knowledge and skills sought by leading organizations but also ensures they are well-prepared to meet the dynamic demands of the global job market. To achieve this, the T&P Cell maintains regular and proactive interactions with a diverse array of companies, focusing on enhancing students' technical prowess and providing them with extensive global exposure. The T&P Cell meticulously plans, organizes, and executes various initiatives to ensure that students receive comprehensive industrial training and secure employment in organizations that align with their career aspirations. This involves forging strategic partnerships with a wide range of companies and institutions, thereby offering students numerous opportunities to engage in expert talks, hands-on workshops, alumni interaction sessions, group discussions, and seminars. These activities are designed to hone both technical and soft skills, fostering well-rounded professional development.

The T&P Cell continually evaluates and refines its strategies to improve student employability, helping many students to secure positions in top corporations. Additionally, it strengthens connections among students, alumni, faculty, and industry partners, creating a supportive professional network. Through its dedicated efforts, the T&P Cell has become a cornerstone of student success at NIT Sikkim, fostering an environment where academic excellence and professional readiness go hand in hand. By bridging the gap between academia and industry, the T&P Cell ensures that students are equipped to meet current industry standards and drive future innovations in their fields.

ENHANCING CAREER PROSPECTS OF STUDENTS

In 2023-24, the initiatives focused on various pivotal endeavors concerning career development and professional opportunities:

- Establishing a strong interface between the institute and industry to discern current market trends, recruiter requirements, and expectations.
- Providing career guidance and counseling to students through workshops, webinars, and training sessions aimed at enhancing their skills and knowledge.
- Assisting students in securing suitable internships to gain practical knowledge and experience in their fields.
- Organizing placement drives and inviting esteemed companies and organizations to oversee these drives, facilitating student-employer interactions for employment opportunities.

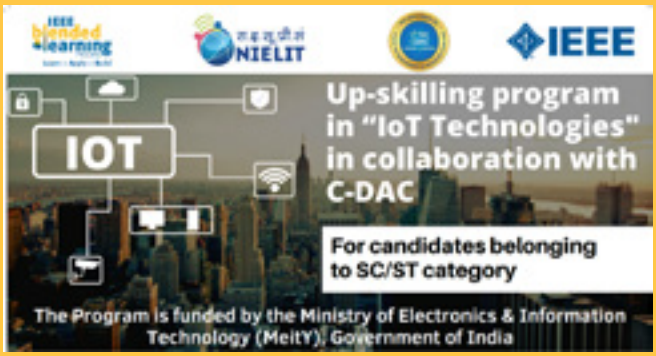






WEBINARS:

The Training and Placement Cell organized the following webinars and talks by eminent academicians and industry experts during the year 2023-24.



Webinar on CDAC AND TOEFL

C-DAC CINE, the premier R&D organization under the Ministry of Electronics and Information Technology (MeitY), Government of India, hosted a webinar focusing on Careers in the VLSI Industry. During the session, our speaker, Mr. Joseph Augustine discussed various job opportunities available in the field. Another webinar, centered on the TOEFL & GRE General Test, was aimed at providing insights into the structure, format, and content of these exams. Participants had the chance to obtain up-to-date information directly from representatives of TOEFL & GRE, clarify their doubts, and engage in exciting quiz activities.

Webinar on Preparation for ARMED FORCES

The Training and Placement Cell conducted a talk session to provide a unique insight into job opportunities in the Indian Navy. In the session, our speaker Commodore Sabesan Shanmugam talked about various job opportunities in the Armed Forces with the students of NIT Sikkim. Interacting on subjects such as the Services Selection Board and Geopolitics, students sought clarification on queries related to life at the Indian Navy, written examination, and skills required to join the Armed Forces. The speaker addressed these queries comprehensively, inspiring and encouraging students to contemplate embarking on a career as officers in the Indian Navy, while also highlighting the benefits of joining the same, such as opportunities for personal and professional growth, job security, and service to the nation

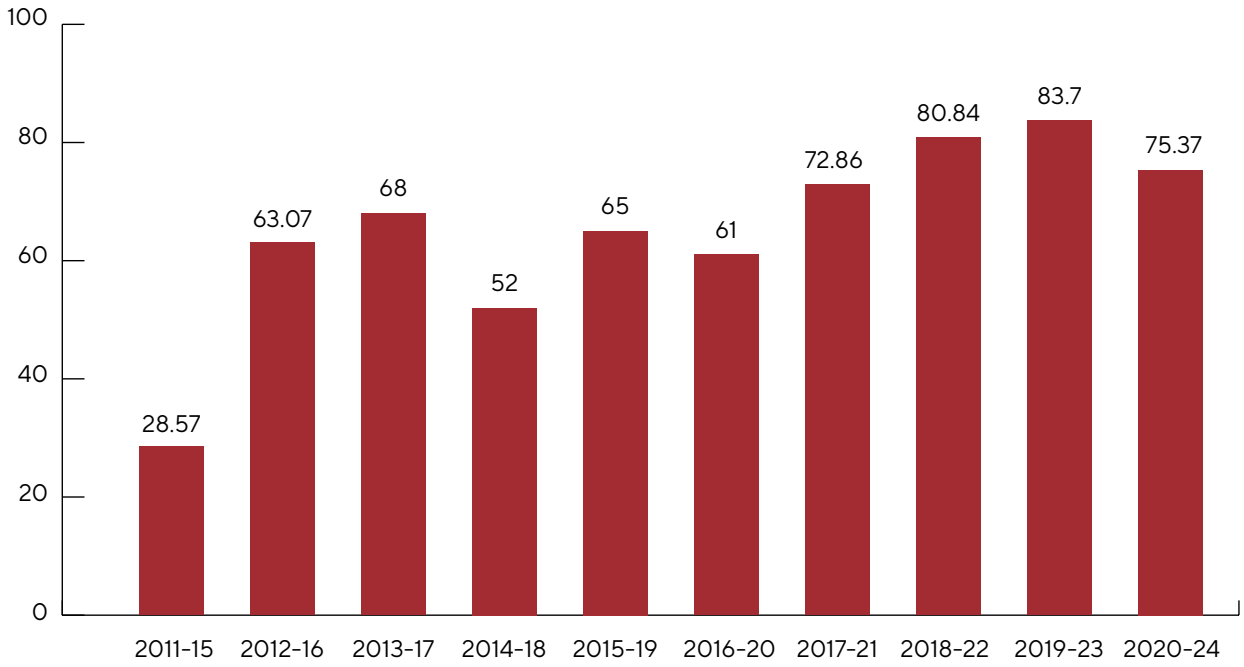
Webinar on ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING:

The Training and Placement Cell at the National Institute of Technology Sikkim organized an enriching talk session on April 14th, 2024, featuring esteemed speakers Mr. Rithvik Joshi and Mr. Uttaran Nayak. The session aimed to provide valuable insights into current market trends adopted by multinational companies worldwide, the burgeoning growth in Artificial Intelligence and Machine Learning, and strategies for aspiring entrepreneurs to thrive in the contemporary market landscape. Attendees gained invaluable knowledge and inspiration from the speakers' experiences and expertise. The event served as a platform for students to enhance their understanding of market dynamics and entrepreneurial pathways. With engaging discussions and practical insights, the session left a lasting impact on all participants, motivating them to stay focused and ambitious in their career pursuits.

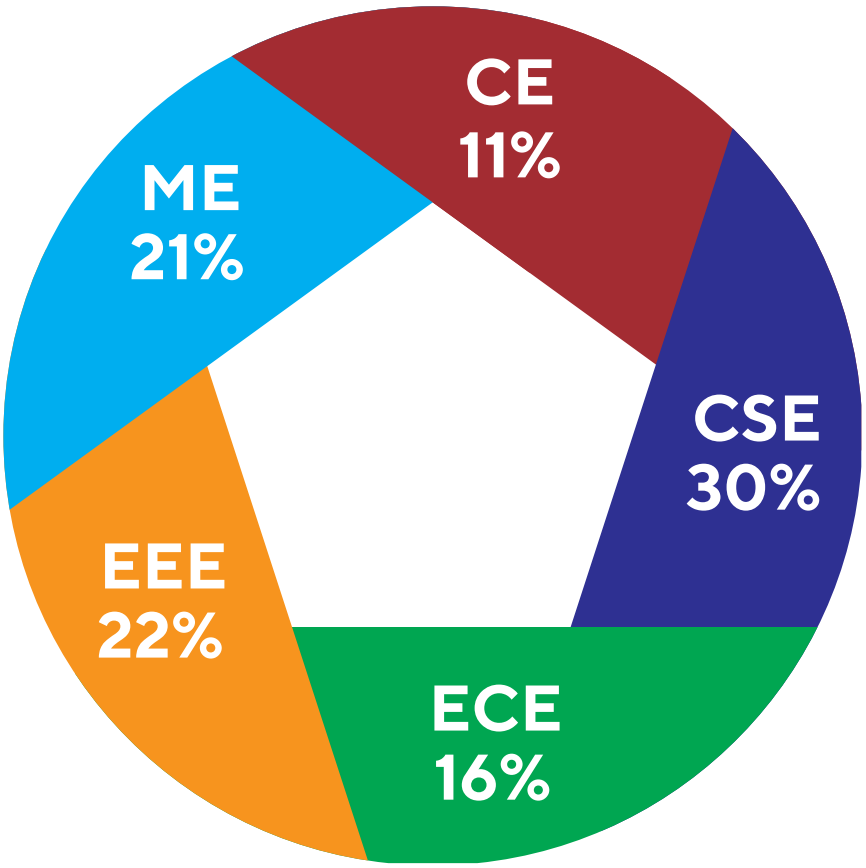
Webinar on VLSI FOR ALL

VLSI FOR ALL led a one-hour webinar titled "VLSI Design" organized by the Training and Placement Cell. The event featured presentations from Shri Apurva Gupta, a distinguished Senior VLSI Engineer at IIT Delhi, and a Gold Medalist. During the session, Shri Gupta delved into various aspects of VLSI engineering, elucidating the intricacies of chip design, semiconductor technology, and the evolving landscape of integrated circuits. Engaging with the audience, she discussed the significance of VLSI in contemporary technological advancements and its pivotal role in shaping the future of electronics. The webinar also provided insights into coveted career opportunities in the circuit design industry.

Placement Statistics Year-wise:

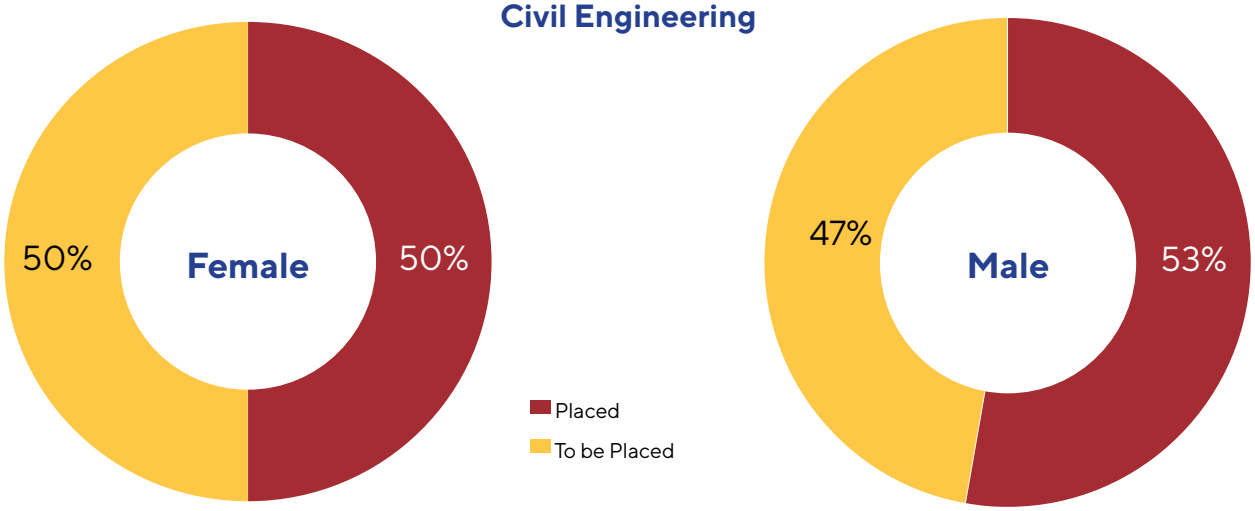


Branch wise Placement Percentage

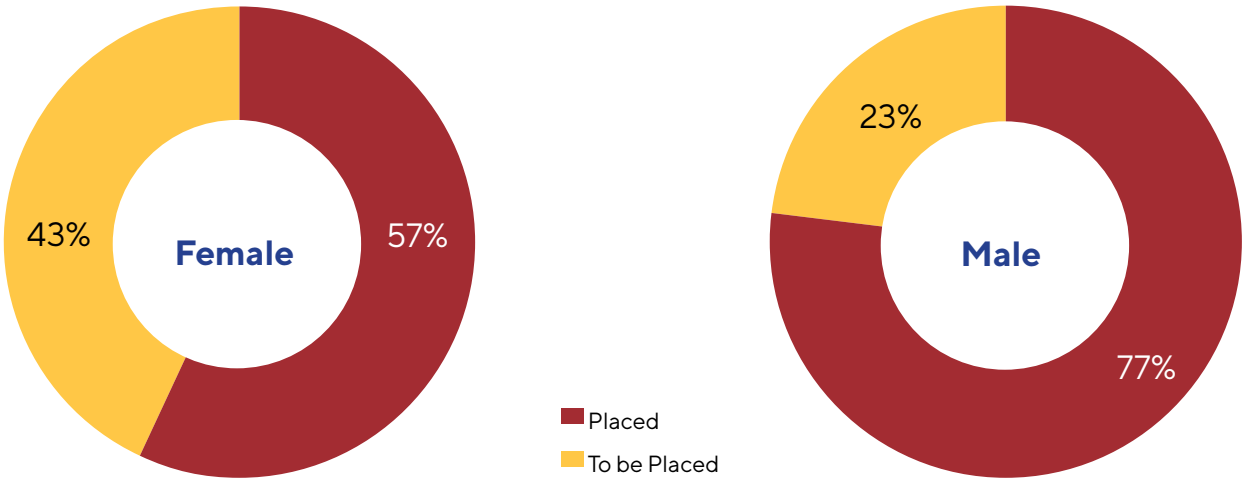


Placement Statistics Gender wise:

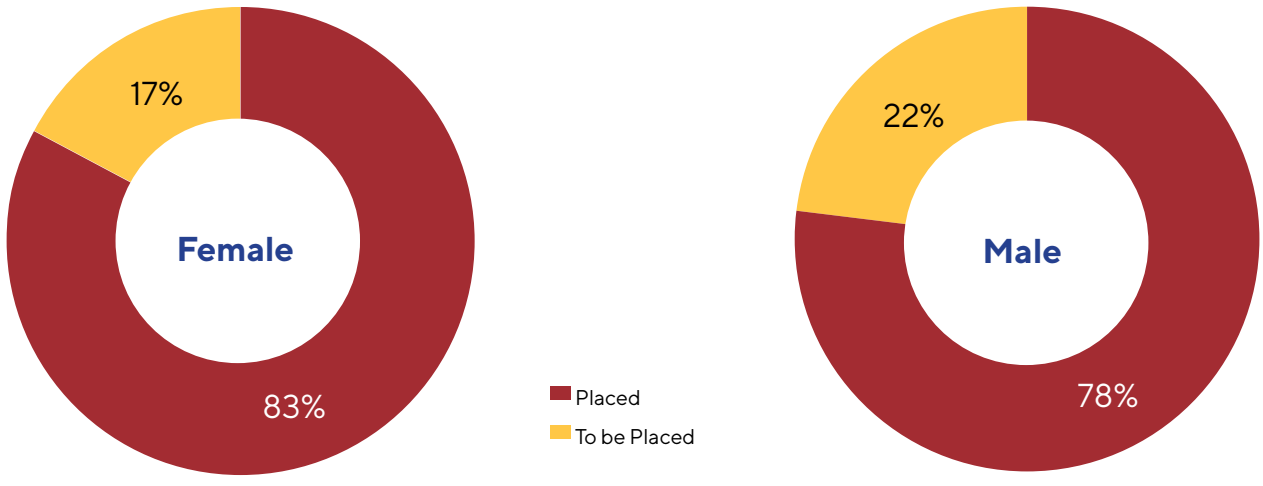
Civil Engineering



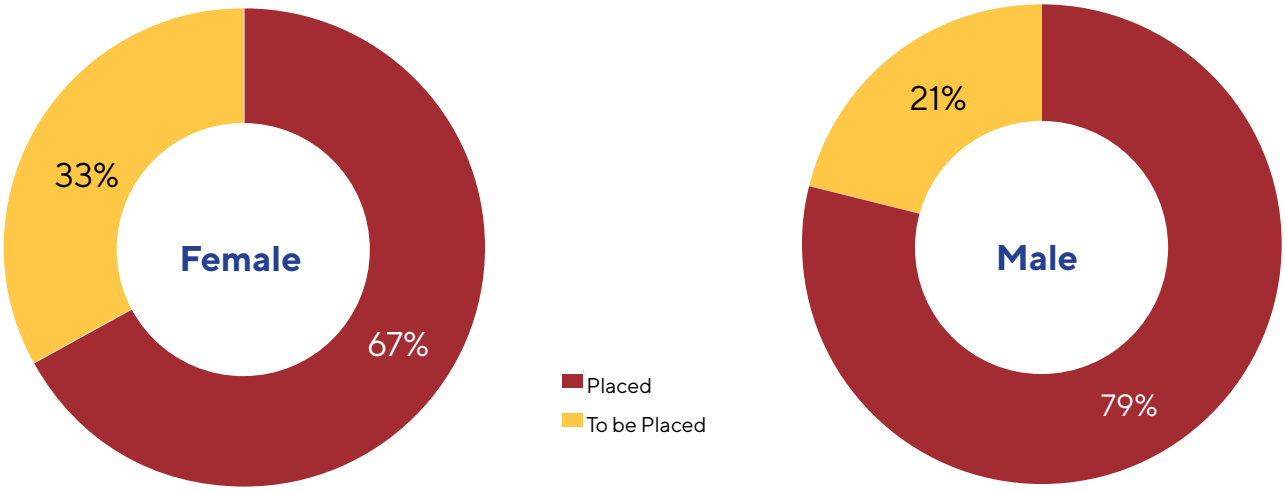
Computer Science and Engineering



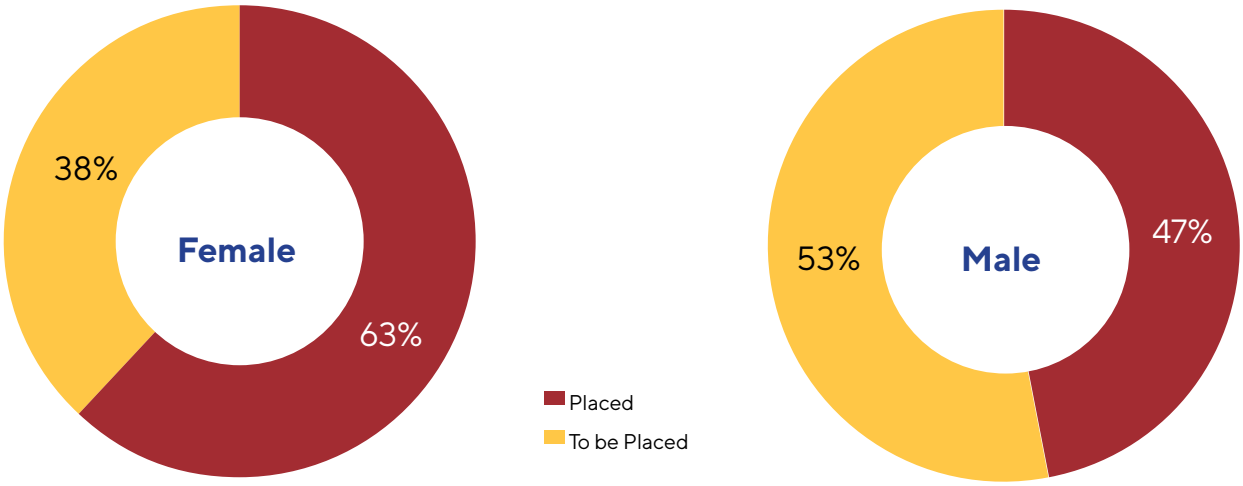
Electronics and Communication Engineering



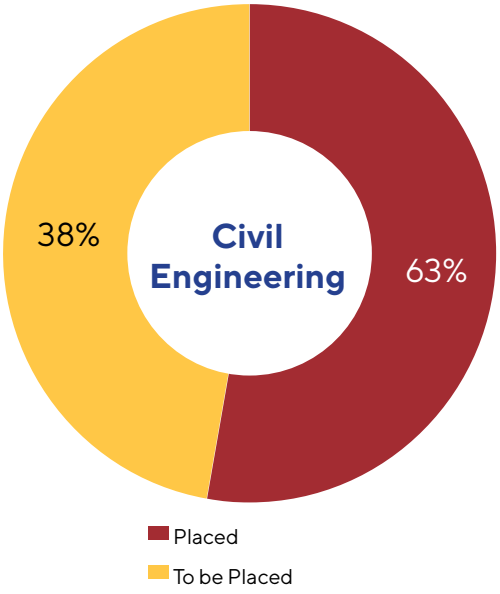
Electrical and Electronics Engineering

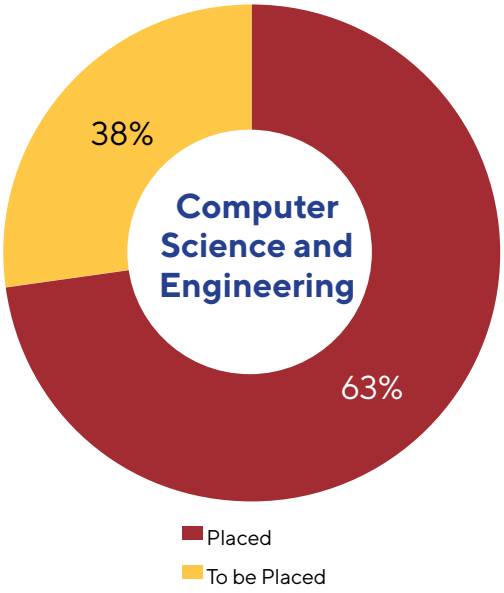


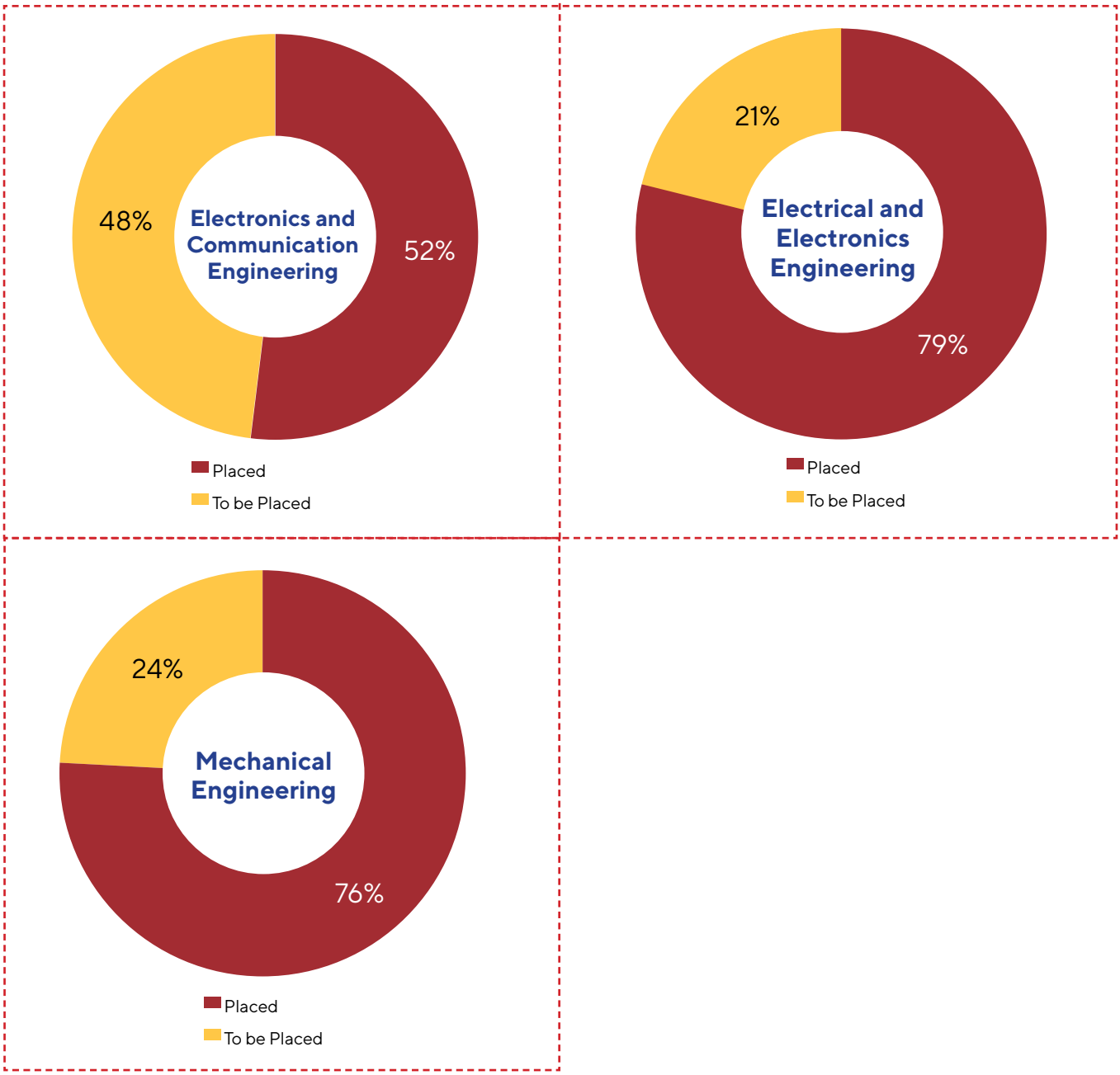
Mechanical Engineering



B. Tech Placement Statistics







Detailed Placement Statistics 2023-24

Course	Branch	Total No. of Students	Number of Placed Students
B. Tech.	Civil Engineering	22	13
B. Tech.	Computer Science and Engineering	37	29
B. Tech.	Electronics and Communication Engineering	27	19
B. Tech.	Electrical and Electronics Engineering	24	19
B. Tech.	Mechanical Engineering	24	21
M. Tech.	Computer Science and Engineering	0	0
M. Tech.	Electronics and Communication Engineering	1	1
M. Tech.	Electrical and Electronics Engineering	0	0
Total		**135**	**102**

Companies from various sectors including core engineering domains, IT, consulting, and non-technical, etc. have recruited students from the Institute. The average package is 09.86 LPA with 113 Total Placement Offers during the academic year 2023-24.

Benchmark Placement Achievements in the Academic Year 2023-24

1. Two students got selected for Nvidia with a package of 44 LPA.
2. Five students got selected for Optym with a package of 17.86 LPA.
3. One student got selected for Cradlepoint with a package of 16.6 LPA.
4. Two students were selected in Infineon with a package of 15.9 LPA.
5. Two students got selected for SLB with a package of 14 LPA.
6. One student got selected for TA digital with a package of 12 LPA.
7. One student got selected for IBM with a package of 11 LPA.

INTERNSHIPS

Internships enable students to gain first-hand experience of working in the industry. It also allows students to improve skills, knowledge, and theoretical practices by implementing their academic learnings. Internships allow students to navigate the intricacies of the professional world. In the Academic year 2023-24, 250 students of B. Tech. (2021-25 batch, 5th & 6th Semester) have undertaken Internships during the Summer and Winter vacations.

S.No	Company	Branch(es)	No. of Students
1	Cummins India Pvt. Ltd.	CSE, ECE, EEE	10
2	SJTech Pvt. Ltd.	CSE	2
3	Defenzalite Pvt. Ltd.	CSE, ECE	8
4	Dharaksha Ecosolutions Pvt. Ltd.	ME	5
5	Pradjna Intellisys Pvt. Ltd.	CSE, ECE. EEE	10
6	Slis Solutions Pvt. Ltd.	ECE	3
7	Janta Group Pvt. Ltd.	CSE, ECE, EEE	10
8	Definitics SoftwarePvt. Ltd.	CSE	2
9	GKP Constructions Pvt. Ltd.	CE	2
10	Identifyou Technologies Pvt. Ltd.	CSE	4
11	ALVE Green Solutions Pvt. Ltd.	ECE. EEE	4
12	Foxaisr Technology Pvt. Ltd.	CE, CSE, ECE, EEE, ME	32
13	Hailstone Innovations Pvt. Ltd.	ME	7
14	Motorama EV Pvt. Ltd.	EEE, ME	3
15	Earth5r Pvt. Ltd.	CE, CSE, ECE, EEE, ME	20
16	Buildo Ace Pvt. Ltd.	CE	2
17	DY Infra Pvt. Ltd.	CE, EEE	2
18	Pro India Pvt. Ltd.	CE	2
19	Ahskeed Technologies Pvt. Ltd.	CSE	15
20	Alorb Pvt. Ltd.	CE, CSE, ECE, EEE, ME	10
21	SNOH Pvt. Ltd.	CSE, ECE	3
22	Sikharthy Infotech Pvt. Ltd.	CSE, ECE, EEE	5
23	Putatoe Pvt. Ltd.	CSE	1
24	True Data Software Pvt. Ltd.	CSE, ECE	3
25	Elcon Engineers Pvt. Ltd.	EEE	1
26	Marmag Pvt. Ltd.	EEE	2

S.No	Company	Branch(es)	No. of Students
27	A Square Infotech Pvt. Ltd.	CSE, ECE	5
28	Govivance Pvt. Ltd.	CSE	1
29	Deccan Terrain Pvt. Ltd.	CE	1
30	Denaurlen Pvt. Ltd	CSE, ECE	5
31	Hab Biomass Pvt. Ltd	ME	4
32	Goitdev Technologies Pvt. Ltd	CSE	1
33	Robofly Technology Pvt. Ltd	CSE, ECE, EEE, ME	8
34	9pointers tech Pvt. Ltd	CSE,ECE.EEE	3
35	Cetpa Infotech Pvt. Ltd.	CE, CSE, ECE, EEE, ME	1
36	Renon India Pvt. Ltd.	ECE, EEE, ME	3
37	Enerture Technologies Pvt. Ltd.	ECE, EEE	4
38	Uilatech LLP	CSE, ECE	4
39	Asquare Infotech Pvt. Ltd.	CSE, ECE, EEE, ME	10
40	Ansyst Consulting Pvt. Ltd.	CSE	2
41	Jobstop Solutions Pvt. Ltd.	CSE, ECE, EEE, ME	1
42	3D Paradise Pvt. Ltd.	ME	1
Total			**222**

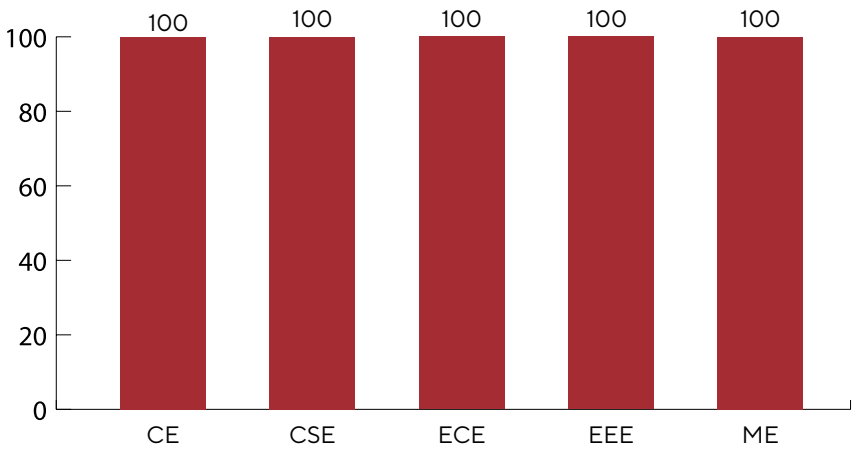
Benchmark Internship Achievements in the Academic Year 2023-24

Ten students from B. Tech have been offered a 6 months internship at Cummins India.

Branch-wise Winter Internship of (B. Tech 3rd Year) 2021-25 batch (Odd Semester, 2025)

Course	Branch	Total Students	Number of students who received internship
B.Tech.	Civil Engineering	20	20
B.Tech.	Computer Science and Engineering	35	35
B.Tech.	Electronics and Communication Engineering	26	26
B.Tech.	Electrical and Electronics Engineering	23	23
B.Tech.	Mechanical Engineering	19	19
Total		**123**	**123**

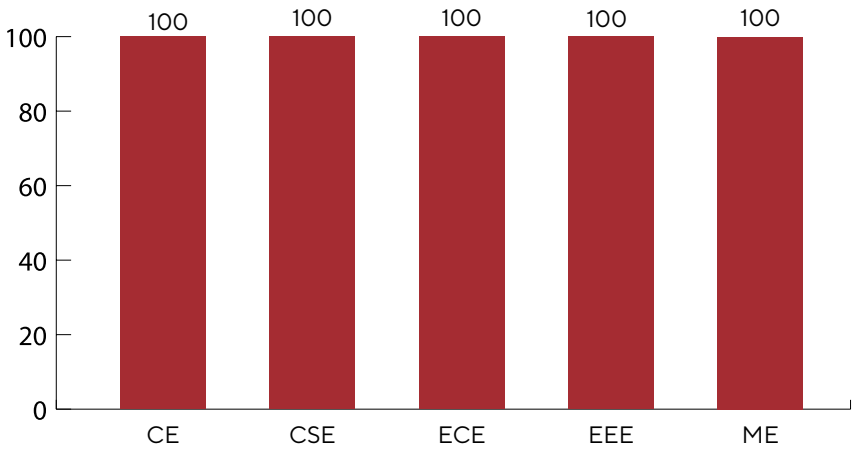
Winter Intership Statistics of 2021-2025



Branch-wise Summer Internship of (B. Tech 3rd Year) 2021-25 batch (Even Semester, 2025)

Course	Branch	Total Students	Number of students who received internship
B.Tech.	Civil Engineering	16	16
B.Tech.	Computer Science and Engineering	36	36
B.Tech.	Electronics and Communication Engineering	25	25
B.Tech.	Electrical and Electronics Engineering	24	24
B.Tech.	Mechanical Engineering	18	18
Total		116	116

Summer Intership Statistics of 2021-2025



STUDENTS PURSUING HIGHER STUDIES

S.No.	Name	Achievements
1	Mr. K Prem	Pursuing Masters at the Indian Institute of Technology Madras (IIT Madras).
2	Miss. Choden Tamang	Pursuing a Masters in structural engineering at Indian Institute of Technology, Gandhinagar.
3	Mr. Sai Bhavadesh Chandu	Pursuing Masters from Dept of Computer systems and engineering at University of Houston, Texas.
4	Mr. Krishna Chaitanya Nizam	Pursuing Masters at Saint Louis University, Missouri, United States.

STUDENT WELFARE

STUDENT WELFARE

Student life involves various challenges, opportunities, and transformative experiences that shape a student's life. The journey of a student's life is replete with ample opportunities to showcase creativity in different platforms of academic and cultural events and games & sports, which can lead to a holistic and memorable college life. To boost student enthusiasm, the Institute organizes several cultural and games/sports events; cleanliness drives are carried out throughout the year along with regular academic activities. Various initiatives and resourceful activities are also organized to make the students aware of the directions of Ministry of Education (MoE) and other organizations.

Events and Activities:

Various important and multi-dimensional events like Independence Day, Republic Day, Cultural Fest, Literary Events, Technical fest, Hackathon, Seminars, Annual Games and Sports are organized by the Institute throughout the year. Students are encouraged and provided with the necessary assistance to participate in the Inter-NIT Sports, Cultural and Technical events. In line with the different campaigns of Government of India such as International Yoga Day, FIT India, Games, Sports and Cultural activities, Unity Day, Hindi Pakhwada, etc. the Institute organizes events where students can involve themselves to remain healthy and united. Also, several Departmental Clubs organize diverse student events on different occasions.

Annual Cultural Fest of NIT Sikkim

UDGAM 2k23:

Date: 14th -16th April 2023

UDGAM is the annual socio-cultural fest of the Institute. After the pandemic, the much-awaited fest of the Institute UDGAM 2k23 was organized and it was a 3 days fest. UDGAM is a celebration of Indian culture and extols unity in diversity. It offers students a golden opportunity to showcase their talents by presenting various cultural performances through singing, dancing, ramp walk in traditional attire, food fiesta to taste different delicacies and wall painting.

The events were graced by the various guest artists and musical bands such as IKIGAI, ALO, Melodies of Mr. Asheem Sharma. Standup comedy was performed by Mr Madhur Virli and a DJ Night was also organized.

Eminent personalities like Smt. Sandhya Gurung, Dronacharya Awardee, Shri. M. Bharani Kumar, DC of Namchi District and Shri. Manish Kumar Verma the SP of Namchi District shared their vast experience and inspired the students during the program.

WORLD ENVIRONMENT DAY (Mission LiFE):

This year, the Ministry of Forest, Environment and Climate Change, Govt. of India, envisaged celebrating the World Environment Day 2023 with a thrust on the Mission LiFE. The concept of LiFE- Lifestyle for Environment was introduced by the Hon'ble Prime Minister Shri Narendra Modi. Mass mobilization across the country on LiFE was organized.

NIT Sikkim also organized various activities on environmental issues as envisioned under the Mission LiFE program. To bring awareness about the program NIT Sikkim conducted the following activities:

1. The LiFE banner and website link on Mission LiFE were published on home page of the Institute website.
2. Seminar on Mission LiFE for the students, faculties and staff members on 23rd May 2023- Prof. Sanjay Mathur, Professor of Civil Engineering Department, MNIT Jaipur.
3. Visit to students' hostel and mess during lunch and dinner time.
4. Translation of Mission LiFE poster in Nepali language.
5. Seminar on Reduction of Single Use Plastic in a nearby school.
6. Rally to the surrounding villages.

The program on World Environment Day 5th June 2023 was presided by Hon'ble Director Prof. M C Govil, Director NIT Sikkim and graced by Dr. D. N. Vyas as a Chief Guest. The event began with a plantation drive in alignment with the unique initiatives of Sikkim Government ***"Ten Minutes to Earth"***. All faculty, staff and students actively participated in the event. The school students of the surrounding locality presented their prototype models on the themes of ***"Reduce, Reuse and Recycle"***. The participating schools were ITI Kewzing, Kewzing Sr. Sec. School, Temi Sr. Sec. School and Singtam Sr. Sec. School. The Environmental Pledge-taking program was organized amongst the participants. The participants attended the online address of Hon'ble Ministry of State, Ministry of Education, Government of India Dr. Rajkumar Ranjan Singh on Mission LiFE.

INTERNATIONAL DAY OF YOGA:

The theme for the 9thInternational Yoga Day 2023: ***"Yoga for Vasudhaiva Kutumbakam"***

International Yoga Day is celebrated every year on 21st June all over the world to raise awareness about the benefits of practicing Yoga in our daily lives. NIT Sikkim organized a month-long yoga session for all the students, faculty and staff. The session was conducted under the guidance of yoga cum zumba instructor Mrs. Rigsel.

INTERNATIONAL DAY AGAINST DRUG ABUSE & ILLICIT TRAFFICKING:

The International Day against Drug Abuse and Illicit Trafficking was observed on 26th June 2023. The main guest speaker for the session was Mr. Rinzing D. Lepcha, Police Inspector (Station House Officer), Ravangla Police Station. Mr. Lepcha pointed out the legal measures and standing laws on Drug Abuse and Illicit Trafficking. He also urged the audience to ***"Say No to Drugs"***.

AKHIL BHARTIYA SHIKSHA SAMAGAM 2023:

The two-day Akhil Bhartiya Shiksha Samagam 2023 was held on 29th July-30th July 2023 at Bharat Mandapam, Pragati Maidan, New Delhi on the occasion of third anniversary of the National Education Policy (NEP) 2020. The delegates of NIT Sikkim also participated in the inaugural session, Exhibition of NEP 2020, Thematic sessions, Panel discussion, etc. During the interaction program, twelve youths from Sikkim Yuva Sangam under the aegis of Ek Bharat Shrestha Bharat performed the Sikkimese traditional and cross-cultural dance of Odisha on 28th July 2023 in the august presence of Hon'ble Minister of Education, Shri Dharmendra Pradhan and Hon'ble Ministry of State, Dr. Subash Sarkar. These yuvas also actively participated and extended their support voluntarily by assisting in different activities, thematic sessions and managing exhibition stalls. Sikkimese traditional performance was showcased during the closing ceremony of Akhil Bhartiya Shiksha Samagam 2023 on 30th July 2023.

PARTITION HORRORS REMEMBRANCE DAY:

Partition Horrors Remembrance Day is an annual national memorial day observed on 14th August in India, commemorating the victims and sufferings of people during the 1947 Partition of India.

NIT Sikkim observed this event in full spirit with Exhibition of posters, performing the integration act, reciting poems etc. The event was inaugurated by Hon'ble Director Prof. M C Govil, and attended by all the faculty, staff members and students of the Institute.

INDEPENDENCE DAY:

The 77th Independence Day was celebrated in the campus with active participation of all students, faculty and staff members of the Institute. The celebration started with the March Past by the home guards of the Institute, followed by the National Flag hoisting ceremony and National Anthem. The Registrar of the Institute Dr. Ranjan Basak addressed the gathering about the importance of the day and the duties of faculty and staff members and student community of NIT Sikkim for holistic development of our country.

EK BHARAT SANSKRITI SANGAM:

Under the aegis of EK BHARAT SHRESHTHA BHARAT, the Ministry of Education initiated a social media campaign Ek Bharat Sanskriti Sangam for students/ youths between the age group 18 and 30 years to display their talent in art forms such as Dance, Singing, Photography and Painting, and Sculpting/ Sketching. NIT Sikkim encouraged interested students to participate in the campaign.

One of our students, Miss Rajni Giri, participated in the national level dance competition and secured the 2nd position in Ek Bharat Sanskriti Sangam (Phase I).

JAL SHAKTI ABHIYAN:

NIT Sikkim organized the Jal Shakti Abhiyan: ***"Catch the Rain: 2023"*** by conducting panel discussion, poster competitions and quiz among the students of the Institute on the theme: ***'Source Sustainability for Drinking Water'***. Local school students were also invited for drawing, painting and slogan competitions at the Institute. The Director, Prof. M. C. Govil enlightened and inspired the students with his deep insightful thoughts on water conservation and inspired them to develop strong righteous morals to protect our climate and mother earth. Faculty members, staff and students took the "Catch the Rain" pledge during the event.

G20 UNIVERSITY CONNECT PROGRAMME "JAN BHAGIDARI":

Jan Bhagidari was celebrated with full enthusiasm on 26.09.2023 and participated online by more than 700 people including students, faculty, and staff members from the campus.

The Hon'ble Prime Minister, Shri Narendra Modi, addressed the G20 University Connect Finale program from the Bharat Mandapam, New Delhi.

The G20 University Connect initiative was launched with the objective of fostering greater awareness of India's G20 Presidency among the nation's youth and promoting their active involvement in various G20 activities.

PRABHAT PHERI ON SWACHH BHARAT:

PRABHAT PHERI, a cleanliness rally, was organized on 2nd October 2023. The rally moved from the Institute campus to Ravangla Bazar under the theme ***'Swachhata Hi Seva 2023'*** and Special Swachhata Campaign 3.0.

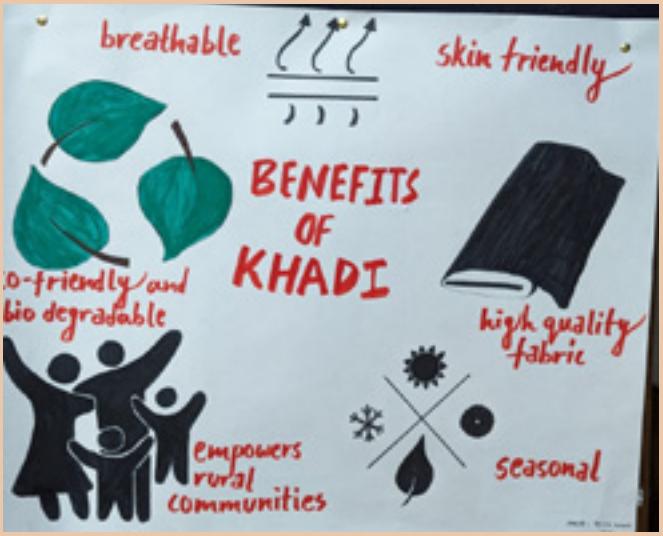
NIT Sikkim enthusiastically participated in the ***'ek tareekh ek ghanta'*** initiative to strengthen the nationwide mission of *SwachhataHiSeva2023*. This novel vision of one-hour 'Shramdaan for Swachhata' has been observed by the faculty, staff and students of the Institute.

MERI MAATI MERA DESH' CAMPAIGN:

Amrit Kalash Yatra was organized on 12th October 2023 under the campaign ***"Meri Maati Mera Desh"*** at the Institute. The special guest for the event was Shri. Hony. Captain Kishor Rai 'SC', a retired Army personnel and a recipient of Shaurya Chakra. The 'maati' of various localities was collected from the employees and students of NIT Sikkim and placed in the auspicious Kalash, which was later sent to the National Capital for the construction of an Amrit Vatika at Kartavya Path.

KHADI MAHOTSAV UNDER AATMA NIRBHAR BHARAT:

To emphasize the importance of Khadi, handloom and handicraft products, NIT Sikkim organized Khadi Mahotsav on 17th October 2023. The students, faculties and staff members actively and enthusiastically participated in the program. A video released by our beloved Prime Minister Shri Narendra Modi on Khadi Mahotsav was featured. Reiterating the Hon'ble Prime Minister's vision of *'Vocal for Local'* and *'Aatma Nirbhar Bharat'*, Prof. M.C. Govil, Director, NIT Sikkim encouraged the students, faculty and staff members to wear khadi, support locally-made products, and preserve our age-old traditions. Various activities were organized for the students like Poster competitions, Quiz competition and Elocution throughout the day.



VIGILANCE AWARENESS WEEK 2023:

Date: 30th October -5th November 2023

Theme: ***"Say No to Corruption"***

Various diversified activities were organized at the Institute as well as in the outreach locality. The activities included sensitization of faculty and staff members, oath of integrity pledge, walkathon for the employees, painting/cartoons slogan drawing competitions for local school students, quiz & elocution competition for the students of the Institute and awareness of Gram Sabha for the nearby village people.

Further, the following seminars by eminent speakers on capacity building were organized for the employees of the Institute:

1. Corruption, Vigilance and Dealing with PIDPI Complaints- Dr. Sarvesh K. Tiwari, Joint Registrar (Admin-II), IIT (BHU), Varanasi.
2. Role of IO/PO under CCS (CCA) Rules- Dr. B.K. Jha, Senior Audit Officer, Office of the Principal Accountant General (Audit), Sikkim.
3. Procurement of good and services at government organizations- Dr. S.K.Mishra, Registrar, I.K. Gujral Punjab Technical University, Jalandhar.
4. Ethics and Governance- Shri P.K.Dash, Finance Officer, Sikkim University.

JANJATIYA GAURAV DIVAS:

The Government of India declared 15th November as Janjatiya Gaurav Divas. The date is the birth anniversary of Sri Birsa Munda **who is revered as Bhagwan by tribal communities across the country.** NIT Sikkim celebrated Janjatiya Gaurav Diwas to pay respect to all Janjati Mahanayak who had immensely contributed during freedom struggle of India. Competitions on short speech/ debate, Q&A session, display of documentary videos of janjati heroes, lecture etc were conducted. Hon'ble Director Prof. M.C. Govil addressed the students and urged the gathering to recall their sacrifices for the country's freedom. He spoke on the importance of preserving and promoting the memory of brave tribal freedom fighters so that coming generations could know about their contribution. The program was attended by the students, faculty and staff members of the Institute.

PARIKSHA PE CHARCHA:

An interactive program with Hon'ble Prime Minister Shri Narendra Modi was held on 29th January 2024. #PPC2024 was aimed to alleviate exam-related stress and provide a platform for students to gain valuable insights, tips, and guidance from the Prime Minister himself. NIT Sikkim promoted PPC 2024 through social media platforms to give awareness and to encourage school students, teachers and parents to register and participate online in an interactive program directly with the Hon'ble Prime Minister.

REPUBLIC DAY:

The 75th Republic Day was celebrated on 26th January 2024 in the campus with active participation of students, faculty and staff members of the Institute. The day was celebrated by March Past by the home guards. Prof. M. C. Govil, Director, NIT Sikkim hoisted the National Flag, followed by the National Anthem. The Director addressed the gathering about the importance of the day. Students performed cultural dances and other activities were also organized.

VIKSIT BHARAT 2047:

The live telecast of the launch of Viksit Bharat@2047 was broadcasted in all the smart classrooms, conference halls and multipurpose halls of the Institute. All the faculty, staff members and students attended the launch of the '***Viksit Bharat@2047: Voice of Youth***', an initiative by the Hon'ble Prime Minister Shri Narendra Modi. The students were taught about the various activities of Viksit Bharat which they can participate in through the MyGov platform. Students participated enthusiastically and submitted their ideas on the MyGov platform. Various activities like Seminar, E-Pledge Certification, Selfie/Photo competition, Ideas submission were organized for the students. In total, 289 students have submitted their feedback on ViksitBharat@2047. A video of a third-year under graduate girl student sharing her idea on ViksitBharat@2047 was also shared on the Institute's social media account.

MERA PEHLA VOTE DESH KE LIYE:

As per the guidelines of the Government of India, a seminar on "Mera Pehla Vote Desh Ke Liye" was organized on 5thMarch 2024 at the Institute targeting first year B.Tech students who were going to cast their first vote in the General Election. The keynote speaker for the seminar was Mr. D Anandan (IAS), CEO Sikkim and he made students aware about the importance of casting votes. He also discussed the rules of election formed by the GOI and Election commission of India. He talked about the hierarchy of the posts and duties assigned to each post. Moreover, complete information about the do's and dont's were specifically discussed with the students. He shared the complete process for conduction of fair election in India. At the end of the speech of the CEO Sikkim, all the participants took the pledge.

The Institute also organized other different programs like essay competition, quiz competition, selfie posting etc.

GAMES & SPORTS

Various Games and Sports events are organized by the Institute throughout the year. Students are encouraged and provided with the necessary assistance to participate in the Inter-NIT Sports meet. For regular indoor games and sports activities, every hostel has facilities of Table Tennis and Carrom Board. In addition, there are two playgrounds inside the campus where students can play Football, Volleyball, Kho-Kho, and Cricket. A well-maintained indoor Badminton Court is also available inside the old Academic Building. All fields and courts have proper lighting facilities for the convenience of the students to play at night.

Annual Sports Fest: 'ATHLETIFIESTA 2023'

Date: 17th-19th November 2023

The Annual Sports Fest is a vibrant celebration of athleticism and teamwork, uniting students from various departments in spirited competition. Celebrating the essence of sportsmanship, NIT Sikkim hosted its much-awaited Annual Sports Fest ATHLETIFIESTA 2023 from 17th to 19th November 2023. The event featured a range of disciplines including Badminton, Carrom, Chess, Cricket, Football, Marathon, Tug of War, and Volleyball.

Sports play a vital role in students' daily life for overall growth and development. It encourages them to lead a fit and healthy lifestyle. NIT Sikkim encourages students to participate in inter NIT tournaments and other tournaments.

Students participated in following tournaments during the year 2023:

Sl.No.	Tournament	Date
1	Inter NIT Football Tournament at NIT Durgapur	3rdto5th November 2023
2	Participated in badminton, volleyball, football, cricket, carom, basketball, table tennis and Chess at BIT Patna Prakrida Fest	18th to 20th March 2024
3	NIT Sikkim participated in Independence Cup, open Football tournament at Kewzing, Sikkim	10th August 2023







X-plode Cup 2024:

The X-plode Cup 2024 was a thrilling cricket tournament showcasing talent and competition among six teams. Held over three days, the tournament featured intense matches and culminated in a thrilling final where Mahakal Super Kings emerged victorious after defeating Power Hitters.

The tournament saw dazzling batting displays, impressive bowling performances, and nail-biting finishes, keeping spectators on the edge of their seats. The Mahakal Super Kings' victory was a testament to their skill, teamwork, and determination, earning them the championship title and accolades from fellow competitors.

Financial Assistance to Students

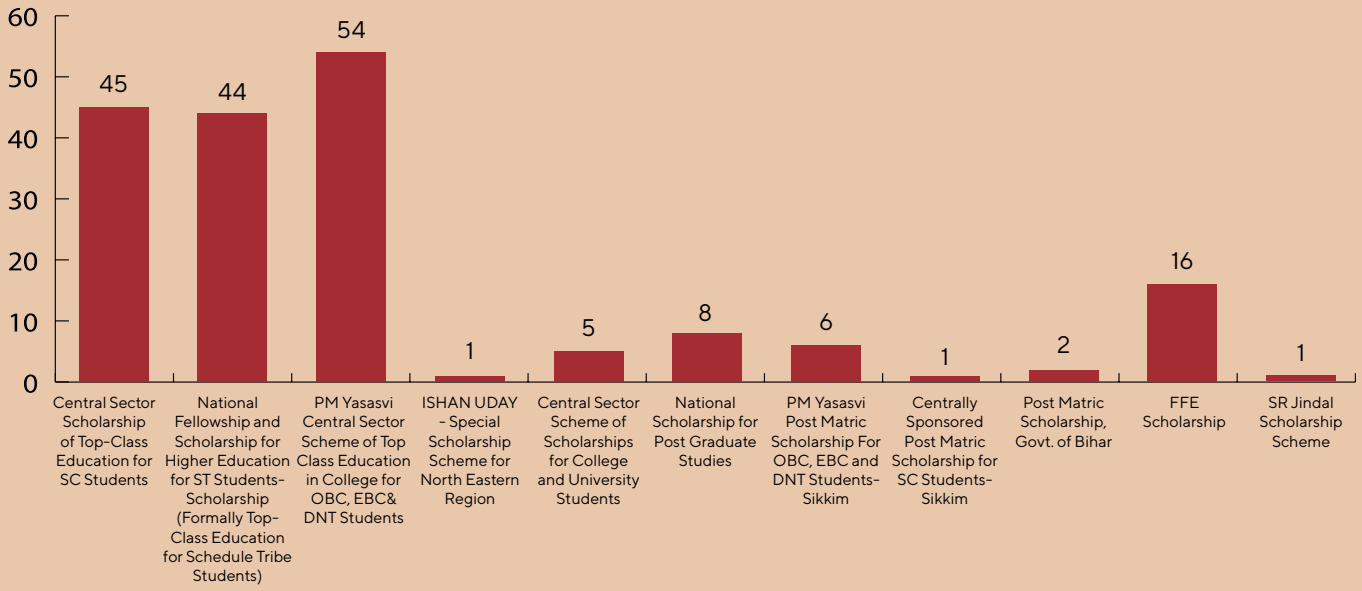
Scholarships:

Institute Nodal Officer (Scholarship) - Mr. Ram Nepal

The students of NIT Sikkim are benefitted by Scholarships under different schemes of Central and State Government. NIT Sikkim has registered on many scholarships' portal and different state scholarship portals that provide financial assistance to the students based on their family income and academic performance under various categories. The students benefit a reat deal from these scholarships.

No. of Students recommended for Scholarship during the year 2023-24 through the Central Schemes, UGC Schemes, respective States schemes& through other sources are given below:

Sl. No.	Scholarship Schemes	No. of Students
1	Central Sector Scholarship of Top-Class Education for SC Students	45
2	National Fellowship and Scholarship for Higher Education for ST Students- Scholarship (Formally Top-Class Education for Schedule Tribe Students)	44
3	PM Yasasvi Central Sector Scheme of Top Class Education in College for OBC, EBC& DNT Students	54
4	ISHAN UDAY - Special Scholarship Scheme for North Eastern Region	1
5	Central Sector Scheme of Scholarships for College and University Students	5
6	National Scholarship for Post Graduate Studies	8
7	PM Yasasvi Post Matric Scholarship For OBC,EBC and DNT Students-Sikkim	6
8	Centrally Sponsored Post Matric Scholarship for SC Students-Sikkim	1
9	Post Matric Scholarship, Govt. of Bihar	2
10	FFE Scholarship	16
11	SR Jindal Scholarship Scheme	1
	Total	183



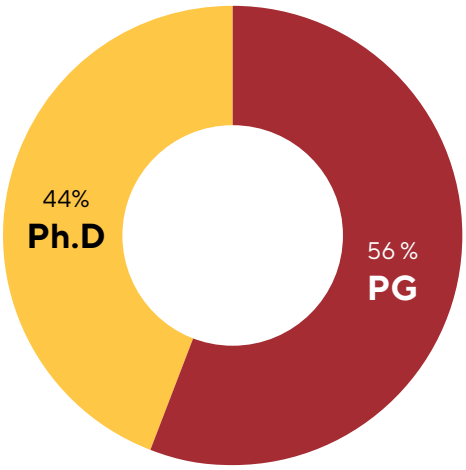
After verification at the Institute level, students' applications are forwarded to their respective state and then to the respective Ministry. If selected by the Awarding Authority, the students directly receive their Scholarship in their bank accounts.

Fellowships:

PG students who are admitted through CCMT with GATE score are provided with monthly stipend @ Rs. 12400/- per month per student. Total 4 PG students have availed financial assistance from the Institute.

Furthermore, full time Ph.D scholars having GATE /NET/ JRF/SRF are also benefitted with Institute fellowship. There are few scholars who receive fellowship from sponsored projects such as CSIR, SDP etc. Total 66 Ph.D scholars have availed Institute fellowship @ Rs. 40330 for JRF & Rs. 45780/- for SRF including HRA per month. Apart from the fellowship, the Institute facilitates the scholar with high end laboratory facility, library, access to subscribed Journals and other software, ensuring a comprehensive research environment.

Fellowships for 2023-24



Student Credit Card Scheme:

Students from various states avail the benefits of student credit card scheme for remitting their education and living expenses. Some students from Bihar and West Bengal are availing this scheme. This scheme provides subsidized education loans to students to pursue higher course of study.

Apart from these forms of financial assistance, the Banks from the peripheral areas provide counseling to the students for exploring the educational loans on subsidized/discounted rates. Institute facilitates such students with required documentations and communicates with the respective Bank for timely disbursal of loans.

Hostel Accommodation:

At present, the Institute is located in a temporary campus and hostel accommodation within the campus is limited. Institute accommodation within and outside the campus is available for UG (B. Tech), PG (M. Tech, M. Sc.) and Ph.D (Girl) Scholars. Separate hostel accommodation is also available for Girl students within the campus. All the hostel rooms are equipped with necessary furniture such as Cot, Chair-Table, Almirah etc. In-Campus hostels are facilitated with 24 x 7 Wi-Fi. The students are also facilitated with basic amenities like Geyser, Washing Machine, TV, Gymnasium, and indoor games in the hostels.

Three (03) buildings are hired on rental basis at Ravangla town to accommodate the UG 1st year students. Furthermore, bus facility is provided to the students residing at off- campus hostels for their convenience.

Mess Facilities:

Three separate student messes are currently functioning at NIT Sikkim. Two messes are located separately within the campus, which cater to the needs of In-campus Girls and Boys Students. One mess is located at Off-campus hostel, which caters to students residing at Off-campus hostels. The Student Mess Committee, under the supervision of Chief Warden and other Wardens, oversees the smooth functioning and quality of the services provided by the Mess Contractor.

Student Medical Insurance:

Considering the unforeseen medical and safety risk likely to occur at any point of time, the Institute has empanelled Medical Insurance providers with coverage of One Lakh each for;

- Cost of study in the event of demise of the paying parent/guardian,
- Coverage for family of the student in case of his/her death or incapacitation/ permanent disability;
- Hospitalization/ home treatment for Epidemic-Pandemic and Mental Disorder in the form of cashless or reimbursement.

Apart from the above, a dedicated medical unit with nurses is also available for the students to avail any medical facility within the campus. Visiting Specialist and Medical Officers are available at the medical unit every alternate day. Medical unit and Ambulance facility is available 24/7 for the students and employees of the Institute in case of any emergencies.

The Regnant Ink

HERITAGE DAY

The past is a vast and vibrant collage, woven from threads of countless stories, struggles and triumphs. To spread knowledge on this issue among the students of the National Institute of Technology Sikkim, The Regnant Ink - the literary club of our institute - created an exciting platform to explore the rich history, and bring the past to life by organizing "Recollecting History", a tribute to prestigious legacy, on 3rd May 2023.

From speeches aimed to create a warm atmosphere to dances, songs and presentations the program allowed the audience to connect with diverse knowledge of our nation's history by providing an overview of heritage sites.

The event also served as a valuable learning experience, sparking interest in exploring further individual and collective histories. The event was a resounding success; everyone who entered the venue left with a deeper understanding of their heritage and cultures.

SEMINAR ON INDIAN CAPITAL

The seminar was conducted by The Regnant Ink on 25th March 2023. This seminar was conducted to create awareness among the students about the current Indian Capital Market and Investment opportunities. The seminar was brought forward by the senior representatives of SEBI, NSE and NSDL. This session was extremely enlightening and insightful for those interested in the fields of Entrepreneurship and business.

Before this session almost all the students were planning to go for corporate jobs and higher studies after graduation but after the session many students were inspired to get into the field of business and entrepreneurship. After the session, students got a chance to directly interact with the speakers; some even collected their contact numbers for further engagement.

DEBATE COMPETITION

Debates are not just battles of words, but battles of ideas. They sharpen our intellect and challenge our assumptions. The Regnant Ink, the literary club of National Institute of Technology Sikkim, successfully organized a highly engaging and intellectually stimulating debate competition on April 19, 2023. The event aimed to promote critical thinking, public speaking, and effective argumentation among students from various departments. The competition saw enthusiastic participation from over 8 teams representing different departments and each team consisted of two members who showcased their debating skills on various topics. The competition was structured in multiple rounds. Each round focused on different themes to test the breadth of participants' knowledge and their ability to argue from various perspectives. This event provided a platform for individuals to engage in structured discourse, articulate their viewpoints, and defend their positions on various topics. Beyond the competitive aspect, debate competitions offer invaluable opportunities for personal development.

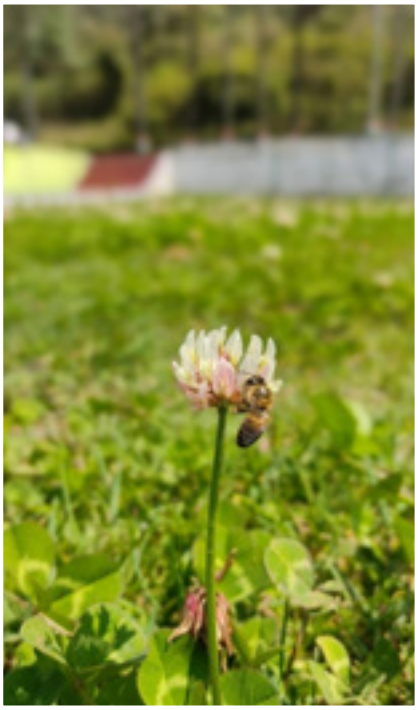
SPELL BEE

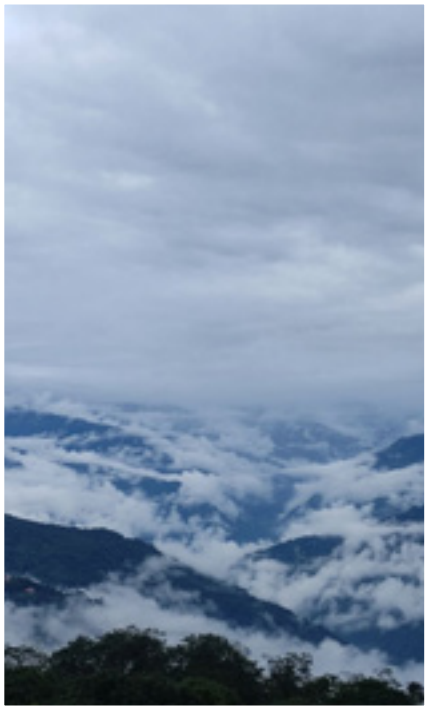
'Spell Bee Competition' was a thoughtfully organized competition whose foremost objective was to increase students' vocabulary and boost their reading and writing skills. The event sharpened participants' cognitive skills by providing an environment to evaluate their capacity for concentration and performance under pressure. The competition also tested a student's capacity to pronounce difficult words correctly, an essential skill for language development.

A substantial number of students registered for the competition, indicating the students' high level of interest and enthusiasm. The event was designed to be interesting and thought-provoking, offering a good balance of fun and difficulty. Participants' spelling skills as well as their composure and mental agility were put to test as they encountered a series of challenging words.

PHOTOGRAPHY COMPETITION

The aim of this competition was to promote artistic expressions through photography and the theme was NIT Sikkim Campus and the surrounding nature. The event was organized online where various entries were received in which the photographs along with the description of the photographs by the photographers were inevitably beautiful. This highlighted the scenic beauty of NIT Sikkim and its surroundings. The participants showed their unique perspectives and photography skills through this.





DAHI HANDI COMPETITION

On the auspicious occasion of Janmashtami, a special puja was conducted at 7:30 PM in the multipurpose hall, creating an atmosphere of spiritual upliftment among students, faculty, and staff. The ceremony, which included chanting, singing bhajans, and performing traditional aarti, honored the birth of Lord Krishna, emphasizing his teachings of love, compassion, and righteousness. This sacred ritual not only provided a spiritual start to the festivities but also fostered a sense of community and shared cultural heritage. Following the puja, the Dahi Handi competition was held on 7th September 2023 at 10:00 AM in the volleyball ground, with four enthusiastic teams of 10 members each. Demonstrating excellent teamwork and coordination, all teams successfully competed and managed to break the handi. This event, symbolizing Lord Krishna's playful spirit, offered students valuable lessons in teamwork, leadership, and determination, while also fostering cultural awareness and appreciation. The Dahi Handi competition proved to be a successful and enriching experience, imparting essential life lessons and leaving a lasting impact on all participants.

HINDI PAKHWARA

हमारे क्लब "द रेग्नेंट इंक" ने 18 सितंबर से 24 सितंबर 2023 तक हिंदी पखवाड़ा के अंतर्गत कई रोचक गतिविधियों का आयोजन किया, जिनका उद्देश्य हिंदी भाषा के प्रति प्रेम और जागरूकता बढ़ाना था।

18 सितंबर 2023: निबंध लेखन और कविता संकलन

हिंदी पखवाड़ा का शुभारंभ 16 सितंबर को निबंध लेखन और कविता संकलन प्रतियोगिताओं के साथ हुआ। निबंध लेखन में प्रतिभागियों ने विभिन्न विषयों पर अपने विचार प्रस्तुत किए, जबकि कविता संकलन में कवियों ने अपनी रचनाओं का सुंदर प्रस्तुतीकरण किया।

23 सितंबर 2023: चित्र वर्णन और मुहावरे एवं लोकोक्तियाँ व्याख्यान

23 सितंबर को चित्र वर्णन प्रतियोगिता ने प्रतिभागियों की रचनात्मकता को प्रकट किया, जहां उन्होंने विभिन्न चित्रों का हिंदी में वर्णन किया। उसी दिन, मुहावरे एवं लोकोक्तियाँ व्याख्यान के माध्यम से प्रतिभागियों ने हिंदी के मुहावरों और लोकोक्तियों के महत्व को समझा।

24 सितंबर 2023: आलेख लेखन, हिंदी टंकण प्रतियोगिता और अंताक्षरी

24 सितंबर को आलेख लेखन प्रतियोगिता में प्रतिभागियों ने समसामयिक विषयों पर अपने विचार प्रकट किए। हिंदी टंकण प्रतियोगिता ने प्रतिभागियों की टंकण गति और शुद्धता का परीक्षण किया। अंत में, अंताक्षरी प्रतियोगिता ने सभी को हिंदी गानों की धुन पर एकजुट किया और समापन के साथ ही पखवाड़े का उल्लासपूर्ण समापन हुआ।

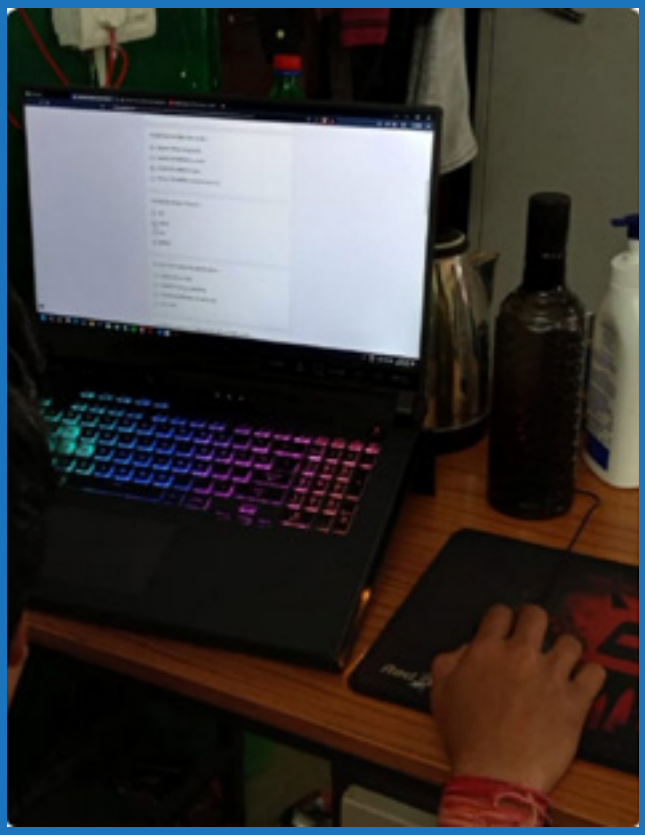
इन सभी कार्यक्रमों ने हिंदी भाषा के प्रति प्रेम को बढ़ावा दिया और रेजेंट इंक क्लब द्वारा आयोजित हिंदी पखवाड़ा अत्यंत सफल रहा।

VIGILANCE AWARENESS QUIZ COMPETITION

The event was a resounding success, achieving its goal of promoting vigilance awareness. Organized by The Regnant Ink on 3rd November 2023, this event aimed to promote vigilance awareness and foster a culture of integrity and transparency among participants. The Quiz Competition successfully highlighted the significance of vigilance in everyday life and inspired participants to uphold ethical standards. It also provided a platform for learning and dialogue on combating corruption and fostering transparency and engaging the community in meaningful discussions.

JANJATIYA DIVAS QUIZ COMPETITION

Janjatiya Divas Quiz Competition was organized to celebrate and raise awareness about India's rich culture and contributions of tribal communities of the country. The quiz revealed interesting facts that were not known by many and due to this both participants and the audience gained new insights and knowledge about various lesser-known facts that enhanced their understanding and appreciation of rich tribal heritage. It was not just a celebration of knowledge and culture but also a step towards fostering unity and appreciation for our tribal heroes.

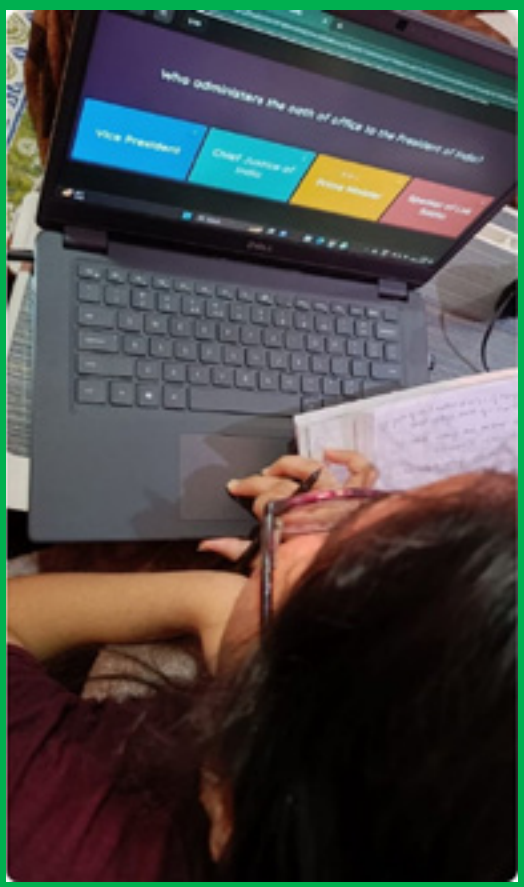


BOL BACHCHAN 2.0

This was a night of laughter and chaos and it brought everyone together for fun and an interactive experience. The literary club of our institute, The Regnant Ink organized an event called "Bol Bacchan 2.0 "on 3rd March 2024, for a hilarious take on the classic game of charades with a dash of Bollywood mix! The traditional charades format received a Bollywood makeover. Teams were presented with iconic scenes, dialogues or songs from the popular Hindi movies. There were different teams and from each team, one participant had to collect chits to act out the movie or scenes, without uttering a word, but relying on expressions and gestures. In the last round, the remaining teams had to draw emojis/ drawings related to movies, songs, or phrases. The energy was electric as teams competed, and their skills left the audience in shock. The event was a success, filled with laughter and celebration of cinematic competition.

Report on Article Writing Competition (Ram Mandir's Pran Pratishtha)

The Regnant Ink organized an online article writing competition on January 22, 2024, to commemorate the Pran Pratishtha ceremony of the Ram Mandir in Ayodhya. This competition aimed to engage students in exploring and expressing the cultural, historical, and spiritual significance of the consecration of the Ram Mandir. The Pran Pratishtha ceremony, which involves invoking the divine presence of Lord Ram into the temple idol, is a sacred ritual and a pivotal event for millions of devotees. It marks the culmination of centuries of devotion, struggle, and perseverance, symbolizing a new chapter in the temple's history. The competition saw enthusiastic participation, with students delving into various aspects of the Pran Pratishtha ceremony. Many focused on the historical journey of the Ram Mandir, tracing its origins, destruction, and the legal battles leading to its reconstruction. Others explored the spiritual dimensions, detailing the rituals involved and their deeper meanings, highlighting the temple's role in fostering spiritual growth and cultural pride.



CONSTITUTION DAY QUIZ

India, the world's largest democracy, proudly upholds a constitution that is the bedrock of its republic. The Constitution of India, meticulously drafted by the esteemed Dr. B. R. Ambedkar, was adopted on November 26, 1949, and came into effect on January 26, 1950, a day celebrated nationwide as Republic Day. November 26 is now commemorated as Constitution Day, or "Samvidhan Divas," to honor the adoption of this foundational document. Constitution Day serves as an educational and inspirational cornerstone for students, fostering a sense of civic duty, appreciation for democratic values, and preparation for active participation in democratic processes. In celebration of this significant day, The Regnant Ink organized a quiz competition aimed at encouraging students to reflect on not only their fundamental rights, but also the essential duties and responsibilities that come with being citizens of India. The event was a resounding success, engaging participants in a meaningful exploration of their role within the republic. The quiz competition helped reinforce the importance of understanding and upholding the values enshrined in the Constitution. It instilled a deeper appreciation for the principles of democracy and the responsibilities of citizenship among the participants.

MILLET COMPETITION (THE MILLET TRAP'S)

In celebration of the International Year of Millets (IYOM) 2023, The Regnant Ink proudly presented "The Millet's Trap," a cooking competition designed to highlight the importance and benefits of incorporating millets into our diets. This engaging event aimed to raise awareness about these nutritious grains and their versatility in culinary applications. To commence the event of this year, Mr. K. V. Ram Subba Reddy was invited. He did a Training program on Millet-Based Food Recipes.

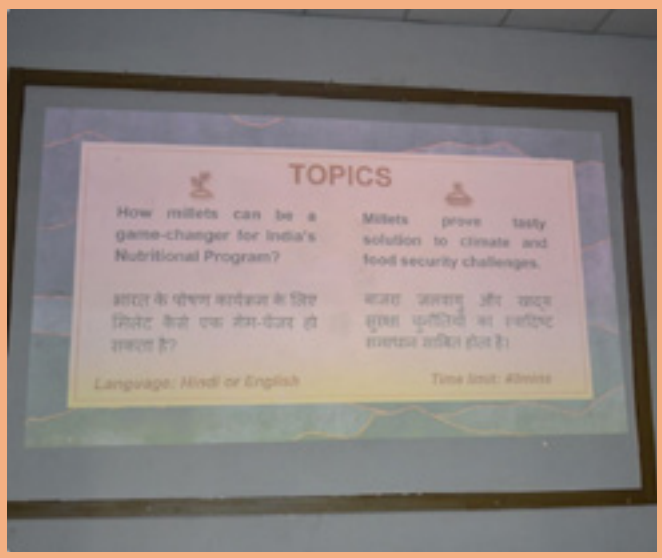
The following events were organized after the Speech of Mr. K.V. Ram Subba Reddy:

Speech competition: The students got an opportunity to share their experiences about millet and its benefits.

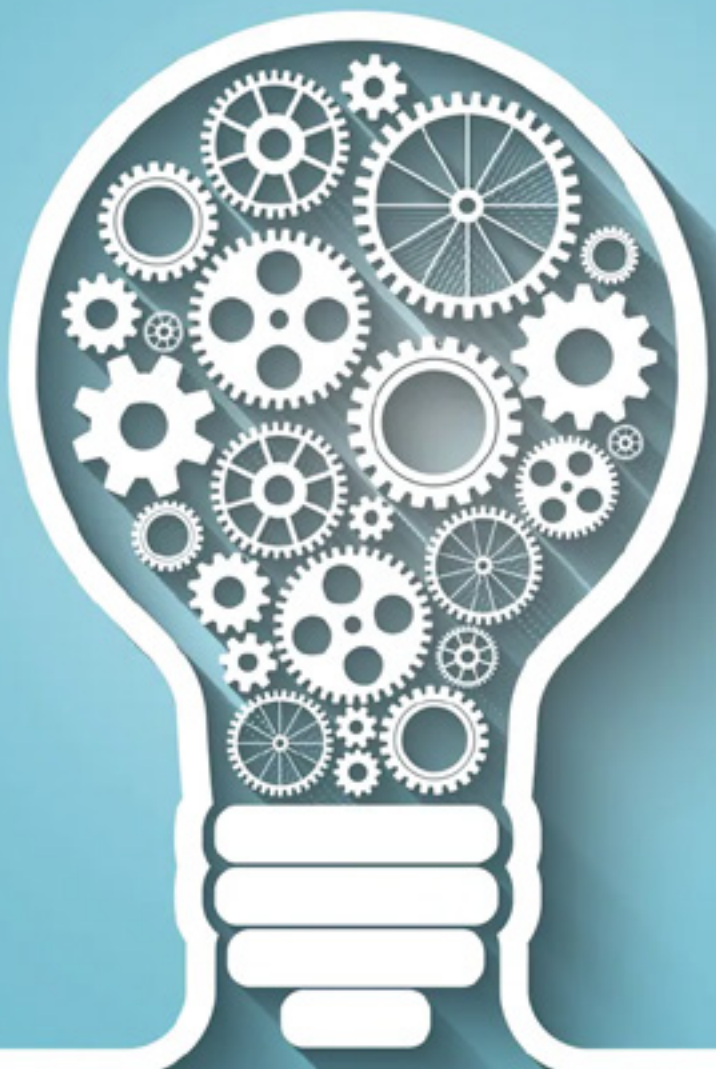
Quiz competition: A competition was organized to gain knowledge about Millets.

Essay Competition: A Short Essay competition was organized among students to develop their views on the Importance of Millet and how it can be promoted all over the Nation.

At the conclusion of the events, cooked millet-based food was served among the students and faculty members for tasting purposes.



Infrastructure Development in the Temporary Campus



Due to lack of space and extreme climatic condition in the temporary campus of the Institute, efforts have been made to bring in being infrastructure and regular repair for continuity of old structures. The Estate Section of NIT Sikkim manages all infrastructure related activities. The Institute has been operating from the temporary site since last 14 years and the campus is in the need for regular repairs and maintenance to discharge the necessary academic and administrative activities. Furthermore, with the approval of the BWC and the BoG, fabrication of temporary sheds is initiated to provide the necessary and basic laboratories/ class rooms and other infrastructure. In the year 2023-24, the Institute has taken up the following projects, which are either under construction or completed,

A. Construction of Basketball Court.

Several requests had been received from the students to construct a basketball court in the Institute. The students also requested the same to the Hon'ble Chairman, BoG during his visit to NIT Sikkim. Considering the Importance of physical and mental fitness of the students, Hon'ble Chairman also emphasized to create necessary infrastructure for sports and recreational activities. With reference to this the space near administrative block has been identified and work has been carried out by the Estate department under the supervision of Civil Engineering Department. The pictures of the same is given in Fig.1.

Fig.1: Newly Constructed Basketball Court

B. Fabrication of Shed for Civil labotoary and Entrepreneurship Development Cell

Due to limited space in the present temporary campus of the institute there was no dedicated space for Entrepreneurship Development Cell (EDC). With reference to this a request had been received from the In-charge of EDC. Also, requirement of laboratory space was received from the Department of Civil Engineering. With reference to this, the vacant space available beside Civil Engineering Department with an approximate area of 1500 sq.ft was identified for fabrication of shed for the aforesaid purpose. The same was fabricated using MS section and covered by using GI Sheets. The work is carried out by the Estate Department of NIT Sikkim under the supervision of Mechanical Engineering Department and Department of Civil Enineering. The picture of the same is given in Fig.2.

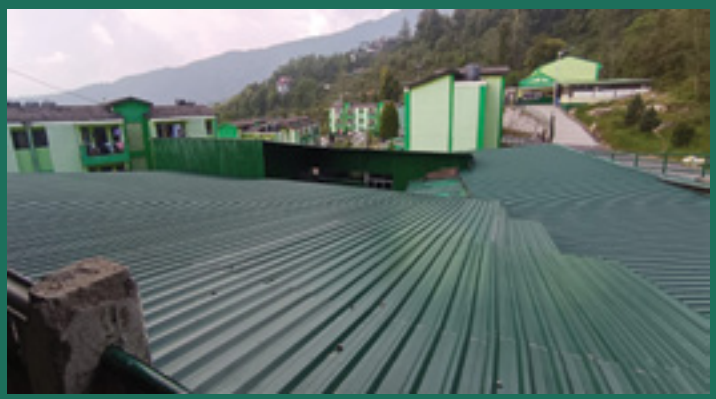


Fig.2 Fabrication of Shed for EDC and Civil Laboratory

C. Fixing of False Ceiling in Hostels, Civil & EEE Department.

As per the complaints and requirements received from the hostels, departments & offices, the committee visited the hostels, offices, laboratories and different class rooms. Based on the visits, the committee found severe damage in the false ceiling of the hostel rooms as well as in the common passage areas of the hostels (Prefab-I and II) and mess. Therefore, it was urgently required to do repair work in these areas. As Ravangla witnesses heavy rain fall which lasts for around 6 to 7 months in a year, the committee recommended fixing false ceiling in the abovementioned area along with some spaces of Civil and EEE Department for sound proofing.

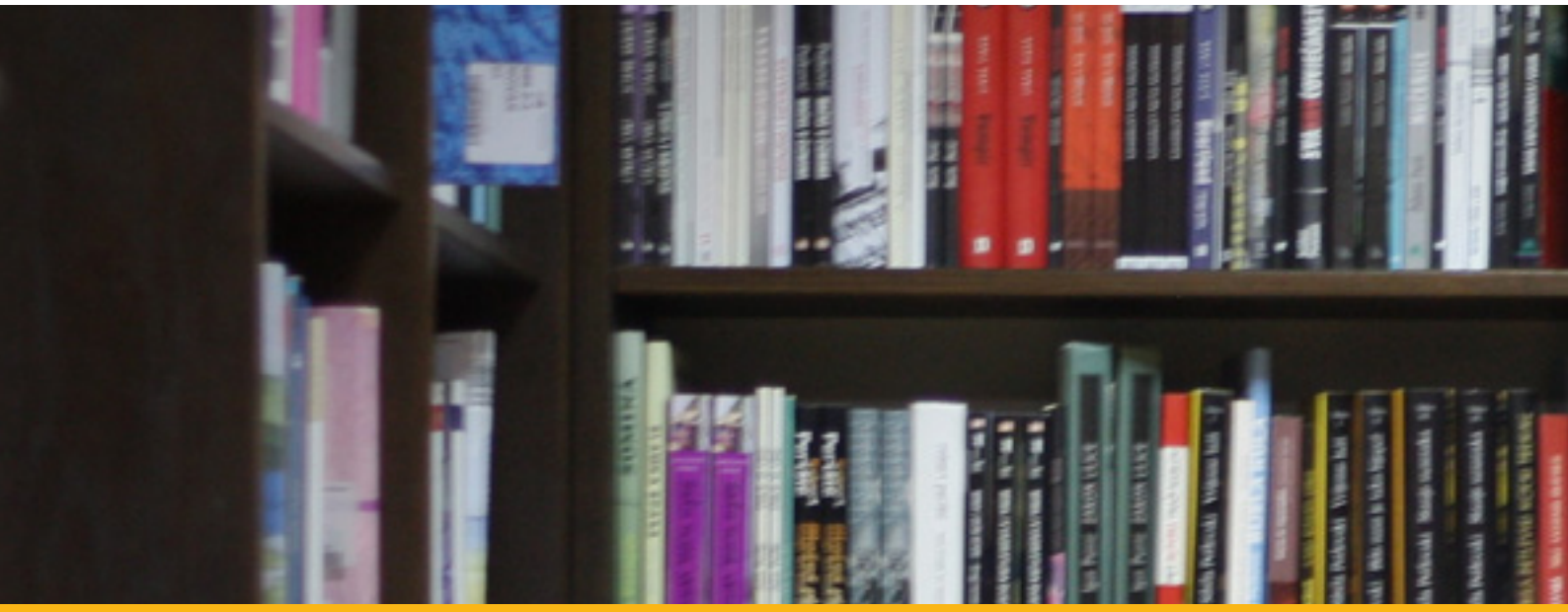
Some of the pictures of the same is given in Fig.3

Fig.3 Fixing of False ceiling

D. Aluminum Partition work at different department and offices

As NIT Sikkim is running from a temporary campus, proper sitting space for the faculty is not available. Cabins for faculty and research scholars have been a major necessity. The requisition for the same was received from various departments. Due to limited space in the temporary campus, the spaces inside various laboratories and offices have been partitioned using Aluminum Partition to facilitate sitting spaces for the faculties, staff and research scholars. The work has been carried out by the Estate Department under the supervision of Civil and Mechanical Engineering Department. Some of the pictures of the same is given in Fig.4

Fig.4 Cubical partition done by Aluminum Tubular Section



CENTRAL LIBRARY

The Central Library plays a crucial role in the academic and research endeavors of the Institute. In 2012, it was founded as the Knowledge and Information Center (KIC), with the purpose of granting students and researchers access to scholarly information, research assistance, and study resources. Its primary objective is to provide efficient services to users, catering to their educational requirements by offering essential facilities.

Library Collection

The library at the Institute has experienced consistent growth since its inception, offering a diverse range of high-quality learning materials for the academic community. These resources are available in both traditional print and modern digital formats. The collection includes textbooks, fiction novels, reference materials, encyclopedias, dictionaries, journals, and magazines. The Institute has subscriptions to reputable publications such as IETE Journals, Springer-Nature, ACM Digital Library, American Physical Society (APS), JSTOR, ASCE, and ISID database to meet the requirements of students and researchers. Additionally, the central library collaborates with DELNET to provide access to e-books and other electronic resources. Users have the opportunity to explore a wide range of e-resources through DELNET. Furthermore, research scholars can utilize the platform "QuillBot" for services such as paraphrasing, grammar checking, citation generation, plagiarism detection, and more. As part of our proactive approach, we are in the process of establishing an institutional digital repository.

S.No.	Resource	Remarks
1	ACM Digital Library	IP Based Access
2	American Physical Society - eSS Collection	IP Based Access
3	ASCE Journals Online	IP Based Access
4	Institute for Studies in Industrial Development (ISID) Database	IP Based Access
5	JSTOR	IP Based Access
6	Springer Link 1700 Collection + Nature Journal	IP Based Access
7	Trunitin	Remote Access
8	QuillBot	Remote Access
9	DELNET	Remote Access
10	IETE Journals	Remote Access
11	ScienceDirect	IP Based Access



Library Services

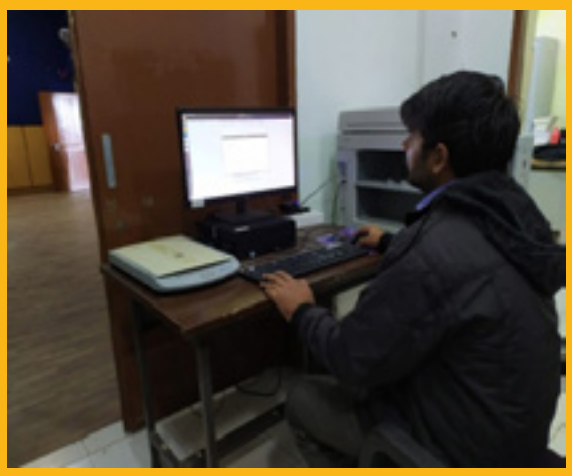
The Central Library is automated with KOHA library automation software which is an open source Integrated Library System (ILS). Patrons can easily search the availability of books and other resources of library using OPAC (Online Public Access Catalogue). Even students can check their own library accounts using their mobile or PC through OPAC. The circulation process is time efficient as circulation of books is executed through the barcode scanning system. Books are well organized and arranged according the DDC classification system so it is easy to find out the book which one is looking for.

Despite space limitations, special arrangement is made for a reading room for students at a multi-purpose hall. Proper room heating facilities are provided for convenience.

The library is well-equipped with photocopy; printing and scanning facilities. Two big-size canon printers cum scanners with computer are assigned for this regard.

Central Library provides Book Bank services on limited titles throughout the year. Central Library also consists of books regarding competitive examinations like GATE, CAT and IIT-JEE etc. The library consists of a reference room separately. CAS, SDI and referral services are provided here. Students can also avail of e-magazines and e-newspapers from the library. Students are encouraged to access the NDL (National Digital Library) to avail e resources on their area of interest.

"Library is a heart of an institution" -Radhakrishnan, 2nd president of India


Medical Unit

The primary health care services are accessible in the medical unit of the Institute which is located within the campus, amidst the residential zone and the academic zone. The medical unit opens for 24 hours regularly; however it is functional round the clock in emergency. The visiting doctors visit the campus four times a week providing general consultation in OPD basis for 3 hours per visit.

The list of doctors is as follows:

Sl.No.	Name and Designation of the Doctors
01.	Dr. D. Deokata M.S. Principal Chief Consultant (ORTHO)
02.	Dr. Pratik Rasaily, MOTC, DTC
03.	Dr. Sangeeta Subba MD Medicine

There are also three nurses to provide general medical services that include first aid, dressing, intravenous fluid infusion, medication administration as instructed by the doctors, blood pressure measurement, pulse rate, SPO2, weight measurement and oxygen therapy. The students, employees, and other beneficiaries, of the Institute can avail free outdoor medical treatment, medicines, first-aid, dressing, nebulisation, and intravenous fluid infusion services in the medical unit.

One Ambulance with first aid kit and oxygen cylinder is available for students and employees of the Institute.

Medical Insurance facility is available to the students for IPD treatment.

Pic: Ambulance facility at NIT Sikkim

There has been recent addition of various new and general medications and also of instruments required for minor procedures.

The medical unit organized awareness program on Blood Donation on World Blood Donor Day 14th June, 2023 and Integrated Health Check up on 17th November, 2023 at our campus where all the students and faculties/staff could get a free medical checkup.

However, being located in a remote hill station, the overall medical facilities of the Institute need to be upgraded and enhanced to ensure the smooth medical services to the beneficiaries

Pic: Medical Store in Medical Unit

Pic: Minor Procedures in Medical Unit

Press and Media Corner:

The Media Corner at NIT Sikkim plays a pivotal role in managing and disseminating information related to the institute. The media campaigner oversees all press and media affairs, ensuring a consistent and positive representation of the Institute across various platforms. The institute maintains active media platform such as website (https://nitsikkim.ac.in/), social media handles including a Facebook page (NITSIKKIMADMIN) and an X account (@NITSIKKIM1), formerly Twitter, to engage with the community and share updates in real-time.

For significant events and announcements, NIT Sikkim regularly releases press notes to facilitate widespread dissemination through print media and audio-video channels at both regional and national levels. This comprehensive approach ensures that the institute's achievements, programs, and initiatives reach a broad audience, enhancing its visibility and reputation.

NIT-Sikkim's 'KodeKraze' in grand finale of Smart India Hackathon

SUMMIT REPORT
GANGTOK, 15 DEC:

A six-member team of students from National Institute of Technology, Sikkim, has been selected to participate in the grand finale of Smart India Hackathon- 2023 to be held at GIS College of Engineering and Technology on 19 and 20 December, a press release informs.

The student team comprises of third-year students Gaurav Kumar Singh (Team leader), Anjali Kumari, Shruti Bharti, Pritam Sharma, Priyank, and Abhijit Singh.

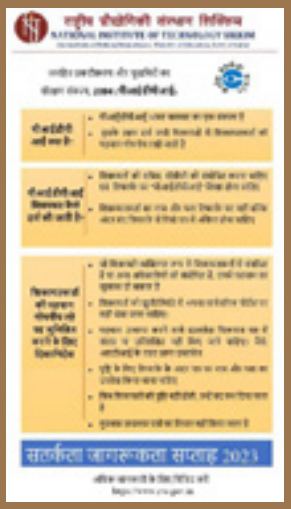
The team, going by the name, "KodeKraze,"

is committed to addressing the problem statement 1409 AI based IT training system by leveraging innovative solutions and cutting-edge technologies, Mr Singh informs.

Smart India Hackathon is a collaborative effort by the Ministry of Education's Innovation Cell and the All India Council of Technical Education (AICTE). It is a nationwide initiative to provide students a platform to become future entrepreneurs. The event will feature the participation of 26 Central Ministries, 6 State Ministries, and 4 industry partners.

Prof MC Govil, Director NIT-Sikkim, extended his best wishes to the students, stressing the importance of the hackathon and said that through this platform students can showcase their innovative and creative skills, the release adds.

He said that NIT Sikkim believes in exploring technological solutions that can help society.




NIT Sikkim students participate in Smart India Hackathon


CapitalTIMES
198 degrees conferred at NIT Sikkim's 6th Convocation


Udgam 2023 concludes at NIT Sikkim

Community Development Activities:

The Community Development Cell of the Institute organized various developmental activities for the development and welfare of the people in need. In the wee hours of 4th October 2023 Glacier Lake Outburst Flood (GLOF) caused the sudden release of a massive amount of water from the Lhonak Lake located in the Northern parts of Sikkim that severely affected North and Eastern parts of the low-lying belt in Sikkim. The river Teesta took a furious form claiming several lives, causing widespread damage to roads, and personal properties, cutting off communication systems, and washing away several bridges.

To support the flood affected community, an exemplary voluntary donation drive was carried out in the college premises. With the monetary aid collected, basic necessities like food items, other essential commodities and clothes were arranged and sent to the temporary relief camps where disaster-displaced people were housed.


GOVERNMENT OF SIKKIM
LAND REVENUE & DISASTER MANAGEMENT DEPARTMENT
TASHILING SECRETARIAT, BLOCK – II, GANGTOK
Email: sdmsl1@gmail.com, Tel: 03592-281145

Memo No. 311 /LR&DM/Gaz Dated: 04/10/2023

NOTIFICATION

Cloud burst induced water surge around Lhonak area led to flash floods in low lying areas of Teesta basin causing rise of water levels with very high velocities downstream within the States of Sikkim and West Bengal in the early hours of 4th October 2023. This has caused extensive damages to life and property including breakdown of road networks and communications. Several important bridges connecting to the forward border areas and within sikkim are washed away due to the above flash floods in Mangan, Gangtok, Pakyong and Namchi Districts of Sikkim.

Hence, with the approval of the Chairman, Sikkim State Disaster Management Authority and as recommended by the State Executive Committee (SEC), I, Vijay Bhushan Pathak, IAS, in the capacity of Chairman, SEC hereby declare this catastrophe as a Disaster in exercise of the powers conferred vide Section 22(2) (b) of the Disaster Management Act, 2005, (53 of 2005)

(Vijay Bhushan Pathak, IAS)
Chief Secretary-cum- Chairman, SDMA
Government of Sikkim
File No 2018/HSDMA/LR&DM/Gen(b)/2023

Right to Information Cell

Introduction:

In accordance to the Suo Moto Disclosure of RTI Act 2005, the Institute is required to provide as much information to the public through various means of communications so that the public have minimum need to use the Act to obtain information. Therefore, the RTI section on the Institute portal / website 'https://nitsikkim.ac.in/footer/rti.php' with proactive disclosure is readily available to the general public.

The Section 4(1)(b) of the Act, in particular, requires every public authority to publish following sixteen categories of information and are required to get its proactive disclosure package audited by third party every year:

(i) the particulars of its organization, functions and duties;

(ii) the powers and duties of its officers and employees;

(iii) the procedure followed in the decision-making process, including channels of supervision and accountability;

(iv) the norms set by it for the discharge of its functions;

(v) the rules, regulations, instructions, manuals and records, held by it or under its control or used by its employees for discharging its functions;

(vi) a statement of the categories of documents that are held by it or under its control;

(vii) the particulars of any arrangement that exists for consultation with, or representation by, the members of the public in relation to the formulation of its policy or implementation thereof;

(viii) a statement of the boards, councils, committees and other bodies consisting of two or more persons constituted as its part or for the purpose of its advice, and as to whether meetings of those boards, councils, committees and other bodies are open to the public, or the minutes of such meetings are accessible for public;

(ix) directory of its officers and employees;

(x) the monthly remuneration received by each of its officers and employees, including the system of compensation as provided in its regulations;

(xi) the budget allocated to each of its agency, indicating the particulars of all plans, proposed expenditures and reports on disbursements made;

(xii) the manner of execution of subsidy programmes, including the amounts allocated and the details of beneficiaries of such programmes;

(xiii) particulars of recipients of concessions, permits or authorisations granted by it;

(xiv) details in respect of the information, available to or held by it, reduced in an electronic form;

(xv) the particulars of facilities available to citizens for obtaining information, including the working hours of a library or reading room, if maintained for public use;

(xvi) the names, designations and other particulars of the Public Information Officers.

Besides the categories of information enumerated above, the Government has issued guidelines that the following categories of information may be published by the public authorities:

i. Information relating to procurement

ii. Public Private Partnerships

iii. Transfer Policy and Transfer Orders

iv. RTI Applications

v. CAG & PAC paras

vi. Citizens Charter

vii. Discretionary and Non-discretionary grants

viii. Foreign Tours of PM/Ministers and senior officers

Officials of Institute RTI Cell:

Dr. Ranjan Basak
Associate Professor, Department of Mechanical Engineering
Nodal Officer (NO)
Email: basakranjan@nitsikkim.ac.in

Dr. Achintesh Narayan Biswas
Associate Professor, Department of Chemistry
First Appellate Authority (FAA) for RTI
Email: dadmin@nitsikkim.ac.in

Dr. Dhananjay Tripathi
Associate Professor, Department of Humanities and Social Sciences
Central Public Information Officer (CPIO)
Email: dhananjaystripathi9@nitsikkim.ac.in

Institute in compliance to the above has been proactively disclosing all the information and getting it audited every year. For the FY 2023-24, the third-party audit was done on 06.05.2024. The third part audit report FY 2023-24 is appended below: -

Self appraisal report for Year (2023-24)

Auditor Agency: Sunil Dutt(National Institute of Technical Teachers Training & Research (Ministry of Education, Govt, of India), Sector-26, Chandigarh 160 019 (India).)

Ministry Name: Ministry of Education
Department Name: Department of Higher Education
Public Authority Name: National Institute of Technology, Sikkim

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
1	**Organisation and Function**							
1.1	Particulars of its organisation junctions and duties[Section 4(1)(b)(i)]							
1.1.1	Name and address of the Organization	Fully Met	1.28	1.28	https:/ nitsikkim.ac.in contact.php	Fully Met	1.28	https ://nitsikki rn.ac.in/; https:// nitsikkim.ac.in/ documents/rti/Suo%20 Mo to%2Disclosure%20 as%20on%2024.04. 2024.pdf
1.1.2	Head of the organization	Fully Met	1.28	1.28	https://nitsikki rn.ac.in/about/ administration /director.php	Fully Met	1.28	https ://nitsikkirn.ac.in/ about/administration /director.php
1.1.3	Vision, Mission and Key objectives	Fully Met	1.28	1.28	https://nitsikkirn.ac.in/ about/ vision.php	Fully Met	1.28	https://nitsikkirn.ac.in/ about/vision.php
1.1.4	Function and duties	Fully Met	1.28	1.28	https://nitsikkim. ac.in/documents/rti/ Format%20for%20 Transparency %20Audit%20 23-24_English.pdf	Fully Met	1.28	https://nitsikkim. ac.in/documents/rti/ Suo %20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024. pdf
1.1.5	Organization Chart	Fully Met	1.28	1.28	https://nitsikki rn.ac.in/about/ administration /organization-structure, php	Fully Met	1.28	https://nitsikki rn.ac.in/about/ administration /organization structure, php
1.1.6	Any other details-the genesis, inception, formation of the department and the HoDs from time to time as well as the committees/ Commissions constituted from time to time have been dealt	Fully Met	1.28	1.28	https://nitsikki m.ac.in/docu ments/ rti/Form at%20for%20 Transparency%20 Audit%20 23-24_ English.pdf	Fully Met	1.28	Requisite information under the link Department; h ttps:// nitsikkim.ac.in/ docume nts/rti/ Suo%2 0Moto%20 Dis closure%20as %20 on%2024 .04.2024.pdf
1.2	**Power and duties of its officers and employees[Section 4(1) (b)(ii)]**							
1.2.1	Powers and duties of officers (administrative, financial and judicial)	Fully Met	1.54	1.54	https://nitsikki rn.ac.in/about/ information/ac t_and_statute s.php	Fully Met	1.54	https ://nitsikkim. ac.in/documents/rti/ Suo%20Moto%20 Disclosure%20as%20 on%224.04.2024.p df; https://nitsikkim. ac.in/about/ information/ act_and_statu tes.php
1.2.2	Power and duties of other employees	Fully Met	1.54	1.54	https://nitsikki rn.ac.in/about/ information/ac t_and_ statutes.php	Fully Met	1.54	Same as above
1.2.3	Rules/ orders under which powers and duty are derived and	Fully Met	1.54	1.54	https://nitsikki trn.ac.in/about/ information/ac t_and_ statutes.php	Fully Me	1.54	Same as above

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
1.2.4	Exercised	Fully Met	1.54	1.54	https://nitsikki rn.ac.in/about information/ac t_and_ statutes.php	Fully Me	1.54	Same as above
1.2.5	Work allocation	Fully Met	1.54	1.54	https://nitsikki rn.ac. in/about/information/ act_and_statutes.php	Fully Met		Same as above
1.3	**Procedure followed in decision making process [Section 4(1)(b)(iii)]**							
1.3.1	Process of decision making Identify key decision making points	Fully Met	1.54	1.54	https://nitsikki rn.ac.in/about/ information/ac t_and_ statute s.php	Fully Met	1.54	https://nitsikki rn.ac.in// docu ments/rti/Suo %20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; https://nitsi kkim.ac.in/abo ut/ information/ act_and_ statu tes.php
1.3.2	Final decision making authority	Fully Met	1.54	1.54	https://nitsikki rn.ac. in/about/information/ ac t_and_statutes.php	Fully Met	1.54	Same as above
1.3.3	Related provisions, acts, rules etc.	Fully Met	1.54	1.54	https://nitsikki rn.ac. in/about/information/ ac t_and_statutes.php	Fully Met	1.54	Same as above
1.3.4	Time limit for taking a decisions, if any	Fully Met	1.54	1.54	https://nitsikki m.ac. in/RTI/RTI.php	Fully Met	1.54	Same as above
1.3.5	Channel of supervision and accountability	Fully Met	1.54	1.54	https://nitsikkirn.ac.in/ about/administration /organization- structure.php	Fully Met	1.54	Same as above
1.4	**Norms for discharge of functions[Section 4(1)(b)(iv)I**							
1.4.1	Nature of functions/ services offered	Fully Met	1.54	1.54	https://nitsikkim.ac.in/ documents/rti/Form at%20for%2 Transperency %20Audit%2023- 24_English.pdf	Fully Met	1.54	https ://nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosure%2 0as%20on%20 24.04.2024. pdf; https://nitsikkim.ac.in/ abo ut/information/ act_ and_statu tes.php
1.4.2	Norms/ standards for functions/ service delivery	Fully Met	1.54	1.54	https://nitsikki Fully Met m.ac.in/docu ments/rti/Form at%20 for%20Transperency %20Audit%20 23-24_English.pdf	Fully Met	1.54	Same as above
1.4.3	Time-limit for achieving the targets	Fully Met	1.54	1.54	https://nitsikki Fully Metm.ac.in/RTI/R TI.php	Fully Met	1.54	Same as above
1.4.5	Process of redress of grievances	Fully Met	1.54	1.54	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency%20 Audit%2023-24_ English.pdf	Fully Met	1.54	Same as above
1.5	**Rules, regulations, instructions manual and records for discharging functions[Section 4(1)(b)(v)]**							

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
1.5.1	Title and nature of the record/manual /instruction.	Fully Met	1.92	1.92	https://nitsikkimrn. ac.in/	Fully Met	1.92	https://nitsikkim. ac.in/documents/rti/ Suo%20Moto%20 Disclosure%2 0as%20 on%2024.04.2024.pdf; https ://nitsi kkim.ac.in/ abo ut/information/ act_and_statu tes.php
1.5.2	List of Rules, regulations, instructions manuals and records.	Fully Met	1.92	1.92	https://nitsikkim.ac.in/ documents/rti/Form at%20for%20 Transperency %20Audit%2023-24_English.pdf	Fully Met	1.92	Same as above
1.5.3	Acts/ Rules manuals etc.	Fully Met	1.92	1.92	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency%20 Audit%2023-24_ English.pdf	Fully Met	1.92	Same as above
1.5.4	Transfer policy and transfer orders	Fully Met	1.92	1.92	https://nitsikkim.ac.in/ documents/rti/trans fer_order/202 2-09-03_001.pdf	Fully Met	1.92	https://nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosure%2 0as%20 on%224.04.2024.p df; https://nitsikkim. ac.in/RTI /RTI.php
1.6	**Categories of documents held by the authority under its control[Section 4(1)(b) (vi)]**							
1.6.1	Categories of documents	Fully Met	3.85	3.85	https://nitsikkim. ac.in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	3.85	https ://nitsikki m.ac.in/ docu ments/rti/Suo %20 Moto%2Disclosure%2 0as%20 on%224.04.2024.p df; https://nitsi kkim.ac.in/abo ut/ information/ act_and_ statu tes.php
1.6.2	Custodian of documents/ categories	Fully Met	3.85	3.85	https://nitsikkim. ac.in/docu ments/rti/ Form at%20for%20 Transperency%20 Audit%20 23-24_ English.pdf	Fully Met	3.85	Same as above
1.7	**Boards, Councils, Committees and other Bodies constituted as part of the Public Authority [Section 4(1)(b)(viii)]**							
1.7.1	Name of Boards, Council, Committee etc.	Fully Met	0.96	0.96	https://nitsikkirn.ac.in/ about/ administration /boardofgover nors. php	Fully Met	0.96	https ://nitsikki rn.ac.in/ about/ administration /boardofgover nors.php; http s:// nitsikkim.a c.in/about/ ad ministration/fin anceCommitte e.php; https:// nitsikkim.ac.in /about/admini stration/ buildin gWorkCommit tee.php; https:// nitsikkim.ac.i n/about/ admin istration/senat e.php; https:// nitsikkim. ac.in/documents/rti /Suo%20Moto%20 Disclosur e%20as%20o n%2024.04.2024.pdf

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
1.7.2	Composition	Fully Met	0.96	0.96	https://nitsikkirn.ac.in/ about/ administration /boardofgover nors. php	Fully Met	0.96	Same as above
1.7.3	Dates from which constituted	Fully Met	0.96	0.96	https://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	0.96	Same as above
1.7.4	Term/ Tenure	Fully Met	0.96	0.96	https://nitsikki m.ac.in/docu ments/ rti/Format%20for%20 Transperency%20 Audit%2023-24_ English pdf	Fully Met	0.96	Same as above
1.7.5	Powers and functions	Fully Met	0.96	0.96	https://nitsikki rn.ac. in/about/information/ act_and_statute s.php	Fully Met	0.96	Same as above
1.7.6	Whether their meetings are open to the public?	Fully Met	0.96	0.96	https://nitsikki Fully Met m.ac.in/docu ments/rti/Format%20 for%20Transperency %20Audit%2023-24_Englishpdf	Fully Met	0.96	Same as above
1.7.7	Whether the minutes of the meetings are open to the public?	Fully Met	0.96	0.96	https://nitsikki rn.ac.in/about administration/ minutesOfMeeting. php	Fully Met	0.96	https ://nitsikkirn.ac.in/ about/administration /minutesOfMe eting.php
1.7.8	Place where the minutes if open to the public are available?	Fully Met	0.96	0.96	https://nitsikkim.ac.in/ documents/rti/Form at%20for%2 Transperency %20Audit%2023-24_English.pdf	Fully Met	0.96	Same as above
1.8	**Directory of officers and employees[Section 4(1) (b) (ix)]**							
1.8.1	Name and designation	Fully Met	3.85	3.85	https://nitsikkim. ac.in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	3.85	https ://nitsikki m.ac.in/ docu ments/rti/Suo %20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; https ://nitsi kkim.ac.in/abo ut/ administrati on/admin_ staf f.php
1.8.2	Telephone , fax and email ID	Fully Met	3.85	3.85	https://nitsikkirn.ac.in/ about/ administration /admin_staff.p hp	Fully Met	3.85	Same as above
1.9	**Monthly Remuneration received by officers & employees including system of compensation[Section 4(1) (b) (x)]**							
1.9.1	List of employees with Gross monthly remuneration	Fully Met	3.85	3.85	https://nitsikkim.ac.in/ documents/rti/Form at%20for%20 Transperency%20 Audit%2023-24_ English.pdf	Fully Met	3.85	https://nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosure%2 0as%20on%20 24.04.2024.pdf
1.9.2	System of compensation as provided in its regulations	Fully Met	3.85	3.85	https://nitsikkim.ac.in/ documents/rti/Form at%20for%20 Transperency %20 Audit%2023-24_ English.pdf	Fully Met	3.85	Same as above
1.10	**Name, designation and other particulars of public information officers[Section 4(1) (b) (xvi)]**							

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
1.10.1	Name and designation of the public information officer (PIO), Assistant Public Information officer(APIO) & Appellate Authority	Fully Met	3.85	3.85	https://nitsikkim.ac.in/RTI/RTI.php	Fully Met	3.85	https://nitsikkim.ac.in/documents/rti/Suo%20Moto%20Disclosure%20as%20on%2024.04.2024. pdf
1.10.2	Address, telephone numbers and email ID of each designated official.	Fully Met	3.85	3.85	https://nitsikkim.ac.in/RTI/RTI.php	Fully Met	3.85	Same as above
1.11	**No. Of employees against whom Disciplinary action has been proposed/taken(Section 4(2))**							
1.11.1	No. of employees against whom disciplinary action has been (i) Pending for Minor penalty or major penalty proceedings	Fully Met	3.85	3.85	https://nitsikkim.ac.in/docu ments/rti/Format%20for%20Transperency%20Audit%2023-24_English.pdf	Fully Met	3.85	https://nitsikkim.ac.in/docu ments/rti/Suo%20Moto%2Disclosure%20as%20on%2024.04.2024.pdf
1.11.2	(ii) Finalised for Minor penalty or major penalty proceedings	Fully Met	3.85	3.85	https://nitsikkim.ac.in/documents/rti/Format%20for%20Transperency%20Audit%2023-24_English.pdf	Fully Met	3.85	Same as above
1.12	**Programmes to advance understanding of RTI(Section 26)**							
1.12.1	Educational programmes	Fully Met	1.92	1.92	https://nitsikkim.ac.in/documents/rti/Format%20for%20Transperency%20Audit%2023-24_English.pdf	Fully Met	1.92	https://nitsikkim.ac.in/documents/rti/Suo%20Moto%20Disclosure%20as%20on%2024.04.2024.pdf
1.12.2	Efforts to encourage public authority to participate in these programmes	Fully Met	1.92	1.92	https://nitsikkim.ac.in/documents/rti/Format%20for%20Transperency%20Audit%2023-24_English.pdf	Fully Met	1.92	Same as above
1.12.3	Training of CPIO/APIO	Not Met	1.92	1.92	empty	Not Met	1.92	NIT Sikkim is advised to provide training to CPIO/APIO
1.12.4	Update & publish guidelines on RTI by the Public Authorities concerned	Fully Met	1.92	1.92	https://nitsikkim.ac.in/RTI/RTI.php	Fully Met	1.92	Guidelines on RTI are updated and published on regular intervals; Last update is as on 24.04.2024
1.13	**Transfer policy and transfer orders[F No. 1/6/2011- IR dt. 15.4.2013]**							
1.13.1	Transfer Policy And Transfer Orders[F No. 1/6/2011- IR Dt. 15.4.2013]	Fully Met	7.69	7.69	https://nitsikki m.ac.in/documents/rti/Form at%20for%20Transperency%20Audit%20 23-24_English.pdf	Fully Met	7.69	https://nitsikki m.ac.in/documents/rti/Suo%20Moto%20Disclosure%2 0as%20on%2 024.04.2024.pdf; https ://nitsi kkim.ac.in/RTI/RTI.php
Total			100	98	100		98	
2	**Budget and Programme**							
2.1	**Budget allocated to each agency including all plans, proposed expenditure and reports on disbursements made etc.[Section 4(1)(b)(xi)]**							
2.1.1	Total Budget for the public authority	Fully Met	10	10.00	https://nitsikkirn.ac.in/about information/annual_report.php	Fully Met	10.00	https://nitsikkim.ac.in/documents/rti/Suo%20Moto%2Disclosure%20as%20on%2024.04.2024.pdf

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
2.1.2	Budget for each agency and plan & programmes	Fully Met	10	10.00	https://nitsikkirn.ac.in/about/information/annual_report.php	Fully Met	10.00	Same as above
2.1.3	Proposed expenditures	Fully Met	10	10.00	https://nitsikkim.ac.in/about/information/annual_report.php	Fully Met	10.00	Same as above
2.1.4	Revised budget for each agency, if any	Fully Met	10	10.00	https://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency%20 Audit%20 23-24_ English.pdf	Fully Met	10.00	Same as above
2.1.5	Report on disbursements made and place where the related reports are available	Fully Met	10	10.00	https://nitsikki m.ac.in/ about/ information/annual_report.php	Fully Met	10.00	Same as above
2.2	**Foreign and domestic tours(F.No. 1/8/2012- IR dt. 11.9.2012)**							
2.2.1	Budget	Fully Met	16.67	16.67	https://nitsikki m.ac.in/ about/ information/annual_report.php	Fully Met	16.67	https ://nitsikki m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.pdf
2.2.2	Foreign and domestic Tours by ministries and officials of the rank of Joint Secretary to the Government and above, as well as the heads of the Department.- (a) Places visited, (b) The period of visit, (c) The number of members in the official delegation, (d) Expenditure on the visit	Not Met	16.67	0	empty	Fully Met	16.67	Now available as above
2.2.3	Information related to procurements- (a) Notice/ tender enquires, and corrigenda if any thereon, (b) Details of the bids awarded comprising the names of the suppliers of goods/ services being procured, (c) The works contracts	Fully Met	16.67	16.67	https://nitsikkim.ac.in/archiv es.php	Fully Met	16.67	Same as above
	concluded - in any such combination of the above- and, (d) The rate/ rates and the total amount at which such procurement or works contract is to be executed.							
2.3	**Manner of execution of subsidy programme [Section 4(i)(b)(xii)]**							
2.3.1	Name of the programme of activity	Not Applicable	0	0	empty	Not Applicable	0	https ://nitsikki m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.pdf; As per NIT Sikkim, it is NOT applicable
2.3.2	Objective of the programme	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.3.3	Procedure to avail benefits	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.3.4	Duration of the programme/ scheme	Not Applicable	0	0	empty	Not Applicable	0	Same as above

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
2.3.5	Physical and financial targets of the programme	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.3.6	Nature/ scale of subsidy / amount allotted	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.3.7	Eligibility criteria for grant of subsidy	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.3.8	Details of beneficiaries of subsidy programme (number, profile etc)	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.4	**Discretionary and non-discretionary grants [F. No. 1/6/2011-IR dt. 15.04.2013]**							
2.4.1	Discretionary and non-discretionary grants/ allocations to State Govt./ NGOs/other institutions	Not Applicable	0	0	empty	Not Applicable	0	https ://nitsikki m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; As per NIT Sikkim, it is NOT applicable
2.4.2	Annual accounts of all legal entities who are provided grants by public authorities	Not Applicable	0	0	empty	Not Applicable	0	Same as above
2.5	**Particulars of recipients of concessions, permits of authorizations granted by the public authority [Section 4(1) (b) (xiii)]**							
2.5.1	For each concessions, permit or authorization granted - (a) Eligibility criteria, (b) Procedure for getting the concession/ grant and/ or permits of authorizations, (c) Name and address of the recipients given concessions/ permits or authorizations, (d) Date of award of concessions/ permits of authorizations	Not Applicable	0	0	empty	Not Applicable	0	https ://nitsikki m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; As per NIT Sikkim, it is NOT applicable
2.6	**CAG & PAC paras [F No. 1/6/2011- IR dt. 15.4.2013]**							
2.6.1	CAG and PAC paras and the action taken reports (ATRs) after these have been laid on the table of both houses of the parliament.	Fully Met	50	50.00	https://nitsikkirn.ac.in/ about/ information/an nual_report.php	Fully Met	50.00	https://nitsikkirn. ac.in/docu ments/ Informa tions/CAG%2 OPar as%20a nd%20 Action%20Taken%2 OReports/CA G%20 PAR A%20FY%2020 22-23.pdf
Total			150	133		150	150	
3	**Publicity Band Public interface**							
3.1	**Particulars for any arrangement for consultation with or representation by the members of the public in relation to the formulation of policy or implementation there of [Section 4(1)(b)(vii)] [F No 1/6/2011-IR dt. 15.04.2013]**							
3.1.1	Relevant Acts, Rules, Forms and other documents which are normally accessed by citizens	Fully Met	12.5	12.50	https://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	12.50	https ://nitsikkim. ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.pdf

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
3.1.2	Arrangements for consultation with or representation by - (a) Members of the public in policy formulation/ policy implementation, (b) Day & time allotted for visitors,(c) Contact details of Information & Facilitation Counter (IFC) to provide publications frequently sought by RTI applicants	Fully Met	12.5	12.50	https://nitsikkim.ac.in/docu ments/rti Form at%20for%20 Transperency%20 Audit%20 23-24English.pdf	Fully Met	12.50	Same as above
3.1.3	Public- private partnerships (PPP)- Details of Special Purpose Vehicle (SPV), if any	Not Applicable	0	0	empty	Not Applicable	0	As per NIT Sikkim, it is NOT applicable
3.1.4	Public- private partnerships (PPP)- Detailed project reports (DPRs)	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.5	Public- private partnerships (PPP)- Concession agreements.	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.6	Public- private partnerships (PPP)- Operation and maintenance manuals	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.7	Public- private partnerships (PPP) - Other documents generated as part of the implementation of the PPP	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.8	Public- private partnerships (PPP) - Information relating to fees, tolls, or the other kinds of revenues that may be collected under authorisation from the government	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.9	Public- private partnerships (PPP) -Information relating to outputs and outcomes	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.10	Public- private partnerships (PPP) - The process of the selection of the private sector party (concessionaire etc.)	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.1.11	Public- private partnerships (PPP) - All payment made under the PPP project	Not Applicable	0	0	empty	Not Applicable	0	Same as above
3.2	Are the details of policies / decisions, which affect public, informed to them[Section 4(1) (cyl							
3.2.1	Publish all relevant facts while formulating important policies or announcing decisions which affect public to make the process more interactive - Policy decisions/ legislations taken in theprevious one year	Fully Met	16.67	16.67	https://nitsikkirn.ac.in/ about/administration /minutesOfMeeting. php	Fully Met	16.67	https ://nitsikkim.ac.in/ documents/rti/Suo %20Moto%20 Disclosure%20as%20 on%2024.04.2024. pdf
3.2.2	Publish all relevant facts while formulating important policies or announcing decisions which affect public to make the process more interactive - Outline the Public consultation process	Fully Met	16.67	16.67	https://nitsikki m.ac.in/docu ments/ rti/Form at%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	16.67	Same as above

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
3.2.3	Publish all relevant facts while formulating important policies or announcing decisions which affect public to make the process more interactive- Outline the arrangement for consultation before formulation of policy	Fully Met	16.67	16.67	https://nitsikki m.ac.in/docu ments/ rti/Form at%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	16.67	Same as above
3.3	**Dissemination of information widely and in such form and manner which is easily accessible to the public [Section 4(3)]**							
3.3.1	Use of the most effective means of communication - Internet (website)	Fully Met	50	50.00	https://nitsikki m.ac.in	Fully Met	50.00	https://nitsikki m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; https://nitsi kkim. ac.in/
3.4	**Form of accessibility of information manual/ handbook[Section 4(1)(b)]**							
3.4.1	Information manual/ handbook available in Electronic format	Fully Met	25	25.00	https://nitsikki m.ac.in/docu ments/ rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	25.00	m.ac.in/docu ments/ rti/Suo%20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.pdf
3.4.2	Information manual/ handbook available in Printe format	Fully Met	25	25.00	https://nitsikki m.ac.in/docu ments/ rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	25.00	Same as above
3.5	**Whether information manual/ handbook available free of cost or not [Section 4(1)(b)]**							
3.5.1	List of materials available Free of cost	Fully Met	25	25.00	https://nitsikkim.ac.in/ documents/rti/Form at%20for%20 Transperency %20Audit%2023-24_English.pdf	Fully Met	25.00	https ://nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosure%2 0as%20on%20 24.04.2024.pdf
3.5.2	List of materials available At a reasonable cost of the medium	Fully Met	25	25.00	https://nitsikkim.ac.in/ documents/rti/Form at%20for%20 Transperency%20 Audit%2023-24_ English.pdf	Fully Met	25.00	Same as above
Total			**225**	**225**		**225**	**225**	
4	**E-Governance**							
4.1	**Language in which Information Manual/Handbook Available [F No. 1/6/2011 -IR dt. 15.4.2013]**							
4.1.1	English	Fully Met	14.29	14.29	https://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	14.29	https://nitsikki m.ac.in/ docu ments/rti/Suo %20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.pdf
4.1.2	Vernacular/ Local Language	Fully Met	14.29	14.29	https://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	14.29	https ://nitsikki m.ac. in/docu ments/rti/ Form at%20for%20 Transperency %20Audit%20 23-24_Hlndi.p df
4.2	When was the information Manual/Handbook last updated?[F No. 1/6/2011-IR dt 15.4.2013]							

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
4.2.1	Last date of Annual updation	Fully Met	28.57	28.57	https://nitsikkim.ac.in/docu ments/rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	28.57	24.04.2024
4.3	Information available in electronic form[Section 4(1)(b)(xiv)]							
4.3.1	Details of information available in electronic form	Fully Met	9.52	9.52	https://nitsikkim.ac.in/documents/rti/Form at%20for%20 Transperency %20Audit%20 23-24_English	Fully Met	9.52	https ://nitsikkim.ac.in/documents/rti/Suo %20Moto%20 Disclosure%20as%20 on%2024.04.2024.p
4.3.2	Name/ title of the document/record/ other information	Fully Met	9.52	9.52	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	9.52	Same as above
4.3.3	Location where available	Fully Met	9.52	9.52	https://nitsikkim.ac.in/documents/rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	9.52	Same as above
4.4	Particulars of facilities available to citizen for obtaining information[Section 4(1)(b)(xv)]							
4.4.1	Name & location of the faculty	Fully Met	7.14	7.14	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	7.14	https ://nitsikkim. ac.in/documents/rti/ Suo%20Moto%20 Disclosure%20as%20 on%2024.04.2024.pdf
4.4.2	Details of information made available	Fully Met	7.14	7.14	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	7.14	Same asabove
4.4.3	Working hours of the facility	Fully Met	7.14	7.14	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	7.14	Same asabove
4.4.4	Contact person & contact details (Phone, fax email)	Fully Met	7.14	7.14	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency %20Audit%20 23-24_English .pdf	Fully Met	7.14	Same asabove
4.5	**Such other information as may be prescribed under Section 4(i) (b)(xvii)**							
4.5.1	Grievance redressal mechanism	Fully Met	3.57	3.57	https://nitsikkim.ac.in/documents/rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	3.57	https ://nitsikkim.ac.in/documents/rti/Suo %20Moto%20 Disclosure%20as%20 on%2 024.04.2024. pdf

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
4.5.2	Details of applications received under RTI and information provided	Fully Met	3.57	3.57	https://nitsikki m.ac. in/RTI/RTI.php	Fully Met	3.57	Same as above
4.5.3	List of completed schemes/ projects/ Programmes	Fully Met	3.57	3.57	https://nitsikkim.ac.in/ research/projects/pr ojects.php	Fully Met	3.57	Same as above
4.5.4	List of schemes/ projects/ programme underway	Fully Met	3.57	3.57	https://nitsikki m.ac. in/documents/rti/ Format%20for%20 Transperency%20 Audit%2023-24_ English.pdf	Fully Met	3.57	Same as above; https:// nitsikkim.ac.in /RTI/RTI.php
4.5.5	Details of all contracts entered into including name of the contractor, amount of contract and period of completion of contract	Fully Met	3.57	3.57	https://nitsikki m.ac. in/archiv es.php	Fully Met	3.57	https ://nitsikkim.ac.in/ documents/rti/Suo %20Moto%20 Disclosure%20as%20 on%2024.04.2024.pdf
4.5.6	Annual Report	Fully Met	3.57	3.57	https://nitsikki rn.ac.in/about/ information/an nual_report.php	Fully Met	3.57	https ://nitsikkirn.ac.in/ about/information/ annual_report.php
4.5.7	Frequently Asked Question (FAQs)	Fully Met	3.57	3.57	https://nitsikki m.ac.in/docu ments/rti/Form at%20for%20 Transperency %20Audit%20 23-24_English.pdf	Fully Met	3.57	https://nitsikkim.ac.in/ documents/rti/RTI_ FAQs.pdf
4.5.8	Any other information such as - (a) Citizen's Charter, (b) Result Framework Document (RFD), (c) Six monthly reports on the , (d) Performance against the benchmarks set in the Citizen's Charter	Fully Met	3.57	3.57	https://nitsikkim.ac.in/ RTI/R TI.php			https://nitsikki m.ac.in/ docu ments/rti/Suo %20Moto%20 Disclosure%2 0as%20 on%2 024.04.2024.p df; https://nitsi kkim. ac.in/doc uments/ rti/Ch arter%20for% 20delivery%2 0of% 20 works/ Result%20 Fra mework%20D ocument_26.0 4.2024_ NIT%20Slkkim.pdf
4.6	**Receipt & Disposal of RTI Aplication & appeals [Fn No 1/6/2011-IRdt. 15.04.2023]**							
4.6.1	Details of applications received and disposed	Fully Met	14.29	14.29	https://nitsikki m.ac.in/RTI/R TI.php	Fully Met	14.29	https://nitsikkim. ac.in/RTI/R TI.php; https:// nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosur e%20as%20o n%20 24.04.20 24.pdf
4.6.2	Details of appeals received and orders issued	Fully Met	14.29	14.29	https://nitsikki m.ac.in/RTI/R TI.php	Fully Met	14.29	Same as above
4.7	**Replies to questions asked in the parliament[Section 4(1)(d)(2)]**							
4.7.1	Details of questions asked and replies given	Fully Met	28.57	28.57	https://nitsikkim.ac.in/ RTI/RTI.php	Fully Met	28.57	https ://nitsikkim.ac.in/ RTI/RTI.php; https:// nitsikkim.ac.in/ documents/rti/Suo%20 Moto%20Disclosur e%20as%20on%20 24.04.2024.pdf

Sr. No	Details of disclosure	Category	Marks <	Obtained Mark	Remarks	Auditor Category	Auditor Marks	Auditor Remarks/URL
	Total		200	200		200	200	
5	**Information as may be prescribed**							
5.1	**Such other information as may be prescribed [F.No. 1/2/2016-IR dt. 17.8.2016, F No. 1/6/2011 -IR dt. 15.4.2013]**							
5.1.1	Name & details of - (a) Current CPIOs & FAAs, (b) Earlier CPIO & FAAs from 1.1.2015	Fully Met	20	20.00	https://nitsikkim.ac.in/documents/rti/Format%20for%20Transperency%20Audit%2023-24_English.pdf	Fully Met	20.00	https://nitsikkim.ac.in/documents/rti/Suo%20Moto%20Disclosure%20as%20on%2024.04.2024.pdf; https ://nitsikkim.ac.in/RTI/RTI.php
5.1.2	Details of third party audit of voluntary disclosure -(a) Dates of audit carried out, (b) Report of the audit carried out	Fully Met	20	20.00	https://nitsikkim.ac.in/RTI/RTI.php	Fully Met	20.00	14.08.2023: https://nitsikkim.ac.in/documents/rti/SeIp%20apprisal%20report%20of%20NIT%20Sikkim%20by%20Auditor%202 022-2023.pdf
5.1.5	Committee of PIOs/FAAs with rich experience in RTI to identify frequently sought information under RTI - (a) Dates from which constituted, (b) Name & Designation of the Officers	Fully Met	20	20.00	https://nitsikkim.ac.in/docu ments/rti/Form at%20for%20Transperency %20Audit%2023-24_English.pdf	Fully Met	20.00	https://nitsikki m.ac.in/docu ments/rti/Suo%20Moto%20Disclosure%2 0as%20on%2024.04.2024.pdf; https ://nitsikkim.ac.in/documents/rti/dea n_hod_registrar_change_order/Office%20OrderCommitteejnformation%20under%20RTI%20Act%20.pdf
	Total		**100**	**100**		**100**	**100**	
6	**Information Disclosed on own Initiative**							
6.1	**Item / information disclosed so that public have minimum resort to use of RTI Act to obtain information**							
6.1.1	Item / information disclosed so that public minimum resort to use of RTI Act to obtain information	Fully Met	25	25.00	https://nitsikkim.ac.in/docu ments/rti/Form at%20for%20Transperency %20Audit%20 23-24_English pdf	Fully Met	25.00	https ://nitsikkim.ac. in/RTI/RTI.php
6.2	Guidelines for Indian Government Websites (GIGW) is followed (released in February, 2009 and included in the Central Secretariat Manual of Office Procedures (CSMOP) by Department of Administrative Reforms and Public Grievances, Ministry of Personnel, Publ							
6.2.1	Whether STQC certification obtained and its validity	Not Met	12.5	0	empty	Not Met	0	NIT Sikkim is advised to initiate the process of obtaining STQC certification and uploading the same
6.2.2	Does the website show the certificate on the Website?	Not Met	12.5	0	empty	Not Met	0	Same as above
	Total		**50**	**25**		**50**	**25**	
	Grand Total		**825**	**781**		**825**	**798**	

Academic Departments

Department of Computer Science and Engineering

> *"A computer would deserve to be called intelligent if it could deceive a human into believing that it was human."*
>
> **~ Alan Turing**

The Department of Computer Science and Engineering (CSE) at National Institute of Technology Sikkim has been functioning since the inception of the Institute in the year 2010. The Department provides an outstanding teaching environment complemented by excellence in research.

The Department offers four years B. Tech degree, two years M. Tech degree and Ph. D in Computer Science and Engineering. The Department has a comprehensive curriculum on topics related to all aspects of Computer Science with special emphasis on applicability that is provided using latest techniques of engineering. The course structure is up-to-date and includes courses on state-of-the-art curriculum to equip the students and teachers with the latest developments in the field. The Department aspires to develop interdisciplinary and multidisciplinary projects based on the expertise of faculty members.

The major areas of on-going research in the Department include Artificial Intelligence, Machine Learning, Cryptography, Cyber Security, Parallel-Distributed and High-Performance Computing, Algorithms, Cloud Computing, Wireless and Sensor Networks, Content Centric Network, Internet-of-Things, Blockchain Technology, Post Quantum Cryptography, etc. The Department and the Institute collectively focus on building research groups and leverage the research activities in Sikkim in particular, and North-East region in general using a coordinated effort of various other organizations working in the field of community development using science and technology. The Department has state-of-the-art infrastructure supported by high-speed Ethernet and Wireless Network.

The Faculty and Students often collaborate on projects, working side-by-side with Researchers from other Departments across the campus, colleges of North-East region in India and with institutes abroad. In addition to the available excellent environment and quality research opportunities in the Department, there is also a real sense of community and teamwork. The Department enjoys a rich culture of research through various projects under schemes such as Visvesvaraya Ph. D scheme, Research Grants from MeitY and DST, National Mission on Himalayan Studies, specific developmental projects for North-East region, etc. The Department also contributes towards community developments through Unnat Bharat Abhiyan and scientific lifestyle development of local community (as per the scheme of the Department of Atomic Energy).

The Department aims to become worthy in imparting high-quality knowledge and develops research attitude in Computer Science and Engineering domains as well as inter-disciplinary research with a purpose to serve humanity. These serviceable attitudes can be developed by imparting knowledge in cutting edge technologies keeping pace with prevalent industry standards, while at the same time the department wishes to instill societal responsibilities steeped in ethics for all professional activities.

Programs / Courses offered by the Department

- B. Tech in Computer Science and Engineering (since 2010)
- B. Tech in Artificial Intelligence and Machine Learning (since 2024)
- M.Tech in Artificial Intelligence and Machine Learning (since 2015 as M.Tech. CSE)
- Ph. D in Computer Science and Engineering (since 2014)

Faculty Details

Prof. Mahesh Chandra Govil
Professor HAG & Director
Ph. D. (IIT Roorkee), M. Tech. (IIT Roorkee), B. Tech. MNIT Jaipur (formerly MREC)
Area of Interest: Real Time Systems, Parallel & Distributed Systems, Fault Tolerant Systems, Cloud Computing, Networks, Internet of Things.

Dr. Pratyay Kuila
Associate Professor & Head, Dean (Research & Consultancy)
Ph.D. (IIT (ISM) Dhanbad), M. Tech (NITTTR Kolkata), B. Tech (Govt. College of Engg. & Ceramic Tech., Kolkata)
Area of Interest: Artificial Intelligence, Machine Learning, Soft Computing, Evolutionary Algorithms, Computational Complexity, Wireless Sensor Networks, Distributed Computing.

Dr. Sangram Ray
Associate Professor
Ph.D. (IIT(ISM) Dhanbad), M. Tech. (IIT(ISM) Dhanbad), M.Sc M&C (IIT(ISM) Dhanbad), B.Sc. Maths. Hons. (BU), All India Rank – 49 in GATE 2006
Area of Interest: Cryptography, Public Key Infrastructure, Elliptic Curve Cryptography, Content Centric Network, Internet of Things, Cyber Security, Blockchain Technology, Post Quantum Cryptography.

Dr. Md. Sarfaraj Alam Ansari
Assistant Professor (Grade-I)
Ph.D. (NIT Sikkim), M. Tech (NIT Durgapur), B.E (Magadh University)
Area of Interest: Network Technology, Information Security & Risk Management.

Dr. Pankaj Kumar Keserwani
Assistant Professor (Grade-I)
Ph.D. (NIT Sikkim), MS (IIIT, Allahabad), B.Sc. (Ewing Christian College, Allahabad), MCA (UPTU, Lucknow)
Area of Interest: Information Security, Cyber Forensics

Dr. Krishna Kumar
Assistant Professor (Grade-II)
Ph.D. (NIT Patna), M. Tech (NIT Patna), B.Tech. (VTU Belgaum)
Area of Interest: Time-Series Sequential Data Analysis, Brain and Nature Inspired Computing, AI and Machine Learning, Knowledge Based System

Dr. Bam Bahadur Sinha
Assistant Professor (Grade-II)
Ph.D. (NIT Nagaland), M. Tech (NIT Nagaland), B.Tech. (LPU Punjab)
Area of Interest: Artificial Intelligence & Machine Learning, Deep Learning, Optimization Techniques, Recommender Systems

Temporary Faculty Members

1 Dr. Diksha Rangwani

2 Mr. Arunangshu Pal

Staff

1 *Mr. Tapan Chhetri*
Technician
MCA

Laboratory Facilities

Computer Networks Laboratory

No. of Computers: 28

Activities and Objectives

- To build an understanding of the fundamental concepts of Computer Networking.
- To describe the general principles of Data Communication, organization of Computer with the concept of Layered Approach (OSI model and TCP/IP).
- To implement a simple LAN with hubs, bridges and switches and describe how packets in the Internet are delivered.
- To introduce the students to advanced networking concepts, preparing the students for advanced courses in Computer Networking.
- To understand basic Computer Network Technology, different types of Network Topologies and Protocols.
- To assess how the choice of Data Structures and Algorithm Design Methods impacts the performance of programs.
- To choose the appropriate Data Structure and Algorithm Design Method for a specific application.
- To solve problems using Data Structures such as linear lists, stacks, queues, hash tables, binary trees, heaps, tournament trees, binary search trees, and graphs and writing programs for these solutions.

Laboratory Courses Conducted:

- Data Communication
- Computer Networks
- Adv. Computer Networks
- Internet of Things
- Wireless Sensor Networks
- Wireless Network Security
- Cyber Forensics

Blockchain Technology Data Science Laboratory

No. of Computers: 27

Inside View of Computer Laboratory 1 (Computer Network Laboratory)

Activities and Objectives

- To apply Quantitative Modeling and Data Analysis Techniques to the solution of real-world business problems, communicate findings, and effectively present results using Data Visualization Techniques.
- To demonstrate knowledge of Statistical Data Analysis Techniques utilized in business decision making.
- To apply principles of Data Science to analyze the business problems.

- To develop a basic understanding of the building blocks of Artificial Intelligence as presented in terms of intelligent agents: search, knowledge representation, inference, logic, and learning.
- To apply Algorithms to build machine intelligence.
- To characterize Machine Learning Algorithms as supervised, semi-supervised, and unsupervised.
- To effectively use Machine Learning Toolboxes.

Inside View of Computer Laboratory 2 (Data Science Laboratory)

Laboratory Courses Conducted

- Artificial Intelligence
- Machine Learning
- Deep Learning
- Big Data
- Natural Language Processing
- Data Analytics

Computing Laboratory

No. of Computers: 70

Activities and Objectives

- To learn various Computer Programming Languages.
- To analyze the asymptotic performance of Algorithms.
- To understand mathematical formulation, complexity analysis and methodologies to solve recurrence relations for Algorithms.
- To apply important Algorithm Design Paradigms and methods of analysis.
- To design Algorithms using advance data structures.
- To understand Non-deterministic Polynomial (NP) class problems and formulate solutions using standard approaches.
- To provide students with contemporary knowledge in Parallel and Distributed Computing.
- To introduce a variety of methodologies and approaches for reasoning about concurrent and distributed programs.

- To understand Database concepts, structures and query language.
- To understand the E-R model and Relational model.
- To design and build a simple Database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
- To understand Functional Dependency and Functional Decomposition.

Laboratory Courses Conducted

- Programming in C, Python, JAVA
- Design and Analysis of Algorithms
- Adv. Algorithms
- Data Structure
- Image Processing
- Operating System
- DBMS

Inside View of Computer Laboratory 3 (Computing Laboratory)

Simulations & Modeling Laboratory

No. of Computers: 40

Activities and Objectives

- To recognize the concepts and principles of Operating Systems.
- To provide comprehensive introduction to understand the underlying principles, techniques and approaches which constitute a coherent body of knowledge in Operating Systems.
- To introduce Computer Graphics and Image Processing.
- 2D object visualization, Geometrical transformation of 2D objects.
- 3D objects visualization, Projections.

Laboratory Courses Conducted

- Software Modeling and Design
- Soft Computing
- Evolutionary Computing
- Computer Graphics
- Image Processing
- Computer Vision

Inside View of Computer Laboratory 4 (Simulations & Modeling Laboratory)

Advanced Computing and Research Laboratory

GPU Facility

No. of GPUs: 08 nos.

Specifications:

Processor: Intel Xeon 5122 3.6Ghz, 4C, 16.5MB Cache, 105W

Memory: 64GB (2 X 32GB) DDR4 2666 DIMM ECC REGRAM expandable up to 768GB

Hard Disk: 512GB 2.5in SATA SSD, 2TB 7200 SATA Hard Disk

Graphics: 2*Nvidia 2080TI 11GB

OS: Windows 10 Pro Workstations Plus India

Laboratory Courses conducted

- Fog Computing
- Edge Computing
- Cloud Computing
- Quantum Computing
- Nature-Inspired Computing
- Parallel and Distributed Computing

Activities and Objectives

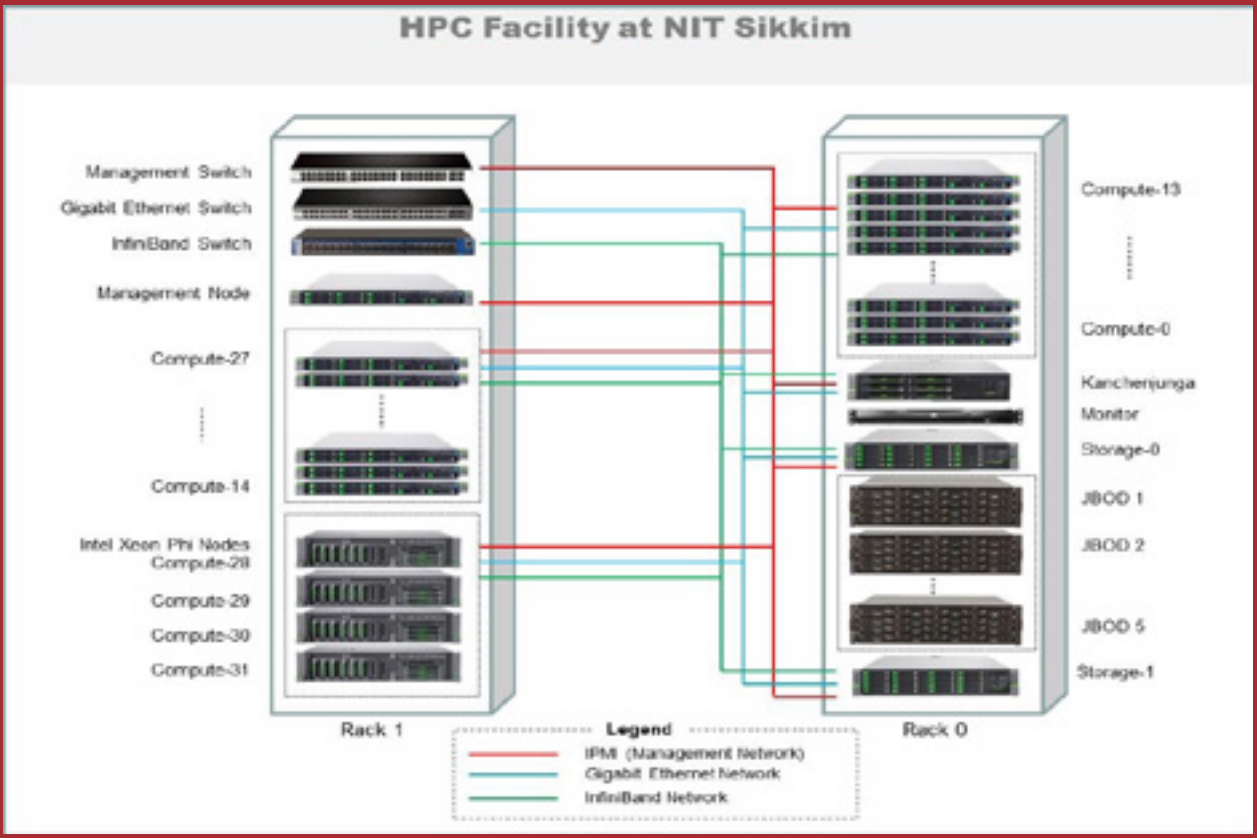
- To provide HPC PaaS with OpenMP, MPI and Map-Reduce parallel environments
- To select HPC application available as Golden images SuMegha Stack
- IaaS-MPI Cluster, Hadoop Cluster OpenMp servers, virtual servers, virtual storage.
- PaaS-Linux based MPI, Hadoop, OpenMP, GlusterFS, popular programming language and libraries
- SaaS-select applications (e.g. PSE for seasonal forecast model) and sample parallel programs

Inside View of Computer Laboratory 5 (Advanced Computing and Research Laboratory)

HPC Specifications

- 66 Number of Intel Xeon Ivy bridge (E5-2650V2) processor
- Peak Performance of 15.02 TFLOPS
- 528 x86_64 based processing cores
- 2.112 TB (2112 GB) of Total Memory (64 GB per Node)
- 6 X 600 GB, 15K RPM, SAS 6GBPS hot-plug HDD's in Master Node
- 2 X 250 GB, 7.2RPM, Enterprise SATA HDD's in Compute Nodes
- 4 X Intel Xeon Phi 5110P Accelerator (8 GB, 60 Co-processing Cores)
- 50 TB of NL-SAS and 20 TB of SAS storage configured as RAID6 Storage
- 36-port 56GBPS 4X FDR InfiniBand as Primary Network
- 48-port Gigabit Ethernet as a Secondary Network
- 48-port Gigabit Ethernet as a Management Network
- Visualization / Management Node

HPC Architecture



R&D Project completed using HPC: SMDP-C2SD Project at NIT Sikkim

Researchers worked/working on HPC

1. Dr. George Biswas, Research Scholar, Department of Physics
2. Dr. Nigidata Pradhan, Research Scholar, Department of Electronics and Communications Engineering
3. Dr. Priti Gupta, Project Faculty, Department of Electronics and Communications Engineering
4. Dr. Reshmi Dhara, Research Scholar, Department of Electronics and Communications Engineering

External Organizations carrying out research work on HPC at NIT Sikkim

The following organizations are provided access to HPC at NIT Sikkim to carry out their research work:

1. INST Mohali
2. Sikkim University
3. Central University, Punjab
4. Ashutosh College, Kolkata

List of running applications (Software Tools) on HPC System

1. Onama (Parallel Application Suite)
2. CHReME (for HPC Resource Management)
3. ROMS (Regional Ocean Modeling System)
4. Gaussian9 and Gauss View5
5. OpenFOAM (Open source Field Operation and Manipulation)
6. VASP & WANNIER90
7. Cadence
8. Mentor
9. MATLAB
10. Ansys19R (EM & CFD)
11. Anaconda & Python
12. Intel Parallel Studio (Intel MPI, Fortran, OpenMP compiler)
13. Ganglia (Cluster Monitoring)

HPC: PARAM Kanchenjunga

Ongoing/Completed R&D Projects / Schemes in the Department

- Development of Efficient and Secure Content Centric Network (CCN) Architecture with Communication Protocols using Elliptic Curve Cryptography (ECC), *funded by* ICPS Division, DST, Ministry of Science and Technology, Govt. of India (*Rs.* 20 lacs), *Sole PI: Dr. Sangram Ray*.
- Design of Efficient and Secure Internet of Things (IoT) Communication Framework in context of Content Centric Network (CCN) using Elliptic Curve Cryptography (ECC) – A next generation smart communication technology, *funded by* Ministry of Electronics & Information Technology, Govt. of India (*Rs. 68 lacs*), *Sole PI: Dr. Sangram Ray*.
- Development of IoT based Smart Compact Energy Meter (ISCEM) for Monitoring and Controlling the Power Quality Issues in a Smart Building, *funded by* IBITF, Ministry of Science & Technology, Govt. of India (*Rs. 28.1576 lacs*), *Co-PI: Dr. Sangram Ray*.
- Content Centric Network: Its Security Issues and Some Security Solutions Using Elliptic Curve Cryptography, *funded by* Digital India Corporation, Ministry of Electronics and Information Technology, Govt. of India, (*Rs. 30.00 lacs), Sole PI: Dr. Sangram Ray.*
- Smart Chair for Low Back Pain, *funded by* iHUB Divyasampark, IIT Roorkee, DST, Govt. of India (*Rs. 26 Lakhs*), *PI: Dr. Md. Sarfaraj Alam Ansari*.
- Stress and Anxiety detection using voice and facial expressions, *funded by* iHUB Divyasampark, IIT Roorkee, DST, Govt. of India (*Rs. 30 Lakhs*), *Co-PI: Dr. Md. Sarfaraj Alam Ansari*.
- IoT and API enabled system for enhanced monitoring and prediction of air quality Index, *funded by* iHUB Divyasampark, IIT Roorkee, DST, Govt. of India (*Rs. 10 Lakhs*), *PI: Dr. Pankaj Kumar Keserwani*.

Collaboration with other Departments / Institutes

- University of Bremen, Germany
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Guwahati
- Indian Institute of Technology, Gandhinagar
- Indian Institute of Technology, Hyderabad
- Indian Institute of Technology, Delhi
- CDAC, Pune
- Malviya National Institute of Technology, Jaipur
- Dr. B. R. Ambedkar National Institute of Technology, Jalandhar

Departmental Committees

Sl. No.	Committee Name	Members
1	Academic Performance Evaluation Committee (APEC)	(i) Dr. Pratyay Kuila, Convener & HoD (ii) Dr. Sangram Ray, Convener DPGC (iii) Faculty Advisor of the concerned student(s) (iv) Dr. MSA Ansari, HoD Nominee (v) Dr. Molay Roy, Nominated by the Dean Academic
2	Departmental Undergraduate Committee (DUGC)	(i) Dr. Pratyay Kuila, Convener & HoD (ii) Dr. Sangram Ray, Convener DPGC (iii) Dr. MSA Ansari, Member (iv) Dr. Pankaj Kumar Kesarwani, Member
3	Departmental Postgraduate Committee (DPGC)	(i) Dr. Sangram Ray, Convener (ii) Dr. Pratyay Kuila, Convener DUGC & HoD (iii) Dr. MSA Ansari, Member (iv) Dr. Pankaj Kumar Kesarwani, Member (v) Dr. Sanjay Kumar Jana, Nominated by the Chairperson Senate.
4	Departmental Examination Committee	(i) Dr. Pankaj Kumar Keserwani, Convener (ii) Mr. Krishna Kumar, Member (iii) Mr. Prashant Gupta, Member (iv) All Faculty Advisors, Member
5	Departmental Result Committee	(i) Dr. MSA Ansari, Convener (ii) All Faculy Advisors, Member
6	Departmental Time Table Committee	(i) Dr. Pankaj Kumar Keserwani, Convener (ii) Mr. Krishna Kumar, Member
7	Departmental Library Committee	Dr. Bam Bahadur Sinha
8	Departmental Reports Preparation, Convocation, and Records committee	(i) Dr. Sangram Ray, Convener (ii) Mr. Arunangshu Pal, Member
9	Coordinator, Community Developments	Dr. Pankaj Kumar Keserwani, Convener
10	Faculty Advisor	(i) B. Tech 2nd Year- Dr. Krishna Kumar (ii) B. Tech 3rd Year-Dr. Pankaj Kumar Kesarwani (iii) B. Tech 4th Year- Dr. MSA Ansari (iv) M. Tech- Dr. Pratyay Kuila
11	Laboratory In-charge CL-1	Dr. MSA Ansari
12	Laboratory In-charge CL-2	Dr. Pratyay Kuila
13	Laboratory In-charge CL-3	Dr. Pankaj Kumar Keserwani
14	Laboratory In-charge CL-4	Mr. Arunangshu Pal

Administrative Responsibilities of Faculty Members (Institute Level)

Sl. No.	Name of Faculty Member	Institute Level Responsibilities
1	Prof. M. C. Govil	Director
2	Dr. Pratyay Kuila	• *Head of the Department*, Computer Science and Engineering - 28.07.2023 *to* present • *Dean Research & Consultancy* – 07.09.2022 *to* present • *Faculty In-Charge,* Information and Communication Technology (FIICTI)– 09.12.2016 *to* present • *Faculty Coordinator,* Computing Devices – 18.08.2021 *to* present • *Faculty In-Charge,* Fit India Movement and Ek Bharat Shrestha Bharat (EBSB) – 08.09.2022 *to* present • *Chief Information Security Officer* (CISO)– 28.02.2023*to* present • *Coordinator, PhD Admission*– 19.06.2021 to present • *Nodal Officer,* Samarth E-Gov. Suite an initiative of Ministry of Education (MoE)– 07.02.2023 *to* present
3	Dr. Sangram Ray	• *Head of the Department*, Computer Science and Engineering - 08.09.2022 *to* 28.07.2023 • *Faculty In-charge,* Viksit Bharat @ 2047 – 09.12.2023 *to* present • *Nodal Officer,* RTI Cell – 20.02.2023 *to* 28.07.2023 • *Faculty In-charge,* Technical and Cultural Fest: 2023-2024 • *Faculty In*-charge, Alumni Affairs Cell – 14.09.2022 *to* 28.07.2023 • *Chairman,* Effective Publicity Team – 30.07.2019 *to* present • *Proctor/Warden,* Boys Hostel 1 – 28.09.2022 *to* 28.07.2023
4	Dr. Md. S. Alam Ansari	• *Coordinator,* Campus Wide Networking – 08.09.2022 to present. • *Warden,* Boys Hostel -1 – 22.02.2023 to present.
5	Dr. Pankaj Kumar Keserwani	• *Faculty In charge,* Community Development and Awareness Program - 14.09.2022 *to* present

Workshop Organized

- One Week Advanced ESDP on *"Applications of Cloud, Fog and Edge Computing in Business Analytics"* during March 21-25, 2024, funded by the Ministry of MSME with funding amount of Rs. 10 lakhs.
- One Week Advanced ESDP on "*Smart Healthcare Systems using IoT and AI/ML"* during February 27 - March 2, 2024, funded by the Ministry of MSME with funding amount of Rs. 10 lakhs.
- One Week Advanced ESDP on "*Cyber Security Awareness and Protection Against Security Threats*" during March 8-12, 2024, funded by the Ministry of MSME with funding amount of Rs. 10 lakhs.
- One Week Advanced ESDP on *"Nano Scale VLSI Design for MSME sectors"* during March 6-10, 2024, funded by the Ministry of MSME with funding amount of Rs. 10 lakhs.
- One Week Advanced ESDP on *"Robotics for Domestic and Industrial Applications"* during March 8-12, 2024, funded by the Ministry of MSME with funding amount of Rs. 10 lakhs.
- One Week Workshop on *"Innovation, Entrepreneurship and IPR"* during April 28 – May 2, 2023, funded by the E&ICT Academy, NIT Sikkim.
- One Week Workshop on "*Emerging Technology for Intelligent System & Python Programming*" during May 29 – June 2, 2023, funded by the iHUB Divyasampark, IIT Roorkee, DST, Govt. of India.

Keynote Speaker / Expert Lectures Delivered

- Prof. M. C. Govil has delivered an expert lecture on IoT in the Short Term Training Program on *"Emerging Technology for Intelligent System & Python Programming"* with the collaboration of iHub Divyasampark, IIT Roorkee on May 29, 2023.
- Prof. M. C. Govil has delivered an expert lecture at International Faculty Development Programme on *"Smart – Future Technologies in AI/ML & Data Analytics"* during April 3-7, 2023 at Amity University in Tashkent.
- Prof. M. C. Govil has delivered an expert lecture at the Workshop on India@2047 Challenges, Opportunities and Roadmap, on *"Atmanirbhar Bharat@2047"* on June 13, 2023 jointly organized by MNIT Jaipur and NIT Uttarakhand at MNIT Jaipur.
- Prof. M. C. Govil has delivered an expert lecture on *"Procurement (GFR)"* in the Workshop on NITs Leadership, jointly organized by MNIT Jaipur and NIT Uttarakhand at MNIT Jaipur on June 14, 2024.
- Prof. M. C. Govil has delivered an expert lecture on "*Introduction to FoG/Edge Computing*" in One Week Online STC on Emerging Technologies in Computing and Communication Organized by Dept. of CSE, NIT Jalandhar during Oct. 25-29, 2023.
- Prof. M. C. Govil has delivered a Keynote Address and expert lecture on *"Leveraging Computational Intelligence in Business Analytics"* in 6th International Conference in Computational Intelligence in Communications and Business Analytics held in NIT Patna on Jan. 25, 2024.
- Prof. M. C. Govil has delivered a Keynote Address in 15th International Conference scheduled in February 2024 organized by Thakur College of Engineering & Technology, Mumbai on Feb. 23, 2024.
- Prof. M. C. Govil has delivered an Expert Lecture on *"Smart Healthcare Systems using IoT and AI/ML"* organized by NIT Sikkim during Feb. 27 – March 2, 2024.
- Dr. Sangram Ray has delivered one expert lecture in online Workshop on "*Cryptography and Blockchain Technology - 2024*" on February 24, 2024 at National Institute of Technology Hamirpur, India.
- Dr. Sangram Ray has delivered two expert lectures in Advanced ESDP on "*Cyber Security Awareness and Protection Against Security Threats*" during March 8-12, 2024 at National Institute of Technology Sikkim, India.
- Dr. Sangram Ray has delivered one expert lecture in online IQAC Quality Week 2024 on February 29, 2024 at Vellore Institute of Technology, Chennai, India.
- Dr. Sangram Ray has delivered one expert lecture One Week Faculty Development Programme on "*Internet of Things (IoT) with Artificial Intelligence (AI) and Machine Learning (ML)*" on February 26, 2024 at Academy of Technology, Bandel, W.B., India.
- Dr. Sangram Ray has delivered one expert lecture in Faculty Development Programme on *"Applications of Machine Learning in Various Research Fields"* on February 22, 2024 at University of Engineering and Management, Kolkata, India.
- Dr. Sangram Ray has delivered one expert lecture in five days international Faculty Development Programme on "*Data Science and Its Applications*" on January 8, 2024 at Dr. B.C. Roy Engineering College, Durgapur, India.
- Dr. Pankaj Kumar Keserwani has delivered one expert lecture in Refresher Course on "*Synchronizing Devices and Impacts of Internal Safety Under Cyber Security*" during September 8-22, 2023 at Guru Ghasidas Vishwavidyalaya, Bilaspur, India.

List of Research Publications

Journals

1. A. Bahuguna, G. Bhaumik, and M. C. Govil. "Local Extrema Min-Max Pattern: A novel descriptor for extracting compact and discrete features for hand gesture recognition." *Biomedical Signal Processing and Control,* 93 (2024): 106203. – 15/03/2024.
2. R. Dhara, S. Yadav, S. Mahato, M. M. Sharma, and M.C. Govil, (2024). An Antipodal Antenna with Improved Axial Ratio Bandwidth. *IETE Journal of Research*, 70(1), 144-152.
3. P. Kumar, K. Pal, M. C. Govil, and A. Choudhary, A. (2023). Rapid A*: a robust path planning scheme for UAVs. *International Journal of Intelligent Robotics and Applications*, *7*(4), 720-739.
4. R. Dhara, M. C. Govil, and T. Kundu, (2023). Application of theory of characteristics modes for bandwidth enhancement of a miniaturized

Minkowski fractal antenna. *IETE Journal of Research*, 69(9), 5919-5934.

5. Santanu Ghosh, Pratyay Kuila, "Efficient Offloading in Disaster-Affected Areas Using Unmanned Aerial Vehicle-Assisted Mobile Edge Computing: A Gravitational Search Algorithm-Based Approach," *International Journal of Disaster Risk Reduction* (*Elsevier*), Vol. 97, 104067 (2023). (Impact Factor: 5.0) https://doi.org/10.1016/j.ijdrr.2023.104067

6. Subash Harizan, Pratyay Kuila, Rajeev Kumar, Akhilendra Khare, Reeta Clonia, Ashwin Perti, "Improved genetic algorithm-based sensor nodes deployment for barrier coverage," *International Journal of Sensor Networks* (*Inderscience*), Vol. 43, No. 3, pp. 146-157 (2023). (Impact Factor: 1.264) https://doi.org/10.1504/IJSNET.2023.134905

7. Anish Rai, Salam Rabindrajit Luwang, Md Nurujjaman, Chittaranjan Hens, Pratyay Kuila, Kanish Debnath, "Detection and forecasting of extreme events in stock price triggered by fundamental, technical, and external factors," *Chaos, Solitons and Fractals* (*Elsevier*), Vol. 173, 113716, (2023). (Impact Factor: 9.922). https://doi.org/10.1016/j.chaos.2023.113716

8. Pintu Kumar Ram and Pratyay Kuila, "Dynamic Scaling Factor based Differential Evolution with Multi-layer Perceptron for Gene Selection from Pathway Information of Microarray Data," *Multimedia Tools and Applications*(*Springer*), Vol. 82, pp. 13453–13478 (2023). (Impact Factor: 2.557). http://dx.doi.org/10.1007/s11042-022-13964-z

9. Pintu Kumar Ram and Pratyay Kuila, "GAAE: a novel genetic algorithm based on autoencoder with ensemble classifiers for imbalanced healthcare data,"*Journal of Supercomputing* (*Springer*), Vol. 79, pp. 541-572 (2023). (Impact Factor: 2.557) https://doi.org/10.1007/s11227-022-04679-x

10. B Balaji Naik, T Jaya Venkata Rama Reddy, K Rohith Venkata Karthik and Pratyay Kuila, "An SQL query generator for cross-domain human language-based questions based on NLP model,"*Multimedia Tools and Applications*(*Springer*), Vol. 83, pp. 11861–11884 (2024). (Impact Factor: 2.557). https://doi.org/10.1007/s11042-023-15731-0

11. Suman Majumder, Sangram Ray, Dipanwita Sadhukhan, Mou Dasgupta, Ashok Kumar Das and Youngho Park, "ECC-PDGPP: ECC-Based Parallel Dependency RFID-Grouping Proof Protocol using Zero Knowledge Property in Internet of Things Environment" , IEEE Open Journal of the Computer Society, *IEEE,* vol. 5, pp. 329-342, 2024. (10.1109/OJCS.2024.3406142, ISSN No. 2644-1268, *SCI, Impact Factor – 5.9*).

12. Dipanwita Sadhukhan, Sangram Ray, Mou Dasgupta and Muhammad Khurram Khan, *"Development of a provably secure and privacy-preserving lightweight authentication scheme for roaming services in global mobility network",* Journal of Network and Computer Applications, *Elsevier*, vol. 224, pp. 103831, 2024. (https://doi.org/10.1016/j.jnca.2024.103831, ISSN No. 1095-8592, *SCI, Impact Factor – 8.7*).

13. Suman Majumder, Sangram Ray, Dipanwita Sadhukhan, Mou Dasgupta, Ashok Kumar Das and Youngho Park, *"ECC-EXONUM e-VOTING: A Novel Signature based e-Voting Scheme using Blockchain and Zero Knowledge Property",* IEEE Open Journal of the Communications Society, *IEEE*, vol. 5, pp. 583-598, 2023. (10.1109/OJCOMS.2023.3348468, ISSN No. 2644-125X, *SCI, Impact Factor – 7.9*)

14. Uddalak Chatterjee, Sangram Ray, Dipanwita Sadhukhan, and Mou Dasgupta, *"An improved authentication and key management scheme for hierarchical IoT network using elliptic curve cryptography",* Innovations in Systems and Software Engineering, *Springer*, pp. 231-246, 2023. (*https://doi.org/10.1007/s11334-023-00532-3, SCI, 2022 Impact Factor – 1.2*)

15. Sharmistha Adhikari, Sangram Ray, M. S. Obaidat and G. P. Biswas, *"ECC-based Efficient and Secure Access Control Scheme for Content Centric Network - A Next Generation Internet",* Wireless Personal Communications, *Springer*, pp. 1-37, 2023. *(https://doi.org/10.1007/s11277-023-10625-8, ISSN No. 1572834X, SCI, 2022 Impact Factor – 2.2).*

16. Uddalak Chatterjee, Sangram Ray, Sharmistha Adhikari, Muhammad Khurram Khan and Mou Dasgupta, *"An improved authentication and key management scheme in context of IoT-based wireless sensor network using ECC",* Computer Communications, *Elsevier*, vol. 209, pp. 47-62, 2023. *(https://doi.org/10.1016/j.comcom.2023.06.017, ISSN No. 0140-3664, SCI, 2022 Impact Factor – 6).*

17. Dipanwita Sadhukhan, Sangram Ray, Mou Dasgupta and Joel J.P.C.Rodrigues, *"CLAACS-IOD: Certificate-Embedded Lightweight Authentication and Access Control Scheme for Internet of Drones",* Journal of Software: Practice and Experience, *Wiley*, 2023. *(https://doi.org/10.1002/spe.3196, ISSN No. 1097-024X, SCI, 2021 Impact Factor – 3.2).*

18. Uddalak Chatterjee, Sangram Ray, Sharmistha Adhikari, Muhammad Khurram Khan and Mou Dasgupta, *"Efficient and Secure e-voting scheme using elliptic curve cryptography"*, Security and Privacy, *Wiley*, vol. 6, no. 3, pp. e283, 2023. *(https://doi.org/10.1002/spy2.283, ISSN No. 2475-6725 , SCI, 2022 Impact Factor – 1.4)*.

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26. *Keserwani, P. K., Das, S., & Sarkar, N. (2024). A comparative study: prediction of parkinson's disease using machine learning, deep learning and nature inspired algorithm. Multimedia Tools and Applications, 1-49.*

Conferences

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2. Abhishek Kumar, Santanu Ghosh, B Balaji Naik and Pratyay Kuila, "Energy Efficient Workflow Scheduling in Cloud Computing Systems using Particle Swarm Optimization," *Int. Conf. on Signal Processing and Computer Vision* (*SIPCOV*)-2023, *IEEE Xplore*, 2023.

3. Saket Kumar and Pratyay Kuila, "Particle Swarm Optimization based Efficient Cluster Formation in Vehicular Networks," *Int. Conf. on Signal Processing and Computer Vision* (*SIPCOV*)-2023, *IEEE Xplore*, 2023. (Best paper award)

4. Suman Som, Marlom Bey and Pratyay Kuila, "Particle Swarm Optimization for Efficient Placement of Relay Nodes in Cluster-Based Wireless Sensor Networks," *Int. Conf. on Signal Processing and Computer Vision* (*SIPCOV*)-2023, *IEEE Xplore*, 2023.

5. Deepak Dhingan, Santanu Ghosh, B Balaji Naik and Pratyay Kuila, "Energy and Delay Efficient Partial Offloading for UAV-assisted MEC Systems using Differential Evolution Algorithm," *3rd Int. Conf. on Secure Cyber Computing and Communications* (*ICSCCC*)-2023, *IEEE Xplore*, 2023.

6. Priyanka Das, Sangram Ray, Mou Dasgupta and Mahesh Chandra Govil, *"Fusion of IoT and Blockchain (BIoT): A Novel Architecture for Smart Agriculture"*, In 8th International Conference on Internet of Things and Connected Technologies (ICIoTCT)-2023, National Institute of Technology Mizoram, India, 13-14 October 2023, to be published in LNNS Springer Proceedings. *(Accepted and Presented)*

7. Madhusmita Samal, Sangram Ray, and Mou Dasgupta, *"A Short Survey of Authentication Protocols in context of Internet of Things"*, In Proc. of 7th Conference on Information and Communication Technology (CICT-2023), PDPM

Indian Institute of Information Technology, Design and Manufacturing Jabalpur, India, December 15-17, 2023, IEEE, pp. 132-137. (doi: 10.1109/CICT59886.2023.10455531)

8. Madhusmita Samal, Sangram Ray, and Mou Dasgupta, *"A Short Survey on Fog Computing and its Convergence with Internet of Things (IoT) Network"*, In Proc. of 21st International Conference on Information Technology (OCIT-2023), National Institute of Technology Raipur, India, December 13-15 2023, IEEE, pp. 132-137. (doi: 10.1109/OCIT59427.2023.10430506)

9. Indra Bahadur Chettri, Sangram Ray and Priyanka Das, *"SAK-SAE: A Secure Authentication and Key-Exchange Scheme for Smart Agricultural Environment using Fuzzy Extractor"*, In Proc. of 21st International Conference on Information Technology (OCIT-2023), National Institute of Technology Raipur, India, December 13-15 2023, IEEE, pp. 867-873. (doi: 10.1109/OCIT59427.2023.10430994).

10. Rishabh Ranjan Jha, Manvendra Singh, Md Sarfaraj Alam Ansari, Kunwar Pal, and Mahesh Chandra Govil. "Development of energy efficient routing protocol using genetic algorithm for IoMT." In Third International Conference on Secure Cyber Computing and Communication (ICSCCC), pp. 103-108. IEEE, 2023.(DOI: 10.1109/ICSCCC58608.2023.10176755)

11. Manvendra Singh, Md Sarfaraj Alam Ansari, and Mahesh Chandra Govil. "DeepPose: An Integrated Deep Learning Model for Posture Detection Using Image and Skeletal Data." In 14th International Conference on Computing Communication and Networking Technologies (ICCCNT), pp. 1-7. IEEE, 2023. (DOI: 10.1109/ICCCNT56998.2023.10306718)

12. Katta Uday Kiran, Manvendra Singh, Md Sarfaraj Alam Ansari, and Mahesh Chandra Govil. "Deep Learning Approach to Recognize Yoga Posture for the Ailment of the Low Back Pain." In International Conference on Communication, Devices and Computing, pp. 263-274. Singapore: Springer Nature Singapore, 2023. (DOI: https://doi.org/10.1007/978-981-99-2710-4_21)

13. Verma, R. D., Govil, M. C., & Keserwani, P. K. (2023, July). A Deep Learning Approach for BGP Security Improvement. In International Conference on Data Science and Applications (pp. 85-96). Singapore: Springer Nature Singapore.

14. Verma, R. D., Govil, M. C., & Keserwani, P. K. (2023, May). ELM based Ensemble of Classifiers for BGP Security against Network Anomalies. In 2023 11th International Symposium on Electronic Systems Devices and Computing (ESDC) (Vol. 1, pp. 1-6). IEEE.

Book Chapters

1. Subash Harizan, Pratyay Kuila, Rajeev Kumar, Akhilendra Khare, Ashis Kumar Srivastava, and S. Beski Prabaharan, "Relay Nodes Placement Approaches in Wireless Sensor Networks: A Study," *Chapter 7* in *Revolutionizing Digital Healthcare Through Blockchain Technology Applications* (*IGI Global*), pp 141-162, (2023). ISBN13: 9781668465097, ISBN10: 1668465094

2. Priyanka Das, Sangram Ray, Dipanwita Sadhukhan and Mahesh Chandra Govil, *"6G Communication Technology for Industry 5.0: Prospect, Opportunities, Security Issues and Future Directions"*, Secure and Smart Cyber-Physical Systems, *CRC Press, Taylor & Francis,* pp. 104-117, 2024. *(https://doi.org/10.1201/9781003376712)*

3. Dipanwita Sadhukhan, Mou Dasgupta and Sangram Ray, *"Cyber Threat Intelligence: A Standardized Protective Approach for Industrial Cyber Defence"*, Digital Image Security: Techniques and Applications, *CRC Press, Taylor & Francis*, pp. 178-199, 2024. *(https://doi.org/10.1201/9781003468974)*

4. Dipanwita Sadhukhan, Sangram Ray and Mou Dasgupta, "*Data Fusion in Internet of Medical Things: Towards Trust Management, Security and Privacy*", Data Fusion for Smart Healthcare, *CRC Press, Taylor & Francis*, pp. 281-297, 2024. *(https://doi.org/10.1016/B978-0-44-313233-9.00018-7)*

5. *Keserwani, P. K., Mittal, M., & Govil, M. C. (2023). An Improved NIDS Using RF-Based Feature Selection Technique and Voting Classifier. In Artificial Intelligence for Intrusion Detection Systems (pp. 133-154). Chapman and Hall/CRC.*

Involvement in Community Development

- Lectures by Faculty members in nearby schools.
- Computer exposure to the children from nearby villages and schools.
- Department / Laboratory visit by the nearby school students.
- Teaching and Technical support to ITI Kewzing

Internship Achievements

The students from the department of CSE got 100% internship offers in various esteemed organizations. The organizations include Platform9 Systems, ZS Associates, GRAB, Samsung Research etc.

Placement Achievements

The students from the department of CSE got placement offers in various esteemed organizations. The organizations include Platform9 Systems, ZS Associates, GRAB, Samsung Research etc. 92% of outgoing students of the department got placed through the campus interview. The highest placement offer received is 24 LPA.

B.Tech. (CSE) Degree Awarded

SL No	Name of the Student	Title of the Project Report	Supervisor(s)
1.	Abhishek Thakur	E-Voting System Framework Using Blind Signature Protocol and Blockchain	Dr. Sangram Ray
2.	Aman Verma	Task Scheduling Using Binary Quantum Inspired Gravitational Search Algorithm	Dr. Pratyay Kuila
3.	Anish Kumar Bharti	Intrusion Detection System for MQTT Attacks using Nature-Inspired Algorithm	Dr. Md. Sarfaraj Alam Ansari
4.	Anushka Gupta	Deep Reinforcement Learning in wireless Powered Mobile-Edges vehicles for Online Computation Off Loading	Dr. Krishna Kumar
5.	Arunil Jaiswal	Task Offloading in Mobile Edge Computing Using Quantum Cuckoo Search Algorithm	Dr. Krishna Kumar
6.	Atish Kumar Prasad	Improved Early Detection of Parkinson's Disease using AlexNet Over DATSCAN Imagery using Transfer Learning	Dr. Pankaj Kumar Keserwani
7.	Badugu Tanya	An Optimised Approach for Dynamic Resource Allocation in Network Function Virtualization	Dr. Krishna Kumar
8.	Beauty Kumari	Analysis and Detection of Adversarial Attack on Medical Image	Dr. Pankaj Kumar Keserwani
9.	Bishal Subba	Energy Efficient Dynamic Virtual Machine Consolidation	Dr. Krishna Kumar
10.	Daggu Thanoj	Parkinson Disease Detection Using XgBoostClassifer on Correlated Speech Data	Dr. Pankaj Kumar Keserwani
11.	Deepak Kumar Chaudhary	Hand Gesture Recognition Using Handcrafted Features using SVM	Dr. Gopa Bhaumik
12.	Deepraj Majumdar	Deep Reinforcement Learning in wireless Powered Mobile-Edges vehicles for Online Computation Off Loading	Dr. Krishna Kumar
13.	Dhiraj Sharma	Routing and Clustering Using PSO Approach in Wireless Sensor Networks	Dr. Pratyay Kuila
14.	Drishti Priya	Analysis and Detection of Adversarial Attack on Medical Image	Dr. Pankaj Kumar Keserwani
15.	Gaurav Meena	Routing and Clustering Using PSO Approach in Wireless Sensor Networks	Dr. Pratyay Kuila
16.	Indra Bahadur Chettri	A Provable Authentication and Key Exchange Scheme for Smart Agricultural Environment (SAE) using Fuzzy Extractor	Dr. Sangram Ray
17.	Kabir Kumar Sarki	A Lightweight Privacy- Preservation Authentication and Key Agreement Framework for Internet of Vehicle (IoV) Environment	Dr. Sangram Ray
18.	Katta Uday Kiran	Deep Learning Approach to Recognize Yoga Posture for the Ailment of low back pain	Dr. Md. Sarfaraj Alam Ansari
19.	Kota Lokesh Kumar	An Effectual Image Based Authentication Scheme for Mobile Devices Using Machine Learning	Dr. Sangram Ray

SL No	Name of the Student	Title of the Project Report	Supervisor(s)
20.	Lokesh Jangid	DeENseNet-an End-to-End Framework for Single Image Dehazing	Dr. Gopa Bhaumik
21.	Medishetty Manish	Task Scheduling Using Binary Quantum Inspired Gravitational Search Algorithm	Dr. Pratyay Kuila
22.	Moparthi Prem	Anonymous and provable secure mutual Authentication scheme for smart home using ECC	Dr. Sangram Ray
23.	Navadeep	Lightweight and Secure Authentication Scheme Using Physical Unclonable Function in IOV	Dr. Sangram Ray
24.	Nisha Prasad Shah	DeENseNet-a n End-to-End Framework for Single Image Dehazing	Dr. Gopa Bhaumik
25.	Pradeep Mondal	DeENseNet- an End-to-End Framework for Single Image Dehazing	Dr. Gopa Bhaumik
26.	Pragya Gupta	Hybrid Network Intrusion Detection System for Traditional Networks	Dr. Md. Sarfaraj Alam Ansari
27.	Prasanth Chettri	Trust Management in Vanet Using Block Chain	Dr. Pratyay Kuila
28.	Rishabh Ranjan Jha	Development of Energy Efficient Routing Protocol Using Genetic Algorithm for IoMT	Dr. Md. Sarfaraj Alam Ansari
29.	Rupali Sinha	Image Captioning Using Deep Learning	Dr. Gopa Bhaumik
30.	Samvedna Gupta	Monkeypox Skin Lesion Detection Using Deep Learning	Dr. Md. Sarfaraj Alam Ansari
31.	Shalom Ben Tenzing Namchyo	Hand Gesture Recognition Using Handcrafted Features using SVM	Dr. Gopa Bhaumik
32.	Shivam Jaiswal	Parkinson Disease Detection Using XgboostClassifer on Correlated Speech Data	Dr. Pankaj Kumar Keserwani
33.	Siddharth Chhinal	Security and Privacy Framework for IoMT using Blockchain	Dr. Md. Sarfaraj Alam Ansari
34.	Simmi Shahin	An Optimised Approach for Dynamic Resource Allocation in Network Function Virtualization	Dr. Krishna Kumar
35.	Soloman Subba	English-to- Hindi Machine Translation Using Deep Learning	Dr. Md. Sarfaraj Alam Ansari
36.	Sonu Kumar	Parkinson Disease Detection Using Xgboost Classifier on Correlated Speech Data	Dr. Pankaj Kumar Keserwani
37.	Sunil Chettri	Trust Management in Vanet Using Block Chain	Dr. Pratyay Kuila
38.	Swaraj Kumar Chaudhary	Improved Early Detection of Parkinson's Disease using AlexNet Over DATSCAN Imagery using Transfer Learning	Dr. Pankaj Kumar Keserwani
39.	Sonu Kumar Shah	Image Captioning Using Deep Learning	Dr. Gopa Bhaumik
40.	Arvind Kumar Singh	A Novel Authentication Protocol for Internet of Medical Things (IoMT) Framework with Provable Security	Dr. Sangram Ray
41.	Yogendra Sharma	Trust Management in Vanet Using Block Chain	Dr. Pratyay Kuila
42.	Rabin Chettri	Trust Management in Vanet Using Block Chain	Dr. Pratyay Kuila
43.	Ong Tshering Lepcha	Energy Efficient Dynamic Virtual Machine Consolidation	Dr. Krishna Kumar

M.Tech. Degree Awarded

SL No.	Name of the student	Title of Thesis	Supervisor(s)
1	Abhishek Kumar	Energy and Cost Aware Workflow Scheduling Using Quantum Inspired Particle Swarm Optimization (Q-PSO) in Cloud Computing	Dr. B. Balaji Naik
2	Soham Biswas	A Real-Time Framework for Intrusion Detection in Trending Networks Using Feature Selection	Dr. Md. Sarfaraj Alam Ansari
3	Deepak Dhingan	Energy and Delay Efficient Partial Offloading for UAV-Assisted MEC Systems Using Differential Evolution Algorithm	Dr. B. Balaji Naik
4	Sreyashi Karmakar	Blockchain Assisted Secure Mutual Authentication Framework for Content Centric Framework	Dr. Sangram Ray
5	Kumari Shubham	Predicting Modeling of Air Quality Index, Comparative Analysis and Hybrid Approach	Dr. Pankaj Kumar Keserwani
6	Suman Som	Quantum-Inspired PSO for Coverage and Connectivity Aware Realy Node Placement in Cluster-Based Wireless Sensor Network	Dr. Pratyay Kuila
7	Saket Kumar	Quantum Inspired Particle Swarm Optimization Based Efficient Clustering in Vehicular Networks	Dr. Pratyay Kuila
8	Yatendra Sharma	SteRGAN: An Improvised Generative Adversarial Network Based Robust Image Steganography Framework	Dr. Gopa Bhaumik
9	Anurag Maurya	BPAKASH: Biometric and Password Based Authentication Protocol for Smart Home	Dr. Sangram Ray
10	Bipal Khanal	An Efficient Detection and Mitigation of Network Intrusion in Software Defined Networks	Dr. Md. Sarfaraj Alam Ansari
11	Kiren Gajjana	Development and Evaluation of A Hybrid Detection and Defence Mechanism for Adversarial Attacks in Image Classification	Dr. Pankaj Kumar Keserwani

Ph. D. Degree Awarded/Submitted

SL No.	Name of the scholar	Title of Thesis	Supervisor(s)	Awarded / Submitted
1	Uddalak Chatterjee	Development of Lightweight Authentication and Key Management Scheme for Internet of Things Frameworks and Its Applications using Elliptic Curve Cryptography	Dr. Sangram Ray	Awarded
2	Vivek Kumar	Design of Efficient and Secure Authentication Schemes using Identity Based Cryptography (IBC) and Behavioural Biometric	Dr. Sangram Ray	Awarded

Present Research Scholars

SL No	Name of Scholar	Research Area	Supervisor(s)
1	Rahul Deo Verma	Development of ML Based Attack Detection Approaches in BGP Networks	Dr. Pankaj Kumar Keserwani Dr. Vinesh Kumar Jain, GEC Ajmer
2	Dhananjay Kumar	Content Centric Network	Dr. Pankaj Kumar Keserwani
3	Deepak Kumar Khandelwal	Computer Science and Productivity	Prof. M.C. Govil
4	Santanu Ghosh	Task Offloading Using UAV-Assisted Edge Computing	Dr. Pratyay Kuila
5	Biswadip Bandyopadhyay	Computation Offloading in Edge-Fog Computing	Prof. M.C. Govil Dr. Pratyay Kuila

SL No	Name of Scholar	Research Area	Supervisor(s)
6	Kundan Kanti Saha	Content Centric Network	Dr. Sangram Ray
7	Priyanka Das	Remote Server Authentication and Blockchain Technology	Dr. Sangram Ray Prof. M. C. Govil
8	Nairita Sarkar	AIR Quality Index	Dr. Pankaj Kumar Keserwani Prof. M. C. Govil
9	Manvendra Singh	Efficient Healthcare Monitoring for Internet of Medical Things (IoMT)	Prof. M. C. Govil Dr. Md. S. A. Ansari
10	Suman Das	Detection and Defense against Adversarial Attacks	Dr. Pankaj Kumar Keserwani Prof. M. C. Govil
11	Marlom Bey	Quantum-Inspired Evolutionary Algorithms in Edge Computing Environment	Dr. Pratyay Kuila Dr. B. Balaji Naik
12	Suman Banerjee	Blockchain Assisted Mobile Edge Computing	Dr. Pratyay Kuila Dr. B. Balaji Naik
13	Chandan Kumar	Enhancing Software Defined Network Security	Dr. Md. Sarfaraj Alam Ansari
14	Arti Bahugnan	Hand Gesture Recognition Using Deep-Learning	Prof. M. C. Govil Dr. Gopa Bhaumik
15	Rajma Ali	Design of Efficient and Secure Communication Protocols for Integration of Content Centric Network in Internet of Things	Dr. Sangram Ray
16	Atanu Sarkar	Design of Efficient and Secure Communication Protocols for IoT in Contest of Content Centric Network (CCN)	Dr. Sangram Ray
17	Sanjay Kumar Mahto	Malware Detection for IoT Network	Dr. Pankaj Kumar Keserwani Prof. M. C. Govil
18	Anurag Maurya	Design of Secure Authentication Scheme and It's Applications	Dr. Sangram Ray
19	Shivani Saini	Design of Secure and Efficient Authentication Scheme	Dr. Sangram Ray Prof. M. C. Govil
20	Bipal Khanal	Software Defined Networking, Control Plane Optimization	Dr. Md. Sarfaraj Alam Ansari
21	Prashant Gupta	Federated Learning	Dr. Pratyay Kuila

Membership in Professional Bodies

Sl. No.	Name of Faculty Member	Membership in Professional Bodies
1	Prof. M. C. Govil	• Senior Member, The Institute of Electrical and Electronics Engineers (IEEE) • Member, The Institution of Electronics & Telecommunication Engineers (IETE) • Life Member, Indian Society for Technical Education, India (ISTE) • Member of the Committees of NBA • Honorary Director, RKCL • Member, Senate, NIT UK • Member, BoG of BoPT, Kolkata • Member, Board of Studies, JECRC, • Member, Board of Studies, MITS Gwalior, MP

Sl. No.	Name of Faculty Member	Membership in Professional Bodies
2	Dr. Sangram Ray	• Fellow of IETE • Chapter Leader of CSTA India • Senior Member of IEEE • Senior Member of IEEE Computer Society • Senior Member of IEEE Communication Society • Life Member of CSI • Life Member of ISTE • Life Member of ISCA • Life Member of IEI • Life Member of CRSI • Life Member of IAENG • Member of ACM

Reviewer of International/National Journals

Sl. No.	Name of Faculty Member	Journals Name
1	Prof. M C. Govil	• Cluster Computing, *Springer* • Computers and Security, *Springer* • Computers & Security, *Elsevier*
2	Dr. Sangram Ray	• *IEEE* Transaction on Parallel and Distributed Systems. • *IEEE* Transaction on Information Technology in BioMedicine • *IEEE* Transaction on Emerging Topics in Computational Intelligence • *IEEE* Transaction on Cognitive and Developmental Systems • *IEEE* Transaction on Network and Service Management • *IEEE* Transaction on Information Forensics and Security • *IEEE* Transaction on Intelligent Transportation Systems • *IEEE* Systems Journal • *IEEE* Sensors Journal • *IEEE* Internet of Things Journal • *IEEE* Access • *IEEE* Open Journal of the Communications Society • *IEEE* Open Journal of the Computer Society • *IETE* Journal of Research • *IET* Information Security • Information Security Journal: A Global Perspective, *IETE* • Wireless Personal Communications, *Springer* • International Journal of Communication Systems, *Wiley* • Transaction on Emerging Telecommunication Technologies, *Wiley*. • IETE Journal of Research, *Taylor & Francis* • International Journal of Innovation Science, *Emerald*. • Indian Journal of Science and Technology. • Security and Communication Networks, *Hindawi*. • International Journal of Electronic Security and Digital Forensics, *Inderscience*. • International Journal of Information and Computer Security, *Inderscience*. • Journal of Ambient Intelligence and Humanized Computing, *Springer*. • Journal of Information Security and Applications, *Elsevier*. • Future Generation Computer Systems, *Elsevier*. • CSI Transaction on ICT, *Springer*. • Clinical Epidemiology and Global Health, *Elsevier*. • Journal of Medical Systems, *Springer.* • Journal of Supercomputing, *Springer*. • SN Computer Science, *Springer*. • Journal of Network and System Management, *Springer.* • Artificial Intelligence in agriculture, Elsevier. • Ain Shams Engineering Journal, Elsevier. • IGI Global

Sl. No.	Name of Faculty Member	Journals Name
2	Dr. Sangram Ray	• Indonesian Journal of Electrical Engineering and Computer Science • Journal of Engineering and Technological Sciences • Journal of Healthcare Engineering, *Wiley* • Journal of Network and Computer Applications, *Elsevier* • PLOS ONE Journal • TELKOMNICA • Peer J Computer Science • Journal of Medical Imaging and Health Informatics • Frontiers in Computer Science, *Frontiers* • Frontiers in Big Data, *Frontiers* • Physical Science International Journal • Big Data Journal • Alexandria Engineering Journal, *Elsevier* • Wireless Communication and Mobile Computing, *Hindawi* • Asian Journal of Mathematics and Computer Research • Journal of System Architecture, *Elsevier* • Journal of Computer Security, *ACM Digital Library* • Journal of Agriculture and Food Research • Journal of Intelligent & Fuzzy System • International Journal of Distributed Sensor Networks, *Hindawi* • Cluster Computing, *Springer* • Internet of Things and Cyber-Physical Systems • Internet of Things Journal, *Elsevier* • Peer-to-Peer Networking and Applications, *Springer* • International Journal of Information Security, *Springer*
3	Dr. Pratyay Kuila	• IEEE Transactions on Industrial Informatics • ACM Transactions on Sensor Networks • Ad Hoc Networks (Elsevier) • Expert System with Applications (Elsevier) • Applied Soft Computing (Elsevier) • Engineering Applications of Artificial Intelligence (Elsevier) • Computer Networks (Elsevier) • Int. Journal of Communication Systems (Wiley)
4	Dr. Md. S. Alam Ansari	• International Journal of Peer-to-peer Networking and Applications, Springer • Multimedia Tools and Applications, Springer • Future Generation Computer Systems, Elsevier • International Journal of Computers and Applications (IJCA), Taylor & Francis • International Journal of Computing and Digital Systems(IJCDS), University of Bahrain Scientific PublishingCenter • IEEE Internet of Things Journal, IEEE
5	Dr. Pankaj Kumar Keserwani	• Cluster Computing, Springer • Computers and Security, Springer • Machine Learning and Cybernetics, Springer • Machine Learning and Cybernetics Elsevier • Computers & Security, Elsevier

Google Scholar Citations

Sl. No.	Name of Faculty Member	Citations
1	Prof. M. C. Govil	Total Citations – 1711 h-index – 20 i10-index – 43
2	Dr. Sangram Ray	Total Citations – 1017 h-index – 18 i10-index – 28

Sl. No.	Name of Faculty Member	Citations
3	Dr. Pratyay Kuila	Total Citations – 2833 h-index – 22 i10-index – 33
4	Dr. Md. S. Alam Ansari	Total Citations – 80 h-index – 6 i10-index – 3
5	Dr. Pankaj Kumar Keserwani	Total Citations – 261 h-index – 9 i10-index – 8

Some Photographs of Events Organized by the CSE Department

Department of Electronics and Communication Engineering

> *"Education is the manifestation of the perfection already in man."*
>
> **~ Swami Vivekananda**

Introduction

The Department aims to provide its students the essential technical knowledge and skills of contemporary and futuristic technologies in the field of Electronics and Communication Engineering to match the global requirements. The Department offers a B. Tech program in Electronics and Communication Engineering, M. Tech program in two specializations viz. (1) VLSI & Embedded Systems and (2) Communication & Signal Processing and a Ph.D. Program. Proper weightage of theory and practical learning are given in the curriculum to all the offered programs. The perspective of all the stakeholders i.e. renowned academicians, students, their parents, industrial partners and the agencies involved in quality education are considered in the curriculum.

The research focus of the Department is in the areas of VLSI Design, Application Specific Integrated Circuits (ASIC) Design & Modeling, Optimization of High-Performance Semiconductor Devices, Microwave Engineering & Antenna Design, Wireless Communication, Satellite Systems & Navigation, Signal Processing, and Solar Cell.

The Department has basic laboratory facilities to provide hands-on experience in the latest technologies. The Department comprises a diverse group of young, enthusiastic and dynamic faculty members. Continuous evaluation of teaching and learning are carried out in the Department by collecting necessary feedback from the students. Special care and attention are taken for holistic development of the students to help them in academics, research and career aspects. Moreover, internship, industrial projects and interaction with leading academicians and industry professionals are also arranged for the students to help them gain leadership skills, competitive skills, and entrepreneurial skills. Students are also encouraged to take part in various Departmental and Institute level Committees to actively participate in the organization of Placement Drives, Workshops, Technical Festival, Cultural Festival and Sports Events. Anuvrat, the Departmental Technical Club organizes many technical events such as Alumni Talk Series namely Vimrishyotsava, National Science Day Lecture, Quiz Competition etc. on regular basis.

Aspiration

To contribute to finding solutions to the challenges faced by the nation and the world by furnishing new thoughts and talents.

Mission

- To generate new knowledge by engaging in cutting-edge research and to promote academic growth by offering state-of-the-art undergraduate, postgraduate and doctoral programs.
- To nurture the national and international competitiveness in the students by facilitating international internships, industrial project opportunities and research on futuristic technologies.

Vision

Achieving excellence in teaching and research in the field of Electronics and Communication Engineering through balance in theory and practice, and thereby contributing to our society and be a source of pride for all Indians.

Salient Features

Various measures are taken to impart and adapt to attributes like critical thinking, innovation, global competitiveness, introduction to new technology, industry trends etc. Some of them are:

- Technical support to carry out research, projects and patent related work.
- Guidance for excelling in Placement and Competitive examinations.
- Exposure to latest technologies and research areas through Seminars, Workshops and Summer Trainings.
- Online Learning through various platforms such as NPTEL, SWAYAM etc.

Faculty Details:

Dr. Sanjay Kumar Jana
Associate Professor and HoD
Ph.D (IIT Kharagpur), M.Tech (Jadavpur University), M. Sc. Electronics (Vidyasagar University)
Area of Interest: Design of Nano scale Devices for VLSI IC, Analog MOS IC Design.

Dr. Hemant Kumar Kathania
Assistant Professor
Ph.D (NIT Sikkim), M.Tech (IIT Guwahati), B.Tech. (University of Rajasthan)
Area of Interest: Signal and Speech Processing.

Dr. Reshmi Dhara
Assistant Professor
Ph.D (NIT Sikkim), M.Tech. (IIT Kharagpur), B.Tech. (WBUT)
Area of Interest: Polarized Microstrip Antenna.

Dr. Jeetendra Singh
Assistant Professor
Ph.D (NIT Jalandhar), M.Tech (University of Delhi), B.Tech. (UPTU Lucknow)
Area of Interest: VLSI Design, Microelectronics, Semiconductor Devices, Memristor.

Dr. Vishal Vishnoi
Assistant Professor
Ph.D (NIT Jalandhar), M.E. (Thapar University Patiala), B. Tech. (UPTU Lucknow)
Area of Interest: Process Control and Modelling, Control System, Soft Computing

Temporary Faculty Members

Dr. Sukanta Dhar
Assistant Professor
Ph.D (IIEST Shibpur), M.Tech (Jadavpur University), B.Tech. (WBUT)
Area of Interest: Solar Photovoltaic, Light Trapping, Study of Nano-materials.

Dr. Sudipta Das
Assistant Professor
Ph.D (NIT Durgapur), M.Tech (NIT Durgapur), B.Tech. (WBUT)
Area of Interest: Antennas and Antenna Arrays, Evolutionary Algorithms, Multiobjective Optimization

Dr. Neelima Singh
Assistant Professor
PhD (Thapar University Patiala), M.Tech. (Banasthali Vidyapith, Rajasthan), B.Tech. (Banasthali Vidyapith, Rajasthan)
Area of Interest: Perovskite Solar Cell, Semiconductor Devices

Support Staff

Mr. Amit Tamang,
Senior Technical Assistant
B. Tech in ECE, RTU, Rajasthan, Diploma in ECE, CCCT, Sikkim

Mr. Sidharth Pradhan,
Senior Technician
B. Tech in EE, Kalinga University, Raipur, Diploma in ECE, CCCT, Sikkim

Departmental Committees:

S. No.	Name of the Committee	Name of the Faculty Members
1	Academic Performance Evaluation Committee (APEC)	(i)Dr. Sanjay Kumar Jana, HoD and Convener (ii)Dr. Hemant Kumar Kathania, Convener, DPGC & HoD Nominee (iii)Dr. Reshmi Dhara, Convener DUGC, Member (iv)Faculty Advisor of the concerned student(s) Member (v)Dr. Aurobinda Panda, Department of EEE
2	Departmental Undergraduate Committee (DUGC)	(i)Dr. Sanjay Kumar Jana, HoD, ECE (ii)Dr. Reshmi Dhara, Convener DUGC (iii)Dr. Hemant Kumar Kathania, Member (iv)Dr. Sudipta Das, Member (v)Dr. Sukanta Dhar, Member (vi)Dr. Jeetendra Singh, Member
3	Departmental Postgraduate Committee (DPGC)	(i)Dr. Sanjay kumar Jana, HoD, ECE (ii)Dr. Hemant Kumar Kathania, Convener DPGC (iii)Dr. Reshmi Dhara, Convener DUGC (iv)Dr. Sukanta Dhar, Member (v)Dr. Sudipta Das, Member (vi)Dr. Jeetendra Singh, Member (vii)Dr. Molay Roy, Dept. of EEE

Membership of Technical Association/Society

Faculty members of the Department of ECE are allied with various Technical Associations/Societies like IEEE, Associate Member of Metrology Society of India, CSIR - National Physical Laboratory, Machine Intelligence Research (MIR) Labs, etc.

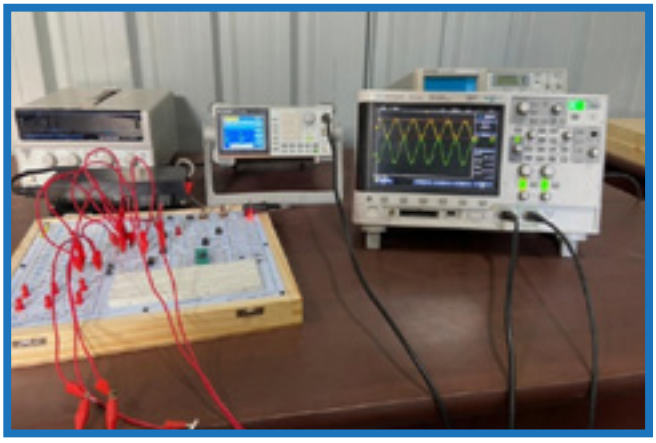
Laboratory Facilities

The Department has basic laboratory facilities and each of them are equipped with some of the modern technical instruments which are useful for the UG and PG students.

- **Analog Circuits Laboratory:**

  Analog Circuit Design Laboratory course exposes the students to the world of analog from system design perspective and enables the students to understand and address the challenges as a System Designer. The goal of the course is to develop the student's ability in state-of-the-art design and conduct experiments, analyze and interpret data, enhance the ability to design a system which meets the desired specifications, while also develop one's ability to identify, formulate, and solve engineering problems, ability to use the techniques, skills and modern engineering tools necessary for engineering practices.

  Each laboratory experiment has a design part, simulation and an actual experimental verification in the laboratory (bread-boarding/soldering). The basic objective is to give hands-on experience in design and implementation of analog and mixed-signal circuits.



- **Logic Design Laboratory:**

  The experiments corresponding to the Logic Design Laboratory are Combinational Logic design using basic gates (Code Converters, Comparators), Combinational Logic design using decoders and MUXs, Arithmetic circuits - Half and Full Adders and Subtractors, Flip flop circuit (RS latch, JK & master slave) using basic gates, Counters, Transfer Characteristics, Measurement of Sinking and Sourcing currents of TTL gates etc. The Logic Design Laboratory is well-equipped with Digital Logic Trainer kits where various experiments can be performed. Through the experiments being performed at this laboratory, the students would be able to design the simple logic circuits and test/ verify the functionality of the logic circuits. The students will gain a thorough understanding of the fundamental concepts and techniques used in digital electronics that will make them analyze and design various combinational and sequential circuits.

- **Computer System Design Laboratory:**

  The corresponding Laboratory is equipped with various microprocessor/ microcontroller training systems that can be utilized for performing relevant experiments such as Assembly Language and Timer Programming using status check and interrupts, LCD interfacing to 8051, Motor Speed control using microcontroller, studying current microcontroller e.g. ATmega, Arduino etc. This Laboratory enables the students to develop the Assembly Level Programming using instruction set, analyze how different I/O devices can be interfaced to processor and explore several techniques of interfacing, design projects for practical applications like home automation system, Digital Clock etc.

- **Communication Engineering Laboratory:**

  The experiments corresponding to the Analog Communication and Digital Communication techniques are performed in this Laboratory. The experiments are primarily performed by simulation using MATLAB tool for initial understanding and visualization. Afterwards, the hands-on experiments are performed using hardware such as discrete components, ICs, breadboards and hardware equipment like signal generator, DC power supply, Oscilloscopes, Spectrum Analyzer etc. Trainer Kits are also available for the students mainly for performing some comparatively complex experiments and to study the output waveforms for various inputs in different channel conditions.

Some experiments performed in the Analog Communication Laboratory are: `generation and detection of different continuous wave modulation techniques: amplitude modulation (e.g., DSB-FC, DSB-SC, SSB), frequency modulation (FM) and phase modulation (PM); pulse modulation techniques: pulse amplitude modulation (PAM), pulse width modulation (PWM) and pulse positioning modulation (PPM); Frequency Division Multiplexing and Demultiplexing schemes etc. Experiments to study digital communication systems are carried out in this laboratory such as generation and detection of different pulse code modulation techniques (e.g., PCM, DPCM, and DM). Besides, different line coding methods used to transmit digital data over a transmission line are experimentally studied such as unipolar, polar and bipolar coding. Furthermore, to study inter-symbol interference (ISI) over a noisy channel, EYE pattern is generated and analyzed in the oscilloscope. On the other hand, to transmit data over a channel, different digital modulation schemes, i.e., amplitude shift keying (ASK), frequency-shift keying (FSK), phase-shift keying (PSK), are experimentally studied. Multiplexing and multiple access techniques like TDM, and CDMA are also performed. Familiarization with the conventional and advanced wireless communication systems are pursued in this laboratory. Some advanced wireless communication engineering set up such as 2×2 MIMO (NI USRP), Satellite uplink and downlink data transmission, Ad-hoc Wireless Communication (Bluetooth, Wi-Fi and Zigbee) Kit, Global Position System (GPS) kit, Global System for Mobile communication (GSM) kit are also available in this laboratory. Model to determine the free space loss, the power received and BER-SNR graphs for different types of channels (e.g., AWGN and fading channel) with different types of digital modulation techniques (e.g., ASK, FSK, BPSK, QPSK) are performed using programming. Apart from that some of the advanced wireless technologies, spread spectrum modulation and demodulation techniques (DSSS and FHSS), and orthogonal frequency division multiplexing (OFDM) modulation and de-modulation are also studied and performed using programming in this laboratory. These help the students to cope up with modern wireless communication technologies and standards used in various applications. With such a variety of experimental learning opportunity, students can develop the knowledge of design and analysis of various components of modern communication systems.

- **Electromagnetics and Antenna Laboratory:**

The Electromagnetics and Antenna Laboratory familiarizes the students with the fundamental principles and applications of electromagnetic wave propagation which are essential in the field of wireless communication. The laboratory aims to develop the students' ability to implement their knowledge achieved from electromagnetic field theory and antennas in practical domain. This laboratory develops the hands-on skill of the students about the electromagnetic phenomenon such as propagation of fields in various guided mediums and characterization of radiation of fields from various antennas. With the use of transmission line systems as well as coaxial cables, students can study and characterize the standing waves and its effect on signal propagation. In this laboratory the students can observe the radiation patterns of various planar and non-planar antennas followed by evaluation of the antenna parameters that lead them to acquire the ability to distinguish between different types of antennas with respect to the field of applications.

- **Microwave Engineering Laboratory:**

  Microwave Engineering Laboratory is suitable for performing experiments such as studying the characteristics of various microwave passive components including Directional Coupler, Branch line Coupler, Rat Race Coupler, attenuator, ring resonator, power divider etc. in the microwave frequencies up to 3 GHz. Besides, frequency response of microwave oscillator such as GUNN diode and Reflex Klystron is observed in the waveguide test bench. Design and simulation of various planar and non-planar antennas operating in the microwave frequencies (microstrip patch antenna, slot antenna) are carried out in this laboratory followed by analysis of the antenna parameters (VSWR, radiation pattern, gain) using High frequency simulators. Measurement of radiation, scattering parameters, impedance of microwave antennas is also performed using network analyzer that makes the students aware of the characteristics of the antennas used in various high frequency applications.

- **VLSI Design Laboratory:**

  The VLSI Design Laboratory is equipped with state-of-the-art computational facilities and has access to industry-standard EDA tools like Cadence Virtuoso, Mentor Graphics, Xilinx Vivado, Synopsis, etc. B.Tech and M.Tech practical courses related to VLSI are conducted in this laboratory. The M.Tech students with the specialization on Microelectronics & VLSI Design access the lab facilities heavily during their one-year dissertation period. Apart from that, Institute Research Scholars working in analog/digital VLSI or device modelling access this lab on a regular basis for their computational and research purposes. In this lab, the complete VLSI

design cycle consisting of the steps like schematic design, floor-planning, placement, routing, parasitic extraction, and post-layout simulation can be performed for analog, digital or mixed-signal circuits. Students can also perform experiments related to the design and synthesis of combinational circuits, sequential circuits, FSM using VHDL or Verilog in this laboratory. The lab has all the facilities necessary for semiconductor device modeling (for consistency) and process simulations.

- **Signal Processing and Acoustics Laboratory:**

  The experiments corresponding to the Signals and Systems and Digital Signal Processing are performed in this Laboratory. The experiments including fundamental signal operations, analysis of LTI systems (linear convolution), Fourier analysis of periodic and non-periodic signals both in continuous and discrete-time and frequency domain representation of signals etc. are performed for the Signals and Systems Laboratory.

  The Digital Signal Processing (DSP) Laboratory has both software and hardware components. In the software part, students carry out a number of simulations, illustrating some of the fundamental concepts and applications of digital signal processing, such as quantization, sampling and aliasing, signal generation and manipulation, block processing by convolution using overlap save and overlap add method, signal enhancement and noise reduction filters, direct, canonical, and cascade realizations of digital filters, spectral analysis by the DFT and FFT, the design of IIR, and FIR filters for band pass, band stop, low pass and high pass filters, and digital audio effect applications. The hardware part of the laboratory illustrates the programming of real-time signal processing algorithms. This course enables the students to understand handling of discrete/digital signals, the basic operations of signal processing, the design and analyzing the linear time-invariant (LTI) systems and compute its response, analyze the spectral characteristics of signals using Fourier analysis, analyze the systems using Laplace transform and Z-transform, the design of IIR, and FIR filters for bandpass, band stop, low pass, and high pass filters and design the signal processing algorithm.

- **Optical Communication Laboratory:**

  Various experiments related to Optical Communication can be performed in this laboratory with training systems such as optical network system, Erbium Doped Fiber Amplifier Training System, Fiber Optic Trainer Kit for glass and plastic fiber, Fiber Optic, Connector and Splicing Kit etc. Such equipment are useful for studying chromatic dispersion, Diode laser characterization, Bragg Grating characterization, observation of various modes, Numerical Aperture Measurement of Optical Glass Fiber etc. The experiments are useful for the students in implementing their knowledge regarding optical communication systems practically.

Internet-of-Things (IoT) and Artificial Intelligence (AI) Laboratory:

The Internet-of-Things (IoT) laboratory is useful for both UG and PG students to cope with current technologies. This laboratory is equipped with systems such as IoT mote with highly integrated system on Chip compliant to IEEE 802.15.4, RF subsystem and Security subsystem, Wi-Fi mote with wireless MCU with built-in Wi-Fi protocol stack targeted for IoT, SOC based device for Bluetooth Low Energy based applications, Sensor mote with various sensors such as Temperature & Relative Humidity Light Intensity, Proximity Sensing.

Artificial Intelligence Laboratory facilitates UG and PG students to smartly deal with various real-world problems or models thereof. This laboratory is equipped with Python and Tensor flow to conduct experiments on Search operations following Search algorithms, Multi-agent games, Genetic Algorithms and Optimization, Neural Network and Fuzzy Logic Applications and Planning. Also, MATLAB based experiments on Genetic Algorithms, Neural Network and Fuzzy Logic are included in this Laboratory.

Outreach Activities:

1. Dr. Jeetendra Singh has given an expert talk on Automatic speech recognition: Recent trends, Applications, Low data scenario in the workshop on VLSI Design and Digital Signal Processing organised by GEC Navada, Bihar India, 27th April 2023.
2. Dr. Hemanta Kr. Kathania has given an expert talk on A Speech Disorder: Dysarthria organized in FDP on one-week ESDP on Smart Health care system using IOT and AI/ML organized by NIT Sikkim.
3. Dr. Sudipta Das has delivered an expert lecture on "Antenna arrays_trade-off issues in beamforming, and solutions", online FDP "Recent Advancement on Microwave and mmWave Communication (RAMMC 2024)" organized by the Department of Electronics & Communication Engineering, Haldia Institute of Technology, West Bengal, held during April 08-April 12, 2024.
4. Dr. Jeetendra Singh has delivered an expert Lecture on Introduction to Novel Semiconductor Technology" in One-week Advanced Entrepreneurship and Skill Development Programme on "Nano scale VLSI design for MSME sectors", funded by the Ministry of Micro, Small, and Medium Enterprises (MSME), Govt of India, during 6th March - 10th March 2024.
5. Dr. Jeetendra Singh has given hands on training on "Design specifications, RTL Coding and Synthesis in Vivado and FPGA Implementation" in One-week Advanced Entrepreneurship and Skill Development Programme on "Nano scale VLSI design for MSME sectors", funded by the Ministry of Micro, Small, and Medium Enterprises (MSME), Govt of India, during 6th March - 10th March 2024.

Ph.D. Awarded:

Scholar	Research Topic	Supervisor(s)
Mr. Somnath Mahato	Multi Constellation Global Navigation Satellite in stand alone and Real time kinematic operation towards Enhance position solution accuracy	Dr. Surajit Kundu
Mr. Atanu Santra	Indian Navigation System (NavIC) and Its Advantages	Dr. Surajit Kundu

Research Scholars in the Department

Scholar	Research Topic	Supervisor(s)
Mr. Keshab Das	Design and Analysis of Wideband LC Voltage-Controlled Oscillator (VCO) for High Frequency Applications.	Dr. Sanjay Kumar Jana
Mr. Arnab Som	Modeling and Design of Semiconductor Devices towards Analog IC Design Applications.	Dr. Sanjay Kumar Jana

Scholar	Research Topic	Supervisor(s)
Mr. Dheeraj Pandey	Design Development and Performance Evaluation of Multiband Antennas for Contemporary and Futuristic Wireless technologies.	Dr. Surajit Kundu/ Dr. Reshmi Dhara
Ms. Tshering Sangmo Sherpa	Design of an Improved LIDAR system for Autonomous vehicles.	Dr. Sanjay Kumar Jana
Mr. Sanoj Mahato	Design, Analysis and Performance Evolution of Wide Band / Multiband Microstrip Antenna.	Dr. Reshmi Dhara
Ms. Neelam Singh	Single/ Multi/Ultra-Wideband Metamaterial Absorber.	Dr. Reshmi Dhara
Ms. Sriparna Sarma	Design of PLL for 5G Applications.	Dr. Sanjay Kumar Jana
Mr. Udara Laxman Kumar	Advanced ASR Systems for Low-Resource Speech Data in Children.	Dr. Hemant Kumar Kathania
Mr. Paban Sapkota	Identification of Severity Levels in Dysarthric Speech and Development of Automated Speech Recognition (ASR) Systems for Dysarthria.	Dr. Hemant Kumar Kathania
Mr. Abhijit Sinha	Enhancement in Automatic Speech Recognition System in Children.	Dr. Hemant Kumar Kathania

Projects of Final Year UG students:

Supervisor Name	Student Name	Roll No.	Topic
Dr. Sanjay Kumar Jana	Aashish Kumar	B190048EC	Design of High-performance nanoscale FinFET for Analog IC Design applications
	Meenu Yadav	B190057EC	
	Pati Sashi Krishna	B190060EC	Design of high-performance Active Inductor Based VCO with Low phase Noise for High Frequency Applications
	Srijal Kumar	B190067EC	
Dr. Hemant Kumar Kathania	Brijesh Giri	B190049EC	Covid-19 Detection from Cough, Speech and Breathing Signals
	Govardhan Reddy Koppula	B190052EC	
	Vatsala Gupta	B190150EC	
	Aanchal Soni	B190045EC	Grapheme to Phoneme Conversion Model for US-English Language
	Deepika Gupta	B190050EC	
Dr. Reshmi Dhara	Vanka Janaki Rama Santhosh	B190044EC	Design and Analysis of wideband/Multiband Microstrip Antenna with polarization Diversity for Wireless Communication Applications
	Andi Vivek	B190046EC	
	Srishti Prasad	B190068EC	Design and Analysis of Wide Band/ Multi Band Circularly polarized Microstrip Antenna for Wireless Communication Application.
Dr. Jeetendra Singh	Milisha Mahapatra	B190058EC	Design & Implementation of a 16-Bit RISC-V Pipelined Microprocessor
Dr. Sukanta Dhar	Prashu Kumar Sharma	B190043EC	Design and optimization of Lead-free perovskite Silicon tandem solar cell
	Santosh Kumar	B190064EC	
	Gautam Kumar Jha	B190051EC	Design and optimization of Si-based eterojunction solar cell by using AFORS-HET Simulator
	Monal Kumar	B190059EC	

Supervisor Name	Student Name	Roll No.	Topic
Dr. Sudipta Das	Ajit Tiwari	B190041EC	Multi Criteria Evolution of Thinned Antenna Design via Binary Coded Genetic Algorithm
	Sameer Chettri	B190063EC	
	Challa Karthik Raj	B190042EC	Multitask Optimization Applied on Pattern Synthesis of Antenna Arrays with Time Modulation
	Kathi Madhu	B190053EC	
	Kotni Chaitanya	B190055EC	
Dr. Sanjay Kumar Jana and Dr. Sudipta Das	Raunak Singh	B190061EC	Design of high performance TFETs for Analog IC design Applications
	Simran Dutta	B190066EC	
Dr. Avinash Kumar and Dr. Hemant Kumar Kathania	Manish Kumar	B190056EC	Spectral Smoothing Based Automatic Speech Recognition For Children's Speech
	Rishabh Tenguria	B190062EC	
	Saurav Kumar	B190065EC	
	Somu Kumari	B190149EC	Variational mode decomposition-based vowels detection
	Anuradha Ray	B190047EC	

Workshop/FDP/STC/IEP/Webinar Attended:

SN	Name of Participants	Title	Organizer	Date	Category
1.	Arnab Som	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop
2	Dheeraj Pandey	Concept and Applications of GIS, Remote Sensing and Global Navigation Satellite Systems	NIT Jamshedpur	10-16 July 2023	Workshop
3	Dheeraj Pandey	Modern Antennas and Metasurfaces for icrowave, Millimeter-Wave and Terahertz-wave Communication Technologies	NIT Jamshedpur	24-30 July 2023	Workshop
4	Dheeraj Pandey	Smart and Effective Agriculture using IOT and Global Navigation Satellite System	NIT Jamshedpur	10-16 Jan 2024	Workshop
5	Dheeraj Pandey	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10th March 2024	Workshop
6	Tshering Sangmo Sherpa	Analog Circuit Design	NIT Silchar	29thJan-31stJan, 2024	Conference
7	Tshering Sangmo Sherpa	Insight to the art of Analog Design	IIT Guwahati	12thFeb-16th Feb, 2024	Workshop
8	Tshering Sangmo Sherpa	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop
9	Sanoj Mahato	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10th March 2024	Workshop
10	Neelam Singh	Concept and application of GIS, Remote sensing and global navigation satellite systems	IEEE/MNNIT Allahabad	July 10- July 16 2023	Conference
11	Neelam Singh	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop

SN	Name of Participants	Title	Organizer	Date	Category
12	Udara Laxman Kumar	SPECOM	IIT Dharwad	29th Nov-1st Dec 2023	Conference
13	Udara Laxman Kumar	SPECOM	IIT Dharwad	2nd Dec 2023	Workshop
14	Udara Laxman Kumar	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop
15	Udara Laxman Kumar	Innovation, Entrepreneurship and IPR	NIT Sikkim	28thApril-2nd May 2023	Workshop
16	Sriparna Sarma	Insight to the art of Analog Design	IIT Guwahati	12th Feb-16th Feb, 2024	Workshop
17	Sriparna Sarma	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop
18	Paban Sapkota	Nano scale VLSI Design for MSME sectors	NIT Sikkim	6thMarch-10thMarch 2024	Workshop
19	Paban Sapkota	Innovation, Entrepreneurship and IPR	NIT Sikkim	28thApril-2nd May 2023	Workshop
20	Abhijit Sinha	Innovation, Entrepreneurship and IPR	NIT Sikkim	28thApril-2nd May 2023	Workshop

Publications:

List of publications (Journals) in the academic year 2023-2024

1. Kathania, H.K., Kadyan, V., Kadiri, S.R. *et al.* Spectral warping-based data augmentation for low resource children's speaker verification. *Multimed Tools Appl* 83, 48895–48906 (2024). https://doi.org/10.1007/s11042-023-17263-z

2. Singh, S. and Singh, J., 2024. "Design and estimation of GaAsSb/InGaAs hetero-junction double-dual gate vertical tunnel FET (HJ-VTFET) biosensor". *Journal of Materials Science: Materials in Electronics*, *35*(2), pp.126.

3. Wadhwa, G., Singh, J., Thakur, A. and Bhandari, S., 2023. "Highly sensitive N+ pocket doped vertical tunnel FET biosensor with wide range work function modulation gate electrodes", *Materials Science and Engineering: B*, Elsevier, *297*, pp.116730.

4. Singh, S. and Singh, J., 2023. "Design and Performance Analysis of Negative Capacitance Effect in the Charge Plasma-Based Junction-Less Vertical TFET Structure". *Nano*, *18*(08), pp.2350060.

5. Singh, S.K., Kumar, M. and Singh, J., 2023. "Integration of Particle Swarm Optimization (PSO) and Machine Learning to Improve Classification Accuracy During Antenna Design", *Transactions on Electrical and Electronic Materials*, *24*(3), pp.258-266.

6. Som, Arnab, and Sanjay Kumar Jana. "Device and circuit level performance assessments of gate engineered Ge/GaAs heterojunction doping less TFET." *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields* (2024): e3175.

7. Som, Arnab, and Sanjay Kumar Jana. "Performance Assessments of Gate Engineered Dopingless Schottky Tunnel MOSFET in Presence of Interfacial Trap Charges." *Silicon* (2023): 1-14.

8. Maity, Subhanil, and Sanjay Kumar Jana. "Design of a Power-Performance-Area (PPA) Optimized MOS Current Mode Logic Pre-scaler." *Circuits, Systems, and Signal Processing* (2023): 1-16.

9. Neelima Singh, Alpana Agarwal, Mohit Agarwal, "Highly efficient lead-free ethyl ammonium substituted perovskite solar cell simulated using

SCAPS 1D,"*Journal of Physics and Chemistry of Solids*, Volume 186,2024,111834,ISSN 0022-3697, https://doi.org/10.1016/j.jpcs.2023.111834.

10. Kumar, R., Ratnesh, R. K., Singh, J., Chandra, R., Singh, G., & Vishnoi, V. (2023). Recent prospects of medical imaging and sensing technologies based on electrical impedance data acquisition system. *Journal of The Electrochemical Society*, *170*(11), 117507.

11. Yadav, M. K., Kumar, R., Ratnesh, R. K., Singh, J., Chandra, R., Kumar, A., Vishnoi V., & Singh, A. K. (2024). Revolutionizing Technology with Spintronics: Devices and Their Transformative Applications. *Materials Science and Engineering: B*, *303*, 117293.

12. Dhara, R., Govil, M.C. and Kundu, T., 2023. Application of theory of characteristics modes for bandwidth enhancement of a miniaturized Minkowski fractal antenna. IETE Journal of Research, 69(9), pp.5919-5934.

List of publications (Conference) in the academic year 2023-2024

1. Kumar, U. L., Kurimo, M., & Hemant Kumar Kathania, E ect of Linear Prediction Order to Modify Formant Locations for Children Speech Recognition, In International Conference on Speech and Computer 2023 (pp. 483-493). Cham: Springer Nature Switzerland.

2. Shahnawazuddin, S., Ankita, Kumar, A., & Hemant Kumar Kathania, Gammatone-Filterbank Based Pitch-Normalized Cepstral Coe cients for Zero-Resource Childrens ASR, In International Con ference on Speech and Computer 2023 (pp. 494-505). Cham: Springer Nature Switzerland.

3. T.S. Sherpa and S. K. Jana, "Design of Low-power and Low-noise Transimpedance Amplifier for LiDAR System" in International Conference on Micro/Nanoelectronics Devices, Circuits and Systems National Institute of Technology Silchar, January 2024.

Conference Publications as Book Chapters:

1. Singh, S., Dwivedi, R., Singh, J. and Raj, B., "Design and investigation of various memristor models for neuromorphic applications", *Nanoscale Memristor Device and Circuits Design*, Elsevier, 2024, pp.21-38.

Ongoing/Completed R&D Projects / Schemes in the Department

1. Creation of speech corpora of high Himalayan languages (Eastern region) for automatic spoken language identification task, funded by DRDO, Govt. of India (Rs. 9.94 Lakhs).

2. Stress and Anxiety detection using voice and facial expressions, funded by iHUB Divayasampark IIT Roorkee, DST, Govt. of India (Rs. 30 Lakhs).

3. Design of an Improved LIDAR system for Autonomous Vehicles, funded by Meity, Govt. of India (Rs. 111 Lakhs).

4. Smart Chair for Low Back Pain, funded by iHUB Divayasampark IIT Roorkee, DST Govt. of india (Rs. 26 Lakhs).

5. IoT and API enabled system for enhanced monitoring and prediction of air quality Index, funded by iHUB Divayasampark IIT Roorkee, DST Govt. of india (Rs. 18.6 Lakhs).

Workshop on VLSI design:

ANUVRAT organized a workshop on Very Large-Scale Integration (VLSI) design on April 27, 2023. The purpose of the workshop was to provide students with an insight into the practical aspects of VLSI technology, including its design and implementation.

AESDP workshop on "Nanoscale VLSI design for MSME sectors:

The Department of Electronics and Communication Engineering of National Institute of Technology Sikkim successfully hosted a five-day "Advanced Entrepreneurship Skill Development Program (A-ESDP) workshop on the topic "Nano scale VLSI design for MSME sectors" sponsored by Ministry of Micro, Small and Medium Enterprise (MSME), Government of India from 6th to 10th March 2024. The workshop was inaugurated by Prof. Sudeb Dasgupta from IIT Roorkee and attended by distinguished external experts, Deans, HoD's, Faculty members and the participants. Prof. Sudeb Dasgupta, shared insights on the fundamentals of Nano scale VLSI design and its associative technologies. The workshop's objective was successfully achieved, with experts generously imparting their insights and guidance to the participants.

The experts from various industries and academia shared their knowledge and insights on various topics ranging from analog to digital VLSI design."

Department of Electrical and Electronics Engineering

> *"The beauty of electricity or of any other force is not that the power is mysterious, and unexpected, touching every sense at unawares in turn, but that it is under law, and that the taught intellect can even now govern it largely."*
>
> **~ Michael Faraday**

The Department of Electrical and Electronics Engineering plays a crucial role in the academic framework of the institution, having been a part of it since its establishment in 2010. The department is committed to maintaining the highest educational standards through excellent teaching and significant research in various interdisciplinary areas.

With a committed team of faculty members and staff, the department consistently strives for excellence in both teaching and research. The faculty, a mix of dynamic and experienced individuals, significantly enhances the department's academic vibrancy. The department provides a wide array of academic programs to meet the varied needs and aspirations of students. At the undergraduate level, it offers a Bachelor of Technology (B. Tech.) in Electrical and Electronics Engineering, equipping students with a strong foundation in the field.

For those pursuing advanced knowledge and specialization, the department offers postgraduate programs leading to a Master of Technology (M. Tech.) in Electrical Engineering. This program is designed to provide students with in-depth expertise in their chosen fields. Furthermore, the department provides opportunities for aspiring researchers through its Ph.D. program, enabling scholars to pursue cutting-edge research in various domains within electrical and electronics engineering. Overall, the Department of Electrical and Electronics Engineering at the National Institute of Technology Sikkim stands as a symbol of academic excellence, dedicated to shaping future leaders and innovators in electrical engineering through its rigorous academic programs and research initiatives.

Vision

The overarching mission of the Department of Electrical and Electronics Engineering at the National Institute of Technology Sikkim is to impart quality teaching and conduct impactful research that addresses the challenges of the present era. By doing so, the department aims to pave the path for the development of a better future while adding value to society as a whole.

Through quality teaching, the department endeavors to equip students with the knowledge, skills, and mindset necessary to tackle the complex challenges of today's world. By fostering a dynamic learning environment grounded in both theoretical principles and practical applications, the department prepares students to become innovative problem solvers and responsible global citizens.

In parallel, the department is committed to conducting cutting-edge research that addresses pressing societal needs and pushes the boundaries of knowledge in the field of electrical and electronics engineering. By collaborating with industry partners, government agencies, and other academic institutions, the department seeks to develop solutions that contribute to sustainable development, technological advancement, and societal well-being. Ultimately, by combining excellence in teaching and research, the Department of Electrical and Electronics Engineering at the National Institute of Technology Sikkim aims to empower its students and researchers to make meaningful contributions to society and shape a better future for generations to come.

Mission

The Department aims to realize the vision through the following mission:

- To provide outcome-based teaching and research for practical engineering skills on social needs.
- To create an environment for students, staff and faculty members to nurture and develop all-round capabilities along with moral and ethical values.

The highly accomplished faculty members of the department possess expertise in a variety of cutting-edge research fields. The Department's broad areas of research include, but are not limited to, Control Systems, Robotics, Power Electronics, Power Quality, Power Systems, Hybrid Micro-grids, Smart Grid Technologies, Electric Vehicles, Application of Nonlinear Dynamics in Engineering, Renewable Energy, and the Development and Application of Soft Computing Techniques. The Department prides itself on strong industry-institute interactions and is dedicated to adopting and completing various potential projects.

Additionally, the Department aims to develop active collaborations with various industries in the power sector and has earned a wide reputation in the national and global academic network. Currently, the Department admits 30 students annually into its first-year B.Tech. program in Electrical and Electronics Engineering. At postgraduate level, the Department offers M.Tech. program in Electrical Engineering with an intake of 22 students. From 2020, the department has been admitting students in the vacant seats of M. Tech. through the Institute Admission Test. The Department got good response from students across India. In addition to the above, the Department offers regular Ph.D. program in various areas of specialization in Electrical and Electronics Engineering. These include Control Systems, Power System Operation, Power Quality, Renewable Energy Sources, Smart Grids, Optimization, Power System Dynamics and Stability, Flexible AC Transmission, High Voltage Direct Current, Electric Drives and Hybrid Electric Vehicles.

At present, the Department has almost all laboratories equipped with state-of-the art equipment and latest version of software platforms. With inputs from eminent personalities invited in various workshops organized, the Department has modified the laboratory infrastructure to enhance the understanding of the theoretical concepts. The laboratories are equipped with sophisticated equipment, test setups, embedded controllers, digital signal processors, power inverter-converters, various electrical drives, etc. to name a few. The Department is involved in carrying out several sponsored R&D projects funded by national agencies like MeitY , iHUB IIT Roorkee, IIT Bhilai etc. The Department also organizes Faculty Development Programs, Workshops, Expert Lectures, etc. from time to time. With the hard labor of the students and faculty members of the department, the number of published technical papers in reputed journals, and participation in conferences have reached a new height. The department wants to extend its \ facilities further in the coming years which will increase the publications of the students and faculty members.

The faculty members of the Department have been regularly contributing to–International and National Journals of repute like IEEE Transactions and IEEE Proceedings, IET, journals on Electrical Engineering from Elsevier, etc. along with Proceedings of National and International Conferences. The department has also strengthened its previously set up Power Systems Laboratory, Power Electronics Laboratory and Electric Drive Laboratory. The Department is planning to have new laboratories for Testing, Calibration and Standardization, Power Quality and Energy Conservation.

The Department has gradually developed into one of the best departments of NIT Sikkim. The placement record has shown that the students of the Department were successful in getting lucrative placements based on their interests in different fields. Top recruiters such as NVIDIA,Qualcomm, L&T, Power Grid Corporation of India Ltd., etc. have offered appointments to the students with a pay package of over Rs. 10 Lakh per annum. Other recruiters from core engineering and allied sectors like Vedanta group, Wipro, Tata Power, Reliance etc. have recruited students from the Department with attractive pay packages. Consistent placement record reflects the dedication and contribution of the Department. The graduates of the Department are occupying important positions in both government as well as private organizations.

The students are encouraged to go for higher studies and build their career in R&D sector. Some of our past students have completed their post-graduation from eminent and premier institutes in India and abroad. Several students of the pass-out batches have also secured good ranks in different competitive examinations

The students are motivated to pursue technical and creative activities besides classroom teaching and laboratory exercise through technical fests like 'Abhiyantran' organized by the Institute. They are also encouraged to participate in various learning activities including attending and presenting research papers at International/National Conference/Seminars.

Programs/courses offered by the Department

- B.Tech in Electrical and Electronics Engineering
- M.Tech in Electrical Engineering
  - I. Specialization in Power and Energy Systems
  - II. Specialization in Power Electronics and Drives
- PhD in Electrical Engineering

Faculty Details

Head of the Department

Dr. Aurobinda Panda, HoD
PhD – IIT Roorkee
Assistant Professor
Area of Interest:
Application of Power Electronics in Renewable Energy Sources
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=70

Associate Professor

Dr. Anjan Kumar Ray
Ph.D - IIT Kanpur
Area of Interest:
Control Systems, Robotics and Intelligent Systems, Machine Learning, Sensor Fusion and Smart Home/ Environment.
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=52

Dr. Sourav Mallick
PhD - NIT Durgapur
Area of Interest:
Power System State Estimation, Power System Transmission and Distribution, Power System Stability and Control, Soft Computing
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=68

Assistant Professor

Dr. Molay Roy
PhD - IIEST Shibpur
Area of Interest:
Power Electronics Converter and Controller.
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=28

Dr. Pradeep Kumar
PhD - NIT Jamshedpur
Area of Interest:
Power Quality, Control Systems, Renewable Energy Systems, Power Electronics.
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=10

Dr. Nimai Charan Patel
PhD - Utkal University
Area of Interest:
Electrical Machine, Power system, Computational Intelligence and Optimization Techniques
Profile Page: https://eee.nitsikkim.ac.in/profile.php?sn=837

Dr. Abhishek Rajan
PhD - NIT Silchar
Area of Interest:
Optimal power flow, Renewables integration in power system, Power system deregulation, Power system operation and control, soft computing techniques.
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=113

Dr. Vivek Kumar
PhD - IIT (BHU), Uttar Pradesh
Area of Interest:
Power system Stability and Control, advanced and Intelligent Control, Cyber Security in Power Systems, Smart Microgrid Grid, and Renewable Energy integration
Profile Page:
https://eee.nitsikkim.ac.in/profile.php?sn=839

Temporary Faculty

Dr. Amit Kumar Yadav
Assistant Professor,
PhD - NIT Hamirpur

Dr. Vishal Vishnoi
Assistant Professor,
PhD - NIT Jalandhar, Punjab

Dr. Subhra Jyoti Sarkar
Assistant Professor,
PhD - Jadavpur University

Staff Details

Ms. Deepika Chettri
Technical Assistant

Mr. Saikat Mistry
Technician

Mr. Manish Kumar
Technician

Mr. Anil Gurjar
Technical Assistant

Mr. Pawan Kumar Kathaniya
Technical Assistant

Mr. Mahaveer Gurjar
Technician

Membership of Technical Association/Society

S. No.	Name	Technical Societies	Membership Type
1	Dr. Sourav Mallick	IEEE.	Member
		IEEE Power and Energy Society.	Member
		Institution of Engineers (India).	Associate Member
2	Dr. Anjan Kumar Ray	IEEE.	Member
		Smart Cities Community, IEEE.	Member
		Internet of Things Community, IEEE.	Member
		IEEE Systems Council.	Member
		IEEE Sensors Council.	Member
		Systems, Man, and Cybernetics Society.	Member
		IEEE Robotics and Automation Society.	Member
		IEEE Control Systems Society.	Member
		Elevated to Senior Member, IEEE	Sr. Member
		Academic Mentor for Faculty Members, IEEE India Council Industry Academia Young Professionals Sub-Committee, 2023.	
		Evaluator, Smart India Hackathon 2023, Government of India.	
3	Dr. Aurobinda Panda	IEEE	Member
		IEEE Industrial Electronics Society Membership 1	
		IEEE Industry Application Society Membership 1	
		IEEE Sensors Council	
		IEEE Systems Council	
		IEEE Transportation Electrification Council	

S. No.	Name	Technical Societies	Membership Type
4	Dr. Pradeep Kumar	System Society of India.	Life Membership
		International Association of Computer Science and Information Technology (IACSIT).	Life Membership
		International Association of Engineers (IAENG).	Life Membership
		International Association for Cyber Science and Engineering (IACSE).	Life Membership
		International Society for Research and Development (ISRD).	Life Membership
5	Dr. Nimai Charan Patel	IEEE IE(I)	Member
6	Dr. Vivek Kumar	IEEE IEEE-PES Society	Member

Laboratory facilities

1. Basic Electrical Engineering Laboratory

The Basic Electrical Engineering Laboratory helps the students to develop a strong foundation on the basics of Electrical Engineering. Each experiment is curated to show the practical aspect of theories learnt in earlier semesters. Through the experiments, the students learn the applications of different network theorems, different types of loads and their voltage-current characteristics, power measurements of balanced and unbalanced loads, designing DC power supplies and sources, and also safety issues such as fuse rating for circuits. The students are made capable to apply the knowledge gained from the laboratory to all other areas of Electrical Engineering.

Basic Electrical Laboratory

2. Measurement Laboratory

The Measurement Laboratory in the Department attempts to familiarize the student with the operation of basic laboratory instrumentation such as energy meter, multi meter, voltmeter, ammeter etc. Another goal is to re-enforce the practical knowledge with practice and analysis of results sobtained, and to learn correct laboratory procedures and techniques. This is accomplished by building, testing, and taking measurements on simple circuits. While conducting the experiments, the students can distinguish between performance and the methodology behind the various parts of an instrument.

Electrical Measurement Laboratory

3. Control Systems Laboratory

The Control Systems Laboratory course provides conceptual and hands-on practice of various aspects of control systems including advanced control, nonlinear control, and intelligent control. Here, the students get familiarized with various open source platforms e.g. SCILAB, C/C++ to carry out simulations. It also has hardware setups which includes linear double inverted pendulum and rotary double inverted pendulum. Students are also trained for future trends of uses of microcontrollers and sensors. Through these simulation and hardware facilities, students get familiarized with different aspects of system modeling and simulations. They study system responses and stability aspects. Students are trained to design controllers and observers for different systems. Moreover, they are given exposure to utilize machine intelligence to incorporate into system modeling and control.

Control System Laboratory

4. Electrical Machines Laboratory

The Electrical Machines Laboratory is a crucial component of the Electrical and Electronics Engineering curriculum. By engaging in hands-on experiments with both DC and AC machines, students can bridge the gap between theoretical concepts and practical applications. The availability of open machine setups further enriches the learning experience, allowing students to directly observe the inner workings of these machines and gain a deeper understanding of their operation and construction. This practical approach not only enhances the students' comprehension but also prepares them for real-world challenges in the field of electrical engineering.

Electrical Machine Laboratory

5. Power Systems Laboratory

The Power System Laboratory in the current UG curriculum is taught in three semesters, considering the importance of the subject in the present society. By performing various experiments in power systems the students will be able to design, analyze and solve various relevant engineering problems related to power transmission and distribution systems, faults, system stability etc. The department has a transmission line analyzer set up which gives the students an insight towards the power transmission line. At present, 200 km three phase single circuit and 600 km single phase circuit can be simulated for different types of conductors and cables. Moreover, three phase and single fault simulations are also possible in that analyzer. The department is planning to expand this laboratory with a complete set up of analog and digital relays. The department has setup one microgrid comprising Wind, Solar energy sources laboratory equipment considering the present-day power scenario.

Power Systems Laboratory

6. Power Electronics Laboratory

The Department is dedicated to providing students with comprehensive hands-on experience in power electronics. By improving laboratory facilities and incorporating advanced equipment like dSpace, students can gain practical exposure to the operation, design, and synthesis of power electronic converters. The focus on industrial control and safe electrical practices ensures that students are well-prepared for real-world applications.

With dSpace, students can bridge the gap between software and hardware, enabling them to prototype and test engineering models effectively. This integration of theoretical knowledge with practical applications is invaluable for preparing students for careers in the field of power electronics.

Power Electronics Laboratory

7. Electric Drives laboratory

Setting up an Electric Drives laboratory is a significant step in bridging the gap between theoretical concepts and practical implementation for students in B.Tech, M.Tech, and PhD programs. This facility allows students to not only engage in laboratory classes as per the curriculum but also provides hands-on training and facilitates project work directly related to their studies.

The laboratory's focus on Electric Drives encompasses a wide range of experiments, including those involving DC Motor drives, AC Motor drives, and Special motor drives. Through these experiments, students gain valuable experience in the operation, control, and performance of various types of motors using different power electronic converters. This practical exposure is essential for their understanding of electric drives and their applications in real-world scenarios.

Moreover, the Electric Drives laboratory serves as a platform for undergraduate, postgraduate, and doctoral students to conduct project and research work aligned with their academic interests. This not only enhances their learning experience but also fosters innovation and exploration in the field of electric drives and related technologies.

The inclusion of pictures of the newly set up Electric Drives laboratory further demonstrates the department's commitment to providing state-of-the-art facilities for student learning and research. These visuals not only showcase the equipment and infrastructure but also inspire students to actively engage with the laboratory and explore the possibilities within the field of electric drives.

Electric Drives Laboratory

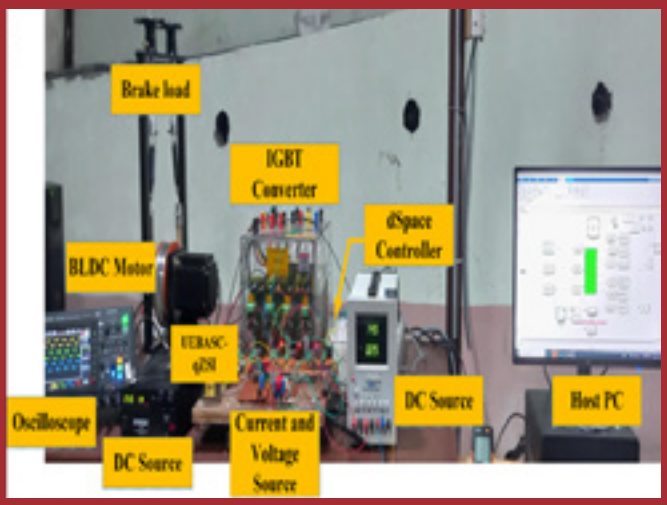
8. Electric Vehicle laboratory

The establishment of an Electric Vehicle (EV) laboratory aligns perfectly with the goals set forth in the National Education Policy (NEP) 2020, emphasizing the integration of Industry 4.0 technologies into academic curricula. By focusing on EV technologies, the Department not only enhances the educational experience for undergraduate, postgraduate, and doctoral students but also contributes to the advancement of research in this rapidly evolving field.

Similar to the Electric Drives laboratory, the EV laboratory serves multiple purposes, including conducting laboratory classes, providing hands-on training, and facilitating project work for students across different academic levels. Additionally, this facility enables both students and faculty members to engage in research activities aimed at addressing current challenges and exploring future opportunities in EV technology.

The laboratory's emphasis on EV motor control allows students to gain practical insights into the steady and dynamic performance of motors used in EV applications. Through experiments involving forward motoring, reverse motoring, forward braking, and reverse braking, students can develop a deeper understanding of EV propulsion systems and their operational characteristics.

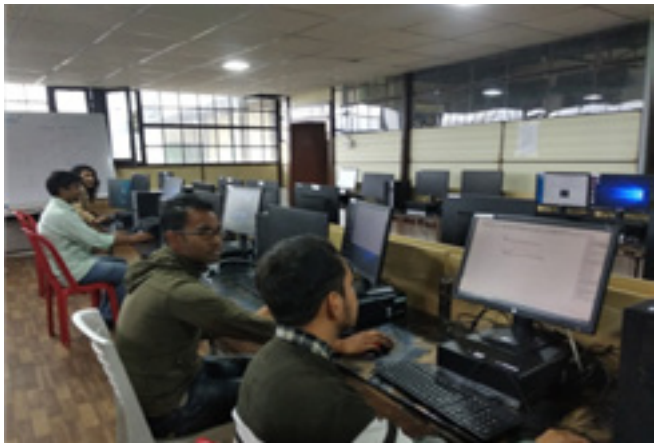
The inclusion of pictures of the newly set up EV laboratory not only showcases the infrastructure and equipment but also highlights the department's commitment to embracing emerging technologies and providing students with a conducive learning environment. These visuals serve as a testament to the department's dedication to staying at the forefront of EV research and education.



Electric Vehicle Laboratory

9. Simulation Laboratory

A simulation lab is a state-of-the-art facility where learners can practice and enhance their skills in a controlled, realistic environment. It is equipped with advanced technology, including high-fidelity machines and computer systems, to simulate real-world scenarios. The primary goal of a sim lab is to allow students to apply theoretical knowledge to practice without the risk of harm to actual system/ equipments.



Simulation Laboratory

10. Power systems Relay Laboratory

A power systems relay lab is a facility for testing protective relay systems in electrical grids. It includes simulated power setups, relay devices, data acquisition tools, fault simulators, and safety measures. These labs aid in developing and ensuring the reliability of power systems.

Power systems Relay Laboratory

11. Microgrid Laboratory:

A microgrid lab is a testing facility for studying microgrid systems, which are small-scale power grids that can operate independently or in conjunction with the main grid. It includes setups for simulating microgrid configurations, renewable energy sources, energy storage systems, control algorithms, and communication protocols. These labs are crucial for developing resilient and sustainable energy solutions.

Microgrid Laboratory

12. Open Machine Laboratory

An Open Machine Lab is a facility dedicated to experimentation and innovation in machine learning and artificial intelligence. It provides access to computing resources, datasets, and software frameworks for researchers and developers to explore and create new algorithms and applications. These labs foster collaboration and advancement in the field of AI.

Open Machine Laboratory

13. Microprocessor and Microcontroller Laboratory:

A Microprocessor and Microcontroller Lab is a specialized facility for hands-on learning and experimentation with microprocessors and microcontrollers. It offers students and researchers access to hardware platforms, development tools, and software resources to design, program, and test embedded systems. These labs are essential for gaining practical skills in digital electronics and embedded systems design.

Microprocessor and Microcontroller Laboratory

14. Robotics Laboratory:

A Robotics Lab is a specialized facility where researchers, engineers, and students design, build, and test robotic systems. It typically includes equipment such as robotic arms, mobile robots, sensors, actuators, and control systems. These labs serve as hubs for advancing robotics technology, conducting experiments, and developing innovative applications across various fields, from manufacturing and healthcare to exploration and entertainment.

Robotics Laboratory

Departmental Committees

S. No.	Name of the Faculty Members	Name of the committee
1	Dr. Aurobinda Panda, HoD and Convenor Dr. Molay Roy (Convenor, DUGC) **Faculty Advisor of each batch** Dr. Subhra Jyoti Sarkar, Faculty Coordinator, 1st Year B. Tech Dr. Pradeep Kumar, Faculty Coordinator, 2nd Year B. Tech Dr. Amit Kumar Yadav, Faculty Coordinator, 3rd Year B. Tech Dr. Abhishek Rajan, Faculty Coordinator, 4th Year B. Tech Dr. Molay Roy, Faculty Coordinator, 1st Year M.Tech Dr. Molay Roy, Faculty Coordinator, 2nd Year M.Tech Dr. Anjan Kumar ray, Faculty Coordinator, PhD Dr. Ranjan Basak, Nominee of Dean Academic	Academic Performance Evaluation Committee (APEC)

S. No.	Name of the Faculty Members	Name of the committee
2	Dr. Molay Roy (Convenor, DUGC) Dr. Aurobinda Panda, HoD, EEE Dr. Anjan Kumar Ray(Convenor, DPGC) Dr. Sourav Malik (Nominee of HoD) Dr. Pradeep Kumar (Nominee of HoD) Dr. Pratyay Kuila (Nominee of HoD)	Departmental Undergraduate Committee (DUGC)
3	Dr. Anjan Kumar Ray (Convenor, DPGC) Dr. Aurobinda Panda, HoD, EEE Dr. Molay Roy (Convenor, DUGC) Dr. Sourav Mallick, Nominee of HoD Dr. Pradeep Kumar, Nominee of HoD Dr. Pratyay Kuila, Nominee of Chairperson Senate	Departmental Postgraduate Committee (DPGC)

In order to maintaining the laboratories of the department, faculty members along with staff are assigned. The list of Laboratory In-charge is appended hereunder:

S. No.	Name of Laboratory	Faculty in-charge	Lab in-Charge
1	Electrical Vehicle Laboratory	Dr. Aurobinda Panda	Mr. Pawan Kathaniya Mr. Manish Kumar
2	Drives Laboratory	Dr. Aurobinda Panda Dr. Molay Roy	Mr. Pawan Kathaniya Mr. Manish Kumar
3	Power Electronics Laboratory	Dr. Aurobinda Panda Dr. Molay Roy	Mr. Pawan Kathaniya Mr. Saikat Mistry
4	Basic Electrical Laboratory	Dr. Abhishek Rajan Dr. Vivek Kumar	Ms. Deepika Chettri Mr. Saikat Mistry
5	Electrical Measurements Laboratory	Dr. Pradeep Kumar Dr. Subhra Jyoti Sarkar	Ms. Deepika Chettri Mr. Saikat Mistry
6	Electrical Workshop	Dr. Amit Kumar Yadav Dr. Subhra Jyoti Sarkar	Ms. Deepika Chettri Mr. Saikat Mistry
7	Electrical Machines Laboratory	Dr. Molay Roy Dr. Abhishek Rajan Dr. Subhra Jyoti Sarkar	Mr. Anil Gurjar Mr. Manish Kumar
8	Power System Laboratory	Dr. Sourav Mallick Dr. Abhishek Rajan	Mr. Anil Gurjar Mr. Manish Kumar
9	Control System Laboratory	Dr. Anjan Kumar Ray Dr. Vivek Kumar	Ms. Deepika Chettri Mr. Saikat Mistry
10	Microgrid Laboratory	Dr. Molay Roy Dr. Amit Kumar Yadav	Ms. Deepika Chettri

Ongoing Projects/schemes in the Department

1. Dr. Aurobinda Panda, Principal Investigator of the project "Design and development of a High Gain q-ZSI for Single-stage Fuel Cell Hybrid Electric Vehicle" funded by iHUB Divyasampark, IIT Roorkee established by DST, Govt. of India and IIT Roorkee under National Mission on Interdisciplinary Cyber Physical Systems with a funding amount of 17.0 Lakhs for One Year
2. Dr. Pradeep Kumar, Principal Investigator of the project "Development of IoT based Smart Compact Energy Meter (ISCEM) for Monitoring and Controlling the Power Quality Issues in a

Smart Building" funded by IIT Bhilai Innovation and Technology Foundation (IBITF) over a period of Two years with a funding amount of 28,15,760 Lakhs.

3. Dr. Anjan Kumar Ray, Principal Investigator of "*Dynamics of Power Grids through Complex Network Theory: A Study of Vulnerability, Stability, and Synchronization*", funded by MATRICS, SERB, Government of India. 2022-2025.

4. Dr. Anjan Kumar Ray, Principal Investigator, *UAV-UGV Coordination and Formation Control for Unmanned Delivery Services: An Experimental Study,* funded by ARTPARK, IISc Bangalore. 2021-2022.

5. Dr. Moloy Roy, Principal Investigator of the project "Design and Development of WBG Device Based High Current Converters for Industry Applications" funded by NaMPET-III, MeitY,GoI with a funding amount of 6167000 /-

Invited Speech:

1. A. K. Ray, Robotics Hands on Sessions: Part I and Part II, Advanced Entrepreneurship and Skill Development Programme (A-ESDP) on Robotics for Domestic and Industrial Applications, Department of Mechanical Engineering, 12 March, 2024

2. Delivered a technical session on "V2G Technology and Integration of Electric Vehicle in Power System for Frequency Control" in the One Week Online Workshop on "ELECTRIC VEHICLE POWERTRAIN DESIGN AND BATTERY MANAGEMENT SYSTEMS (EVPDBMS) – CHALLENGES AND SOLUTIONS Organized by IEEE PES Student Chapter of IEEE SNIST Student Branch and Department of Electrical and Electronics Engineering (EEE), SNIST in association with SK Powercon Fabricators, Chennai during 21st to 26th August, 2023.

3. Dr. Aurobinda Panda, "Improved Power Quality Based Grid-tie PV System for Plug-in Electric Vehicle", Online FDP organized by EEE Department, GRIET Hyderabad in association with Dept. of EE, NIT Warangal and sponsored by AICTE, ATAL Academy on 14th February, 2023.

4. A. K. Ray, *Advanced AI and System Engineering for Industries and Agriculture,* Advanced Entrepreneurship and Skill Development Training Programme on Advanced AI for Industries and Agriculture, Department of CSE, NIT Sikkim, March, 2023.

5. A. K. Ray, *Design of a State Feedback Controller: From Pole Placement to Intelligent Control,* Department of Electrical Engineering, Gargi Memorial Institute of Technology, IEEE SPS, Kolkata Section, Feb, 2023.

6. Delivered an expert lecture in Webinar entitled "APPLICATIONS OF MATLAB IN SCIENTIFIC INNOVATIONS AND TECHNOLOGY" held on 21/02/2023 by School of Agricultural Sciences, IIMT University, Meerut Uttar Pradesh India.

Ph.D Scholars

A. Awarded

S. No	Name of Scholar	Supervisor(s)	Area of Research (Topic)
1	Dr. Arindam Singha	Dr. Anjan Kumar Ray	Intelligent Networked Robotic Systems
2	Dr. Roshan Pradhan	Dr. Aurobinda Panda	Improved Power Quality Based Photovoltaic Distributed Generation System With Model Predictive Control
3	Dr. Amit Kumar	Dr. Pradeep Kumar	Power Quality Improvement Using Custom Power Devices
4	Dr. Arabinda Ghosh	Dr. Anjan Kumar Ray	Intelligent control systems
5	Dr. Debanjan Mukherjee	Dr. Sourav Mallick	Power Line Harmonic Reduction using FACTS.
6	Dr. Sudhansu Sekhar Das	Dr. Aurobinda Panda	Design and Development Of Novel ZSI/qZSI Topologies and its Applications

C. Ongoing

S. No	Name of Scholar	Supervisor(s)	Area of Research (Topic)
1	Mr. Rajnikant Sahoo	Dr. Molay Roy	Design and control of multilevel inverter for home appliances
2	Mr. Romio Atha	Dr. Sourav Mallick	Power System Protection
3	Mr. Omkar Singh	Dr. Anjan Kumar Ray	Control applications in robotics and intelligent systems
4	Mr. Avismit Dutta	Dr. Aurobinda Panda	Performance analysis of motor drives in Electric Vehicle
5	Mr. Pratik Pradhan	Dr. Aurobinda Panda	BMS of Electric vehicle
6	Mr. Islavatu Srikanth	Dr. Pradeep Kumar	Power Quality
7	Ms. Deepika Chettri	Dr. Molay Roy	Electrical Power Transfer using Electromagnetic Induction and its Analysis
8	Ms. Tumpa Das	Dr. Molay Roy	Fabrication and Performance Analysis of Domestic Induction Heating
9	Mr. Tapas Mondal	Dr. Sourav Mallick	Power System
10	Mr.Chandan Kumar	Dr. Anjan Kumar Ray	Application Of Intelligent Control
11	Mr. Saurav Ghosh	Dr. Sourav Mallick	Power System
12	Mr. Chayan Chakraborty	Dr. Anjan Kumar Roy	AI based Robotics
13	Ms. Promila Das	Dr. Pradeep Kumar	Power Quality Analysis
14	Mr. Roshan Pariyar	Dr. Aurobinda Panda	Fuel Cell Hybrid Electric Vehicle
15	Mr. Satish kumar	Dr. Pradeep Kumar	Power Quality (FACTS)
16	Mr. Shatabda Bandyopadhyay	Dr. Sourav Mallick	Power System
17	Mr. Sumit Kumar	Dr. Nimai Charan Patel	Automatic Generation Control
18	Ms. Geeta Srivastava	Dr. Anjan Kumar Roy	Intelligent control system

Dissertation Detail of Final Year PG students (2023-24)

S. No	Name of The Student	Roll No	Project Title	Name of The Supervisor
1	Mr. Abhay Dev	M210045EE	Design of Depth and Trajectory Controllers for Autonomous Underwater Vehicles (AUV)	Dr Anjan Kumar Ray
2	Ms. Sapna Prakash	M210046EE	Enhanced Power Quality Based Photovoltaic Distributed Generation System	Dr. Aurobinda Panda
3	Ms. Geeta Srivastava	M210047EE	Design of controllers for heterogeneous vehicle systems using nature inspired algorithm	Dr Anjan Kumar Ray
4	Mr. Kushal Koirala	M210051EE	Comparative Power Quality Analysis Using SRF and Adaptive Variable Step LMS Based DVR	Dr. Pradeep Kumar
5	Ms. Soumyarupa Saha	M210052EE	Design and Fabrication of DC Flyback Converter for UPS Application	Dr Molay Roy
6	Mr. Sourav Ghimirey	M210054EE	Intelligent Control of BLDC Motors	Dr. Aurobinda Panda
7	Ms. Teethi Adhikary	M210055EE	Cyber-Attack Detection in Two- Area and Four-Area Load Frequency Control System Using Artificial Neural Network	Dr. Sourav Mallick
8	Ms. Neeha Cintury	M210056EE	Comparative Power Quality Analysis by IRPT and ISCT based DSTATCOM Systems	Dr. Pradeep Kumar
9	Mr. Sudarson Poudyal	M210059EE	Design and Implementation of Controller for Induction Heating Application	Dr Molay Roy

Projects Detail of Final Year UG students (2023-24)

S.no	Name of the student	Roll no.	Title of the project	Supervisor(s)
1	Saurabh Awasthi	B190113EE	Complete Grid Coverage by a Robot	Dr. Anjan Kumar Ray
	Chandra Bhan	B190075EE		
	Suraj Kumar Mandal	B190092EE		
2	Vikram Kumar	B190095EE	Speed Control of Permanent Magnet Motors for EV Applications	Dr. Aurobinda Panda
	Gyaltshen Lepcha	B190078EE		
	Harshit Kumar	B190132EE		
	Piyush Singh	B190086EE	Design and Implementation of Ball and Beam System using PID Controller	Dr. Anjan Kumar Ray
	Varsha Sheoran	B190094EE		
	Sushil Chettri	B190093EE		
4	Saqlain Khan	B190089EE	Mobile Robot for IGVC	Dr. Sujay Dilip Kadam
	Manish Kumar Shah	B190081EE		
	Arun Tamang	B190073EE		
5	Chandan Maurya	B190129EE	Design, Fabrication and Analysis of Multi-coil Induction Cooking System	Dr. Molay Roy
	Sushil Kumar	B190069EE		
	Chandu Sai Bhavadesh	B190076EE		

S.no	Name of the student	Roll no.	Title of the project	Supervisor(s)
6	Maneesh Varshney	B190080EE	Enhancement of Power Quality in Distribution System using D-STATCOM	Dr. Pradeep Kumar
	Anmol Sudhakar	B190072EE		
	Rahul Chaudhary	B190087EE		
7	Jitendra Pratap Singh	B190133EE	Artificial Neural Network Model for Predicting the Power Produced by a Photovoltaic System	Dr. Amit Kumar Yadav
	A Karthik Satya Sai	B190071EE		
	Marri Bhaskar Naidu	B190082EE		
8	Sanjay Tiwari	B190088EE	Load Voltage Improvement using Q-V model	Dr. Abhishek Rajan
	M.D. Amin	B190083EE		
	Muskan Gupta	B190084EE		
9	Gunja Gupta	B190077EE	Design of a Cloud Based Data Acquisition Utility Assisting Home Automation System	Dr. Subhra Jyoti Sarkar
	Lakshay Singh	B190079EE		
	Yangchen Lhamu Bhutia	B190096EE		
10	Asha Kumari	B190074EE	Techno-Economic Optimization of Novel Stand-Alone Renewables Based Electric Vehicle Charging Stations	Dr. Amit Kumar Yadav/ Dr. Abhishek Rajan
	Abhishek Prasad	B180100EE		
	Nattala Suvarna Raju	B190085EE		
11	Manish Kumar Paswan	B170162EE	Performance Analysis of RLDA for Distribution System Monitoring Data	Dr. Subhra Jyoti Sarkar

Visit of Eminent Person

Prof. Akshay Kumar Rathore, IEEE Fellow visited NIT Sikkim in September 2023 to assist the students and faculties in their career and offered support for IEEE activities, R&D, visibility, inclusion in events, mobility, and integration with the research community in India and overseas. During the address, Prof. Rathore discussed about the unlimited opportunities from the IEEE industry Applications Society (IAS).

List of Publications

A. Journal

1. O. Singh, A. K. Ray, and A. Ghosh, "Photovoltaic Module Performance: Modeling, Parameter Estimation, and Environmental Effects", e-Prime - Advances in Electrical Engineering, Electronics and Energy, Elsevier, 2024.

2. O. Singh and A. K. Ray, "A Physical-Virtual Based Digital Twin Robotic Hand", International Journal on Interactive Design and Manufacturing (IJIDeM), Springer, 2024.

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B. Conference

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6. Saurav Kumar and Pradeep Kumar et al. IoT-enabled Crop Management: Monitoring and Safeguarding Agricultural Resources for Optimal Yield. International Conference on Future Power Network and Smart Energy Systems: Issues and Challenges (FPNSES-2024), 8th -10th march, 2024, NIT Kurukshetra.

7. Promila Das and Pradeep Kumar. Modeling and Development of an Automatic Balance Hoverboard, International Conference on Future Power Network and Smart Energy Systems: Issues and Challenges (FPNSES-2024), 8th -10th March, 2024, NIT Kurukshetra

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9. R. Atha, and S. Mallick, "Optimal Utilization of Distributed Generations and Capacitor Banks in Distribution Systems Using Equilibrium Optimizer" in International Conference on Sustainable Power and Energy Research (ICSPER-2024).

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C. Book Chapter

1. M. S. Ghole, A. Ghosh, and A. K. Ray, "Multi-agent Task Assignment Using Swap-Based Particle Swarm Optimization for Surveillance and Disaster Management", In: Muthusamy, H., Botzheim, J., Nayak, R. (eds) Robotics, Control and Computer Vision. Lecture Notes in Electrical Engineering, vol 1009. Springer, Singapore, 2023.

2. Panuya, Partha & Salkuti, Surender Reddy & Mandal, Kuntal & Roy, Molay & Kim, Seong-Cheol. (2024). Design and Analysis of Digitally Operated PV Emulator with Resistive Load Using Newton–Raphson Method. 10.1007/978-3-031-18389-8_29.

3. Panuya, Partha & Salkuti, Surender Reddy & Kim, Seong-Cheol & Mandal, Kuntal & Roy, Molay. (2024). Design and Analysis of Digitally Controlled Newton–Raphson Method Based Hardware Integrated PV Emulator with Resistive Load. 10.1007/978-3-031-18389-8_30.

4. Islavatu Srikanth and Pradeep Kumar, Neural Network Based DSTATCOM Control for Power Quality Enhancement, Robotics, Control and Computer Vision, Lecture Notes in Electrical Engineering, Springer 1009,313-322, 2023.

5. Vivek Kumar, Pratyush Prateek, Soumya R. Mohanty, and Nand Kishor, "Chapter 5 - Application of Advanced and Robust Control Schemes with Cyber Resiliency in Microgrid Network", Control, Communication, Monitoring and Protection of Smart Grids, IET, 2024, Edited by: Bidyadhar Subudhi and Pravat Kumar Ray

Students of the Department represented at different Innovation conclave

Department of Mechanical Engineering

"As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality"

- Ahlbert Einstein

"The thermal agency by which mechanical effect may be obtained is the transference of heat from one body to another at a lower temperature."

- Sadi Carnot

Mechanical Engineering is concerned with the responsible development of products, processes, and power, at scales ranging from molecules to large and complex systems. Many innovations crucial to our future will have their roots in the world of mass, motion, forces, and energy—the world of Mechanical Engineers. The Department of Mechanical Engineering endeavors to be recognized globally for outstanding education and research leading to well qualified, innovative, entrepreneurial and successful engineers to cater to the ever-changing industrial demands and social needs. The Department aims to conduct innovative research and to provide world-class education that instills the professional, technical, critical-thinking and communication skills necessary to make impactful contributions to the society.

The Department started its journey in 2014. Since its inception, the Department has produced globally competent Mechanical Engineers capable of contributing to society through innovation and working in multidisciplinary fields. The Department aims to provide the students with the perfect blend of intellectual and practical experiences that help them to serve the society and address a variety of needs of human beings.

Primary goals of the Department are as follows:

- To maintain a high standard of education through outstanding teaching, innovative curricula, and research training that reflect the changing needs of the society.
- To attract highly motivated students with enthusiasm, aptitude and interest in Mechanical Engineering.
- To pursue excellence in Research and Technology Transfer.
- To recruit and retain faculty members in the Department.
- To increase the public awareness of Departmental activities and the Mechanical Engineering profession.
- To provide the latest knowledge and research as well as the opportunity to consult and share best practices.
- To update with understanding of modern Mechanical Engineering fields like Artificial Intelligence, Robotics and Automation, Additive manufacturing, Computer-aided Design (CAD), Computer-aided Manufacturing (CAM), Product Life Cycle Management to design and analyze manufacturing plants, industrial equipment and machinery.
- To cater to the modern knowledge of heating and cooling systems, transport systems, aircraft, robotics, medical devices, weapons etc.
- To conduct multidisciplinary and collaborative research works with various industries and academic institutes.

Programs / Courses Offered

- B. Tech. in Mechanical Engineering
- Ph. D. in Mechanical Engineering

Students Strength (B. Tech.)

	Sanctioned Intake	Number of Students (2023-24)
1st Year	30	23
2nd Year	30	25
3rd Year	30	23
4th Year	30	28

Faculty Details

Members of the Department value professionalism and integrity, teaching excellence as well as students' initiative and innovation. Departmental Faculty members hold these values as an integral frame of reference to realize the decisions and actions at every level and in every situation.

Dr. Anil Lal S
Associate Professor and HoD
Ph.D. (IIT Madras, 2002), M.Tech. (IIT Madras, 1996)
Area of Interest: Computational Methods in Fluid Mechanics & Heat transfer, Mathematical Methods for Engineering, Machine Learning Techniques, Research Methodology, Optimization Techniques, Economics

Dr. Ranjan Basak
Associate Professor
Ph.D. (Jadavpur University, 2012), M.M.E. (Jadavpur University, 2000)
Area of Interest: Fluid Mechanics and Machine Design.

Dr. Shambhunath Barman
Associate Professor
Ph.D. (Jadavpur University, 2014), M.M.E. (BESU Shibpur, 2008)
Area of Interest: Study of Transport Phenomena in Material, Processing, Experimental & Numerical Heat Transfer and Computational Fluid Dynamics.

Dr. Jai Gopal Gupta
Assistant Professor
PhD. (IIT Kanpur, 2016), M.Tech. (MNIT Jaipur, 2004)
Area of Interest: Performance, Emission, Combustion in Internal Combustion Engines, Alternative Fuels and Renewable Energy Resources

Dr. Debajit Saha
Assistant Professor
PhD. (Jadavpur University, 2017), M.Tech. (Jadavpur University, 2010)
Area of Interest: Fluid Mechanics and Machines, Turbulence, Computational Fluid Dynamics, Thermal Engineering

Dr. Biswajit Roy
Assistant Professor
PhD. (NIT Silchar, 2022), M.Tech. (NIT Silchar, 2017)
Area of Interest: Tribology of Bearing, Uncertainty Quantification, Machine learning, Solar Energy.

Temporary Faculty

Dr. Kirti Tewari	Dr. Dipayan Das
Dr. Bibhuti Bhusan Nayak	Dr. Uttam Kumar Mohanty
Dr. Shitendu Some	Dr. Sudip Banerjee

Staff Details

Mr. Suneel Kumar Kushawaha
Technical Assistant
B.Tech. (Mechanical Engineering), FGIET

Mr. Amit Maity
Lab Technician
ITI, Diploma (Mechanical)

Membership of Technical Association / Society

- Dr. Anil Lal S, Member of Indian Society of Technical Education (ISTE)
- Dr. Anil Lal S, Member of Aeronautical Society of India
- Dr. Anil Lal S, Member of Indian Society of Heat and Mass Transfer
- Dr. Anil Lal S, Member of National Society of Fluid Mechanics and Fluid Power (NSFMFP)
- Dr. Jai Gopal Gupta, Life member of International Society for Energy, Environment and Sustainability (ISEES)

Laboratory Facilities

Since its inception, the Department is emphasizing to establish state-of-the-art as well as modern Laboratories to cater to the societal needs. The Department is now well equipped with the following Laboratories:

- Mechanical Workshop
- Fluid Mechanics and Machinery Laboratory
- Solid Mechanics Laboratory
- Machining Science Laboratory
- Advanced Manufacturing Processes Laboratory
- Computer Graphics Laboratory
- CAD / CAM Laboratory
- Machine Drawing Laboratory
- Metrology and Instrumentation Laboratory
- Heat Transfer Laboratory
- IC Engine Laboratory
- Refrigeration and Air-Conditioning Laboratory
- Energy Conversion Laboratory
- Kinematics and Dynamics of Machinery Laboratory
- Metal Cutting Laboratory
- Vibration & Rotor Dynamics Laboratory

1. Mechanical Workshop

The main objective of this course is to develop a machining skill in dignity of labor, precision, while also ensuring safety at the workplace with an encouragement in teamwork that pertains to professional attitude. \ This course also enhances the skill of measurements and improves the skills in basic engineering practices with hand tools and instruments which are commonly used in the basic workshop practice.

Sheet Bending Machine

Electric Furnace

Pedestal Grinder

Power Saw

MMAW Machine

Spot Welding Machine

MIG Welding Machine

MIG Welding Machine

2. Fluid Mechanics and Machinery Laboratory

The purpose of this Laboratory is to reinforce and enhance understanding of the fundamentals of Fluid Mechanics and Hydraulic Machines. The experiments here are designed to demonstrate the applications of the basic Fluid Mechanics principles and to provide a more intuitive and physical understanding of the theory. The prime objective of this Laboratory is to discuss and practice standard measurement techniques of Fluid Mechanics and their applications. It also includes the performance of various apparatus at different operating points. After completion of this Laboratory class, the students will be able to understand the concept of Fluid Machinery such as different types of turbines and pumps and various non-dimensional parameters applicable to hydraulic machines. The students are made capable of verifying Bernoulli's Theorem and calibrating a venturi-meter, Orifice meter, Nozzle, Pitot tube etc. The students will be able to characterize laminar, Turbulent flows and analyze the stability of floating bodies at the end of this Laboratory class. The facilities in the laboratory are of extremely high quality and some of the setups are modifiable to conduct research level experiments of PhD students.

Pictorial views of some of the instruments are given below:

Flow Measuring Device

Turbine Setup

Reciprocating Pump Test Rig

Series and parallel Centrifugal Test Rig

Pelton Wheel Setup

Open Channel Digital Setup

3. Solid Mechanics Laboratory

The objective of this Laboratory is to practice students about the evaluation of different mechanical properties of metals viz. a) Limit of proportionality b) Elastic limit c) Yield strength d) Ultimate strength e) Young's modulus of elasticity f) Percentage elongation g) Percentage reduction etc. A major facility in this laboratory is a Universal Testing Machine (UTM) which is used to conduct four experiments: tension, compression, bending and shear on standard test specimens, Furthermore, Torsion test, Hardness Test, Izod & Charpy test, Compressive strength tests are also conducted in this Laboratory. Pictorial views of some of the instruments are shown below:

Hardness Testing Machine

Universal Testing Machine

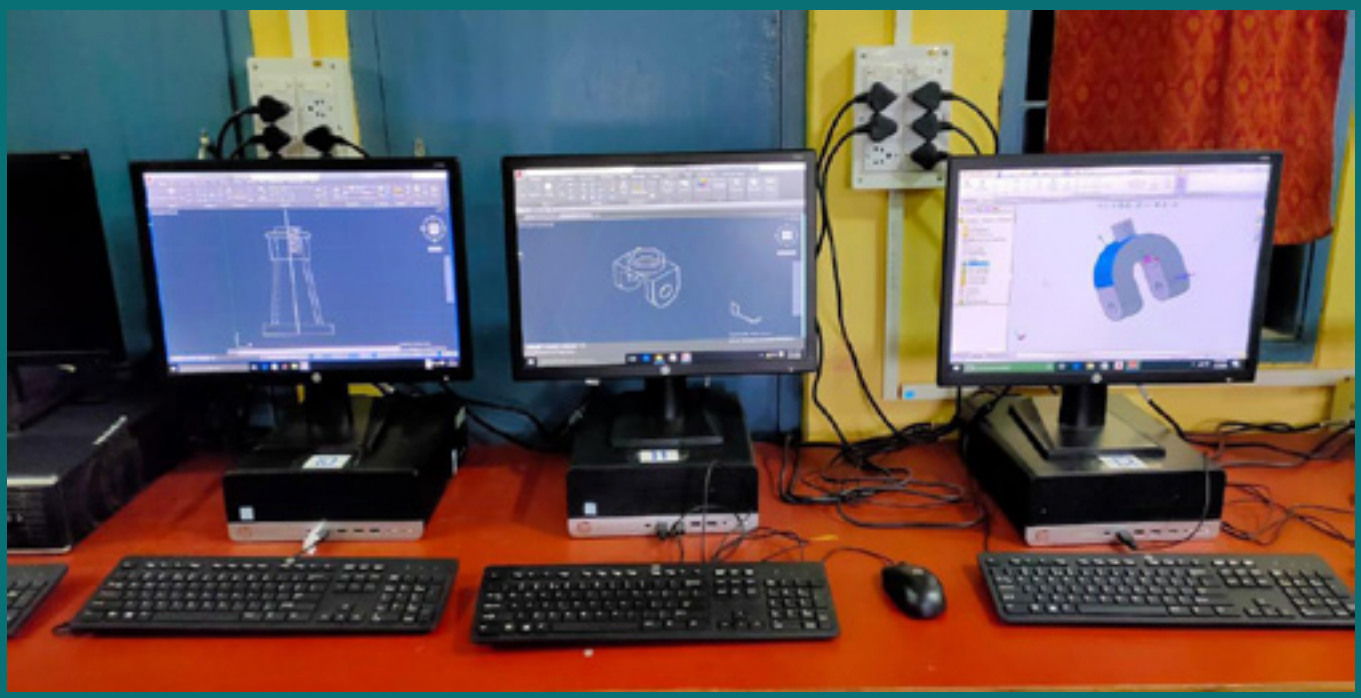
Torsion Testing Machine

Imapct Testing Machine

Spring Testing Machine

4. Computer Graphics Laboratory

The objective of this Laboratory is to provide skills to the students about the basics of AUTOCAD, 2D modeling and isometric drawings of different mechanical parts. 3D modeling of different types of mechanical components is carried out in this Laboratory.



Computer Graphics Laboratory

5. Machining Science Laboratory

The objective of this laboratory is to understand the basic concepts of tool signature in different reference system and obtain the in hand experience for the preparation of single point cutting tool in different reference system. To develop the student's ability to measure and analyze the morphology of chip, temperature at the tool-chip interface and cutting forces during machining are the main objectives of this laboratory. Students study to understand the working principles of various advanced non-traditional equipment.

Horizontal Surface Grinding Machine

Lathe

Radial Drilling Machine

Shaping Machine

6. Advanced Manufacturing Processes and CAD / CAM Laboratory

The objective of AMP Laboratory is to understand modern trends of manufacturing for real life industrial application to manufacture and fabricate complex components. It is further aimed to develop a student's ability to perform jobs using highly precise equipments such as 3D printing, injection moulding, wire arc additive manufacturing, vertical machining center and CNC Lathe machine.

CAD / CAM Laboratory of the institute provides training on various types of design software which are useful for designing various types of machine components. In this Laboratory, students can develop 2D and 3D Models in CAD Software (Solid Works/Solid Edge). Introduces the students with the basic Boolean Operations: shell, sweep, revolve, loft, extrude, filleting, chamfer, splines etc., for 3D Models. They are given practice training to do manual part programming for CNC Lathe and NC Milling.

Vertical Milling Center

CNC Lathe

Pictorial view of CAD / CAM Laboratory

7. Engineering Graphics and Machine Drawing Laboratory

This course is designed to introduce the students to the "universal language of Engineers" for effective communication through drafting exercises of geometrical solids. To learn technical drawing is an important part of the engineering profession. The objective of the course is to teach students to communicate using graphic techniques. Technical Graphics is used to communicate the necessary technical information required for manufacturing and assembly of machine components. This Laboratory is to give practice to students about the representation of elements of machine drawing, introduction to Engineering Materials, Surface finishes, tolerances, sectional views, and screw threads. Component drawings of bolts and nuts, locking devices, keys and cotter joints, knuckle joints, riveted joints, shaft couplings, bearings and pipe joints are also taught to the students. Furthermore, assembly drawing, drawing of the assembly of stuffing box, and pedestal bearing using the component drawings are being practiced by the students in this Laboratory.

Pictorial view of Machine Drawing Laboratory

8. Metrology and Instrumentation Laboratory

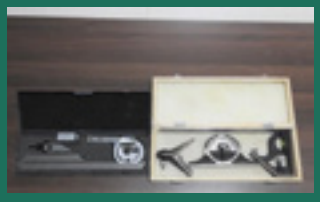
The objectives of Mechanical Measurements & Metrology Lab are to demonstrate the theoretical concepts taught in Mechanical Measurements & Metrology and also to practice the use of various measuring tools with calibration. Thread profile measurement, usage of autocollimator, profile projector, surface roughness tester, thermal imaging device are being taught to the students. Pictorial views of some of the instruments are shown below:

Vernier Calliper

Micrometre

Digital Micrometre

Dial Gauge



Bevel Protractor and Combination Set

Bore Gauge

Autocollimator

Surface Roughness Tester

Slip Gauge

9. Heat Transfer Laboratory

The Heat Transfer Laboratory is well equipped with modern instruments to strengthen the knowledge of students in this particular domain. Instruments of this Laboratory are procured with the support from TEQIP-III of the Institute. This Laboratory is aimed to equip the students with proper knowledge on the Conductive, Convective and Radiative Heat Transfer. The broader objectives of this laboratory include familiarizing students with heat transfer, heat exchangers, different temperature measurement modules, etc. Pictorial views of some of the instruments are shown below:

Boiling and Condensation Apparatus

Calibration of Thermo-couple Apparatus

Radiation Apparatus with Radiation Shield Arrangement

10. IC Engine Laboratory

The Internal Combustion Engine Laboratory is well equipped with numerous instruments to enhance the knowledge of the students and the instruments are bought with full financial support from TEQIP-III of the Institute. In this Laboratory, cut-sections models of different engines along with VTD plotting are presented to the students. The performance tests on single cylinder diesel, petrol engines, multi-cylinder engines are performed in this Laboratory.

In addition to the above-mentioned test facilities, one multi-fuel VCR engine with open ECU is available in this Laboratory for conducting research level experiments. Performance, combustion testing can be conducted with the available instruments, using different alternative fuels. This Laboratory is also well equipped with a Multi-gas Analyser to check the emission characteristics of the engine. Pictorial views of some of the instruments are depicted below:

Bomb Calorimeter

Cut section Models of Engines and Boilers

The Engines

Multi-gas Analyzer

Cut Section of Engine

Cut Section of Engine

11. Refrigeration and Air-conditioning Laboratory

Refrigeration & Air-conditioning Laboratory consist of equipments and instruments to do hands-on training and experiments on the subject. Recently, new instruments related to refrigeration experiments were added to this Laboratory with the financial aid from TEQIP-III. Cut-section models of compressor, domestic refrigerator are used for demonstrating the working of the RAC system. Determination of COP of domestic type refrigerator, small ice plant (computerized), VAR system are taught to the students. Experimentation on refrigerant leak detection is carried out in this Laboratory. Furthermore, the Laboratory is equipped with an AC Test Rig, Thermo-electric refrigerator, different types of compressor models etc. Pictorial views of some of the instruments are depicted below:

VCR Test Rig (domestic refrigerator) -Manual Mode

VAR Test Rig

AC Test Rig

12. Energy Conversion Laboratory

The Energy Conversion Laboratory is equipped with many state-of-the-art facilities to acquire knowledge about different types of basic energy conversion processes. Cut-section Models of different types of boilers are presented to the students in this Laboratory. Experimentation on Blower Test Rigs is also carried out in this Laboratory. Pictorial views of some of the instruments are depicted below:

Cut-section Model of Stirling Boiler

Cut-section Model of Lancashire Boiler

Assembling and dismantling set-up of 4-S 4-C Petrol Engine (working)

Centrifugal Blower with data logging facility

13. Metal Cutting Laboratory

This course introduces specialized knowledge and skills in machining processes using the principles and methods of Engineering Analysis, Merchant's theories of Machining. This Laboratory is aimed at introducing the know-how of common processes used in industries for manufacturing parts by material removal in a controlled manner. Auxiliary devices as well as methods for machining to desired accuracy and quality are also covered. The emphasis throughout the Laboratory course is on understanding the basic features of the processes rather than details of constructions of machines, or common practices in manufacturing or acquiring skill in the operation of machines. Pictorial views of some of the instruments are depicted below:

Horizontal Surface Grinding Machine

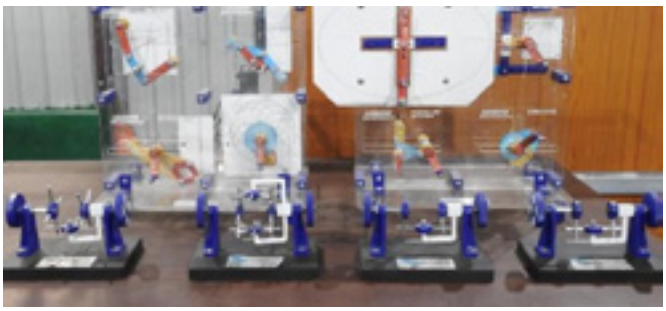
Lathe

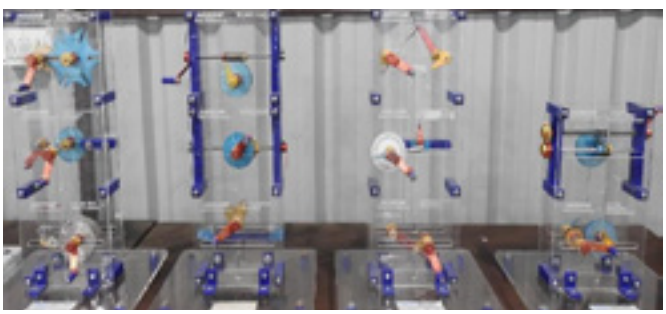
Universal Milling Machine

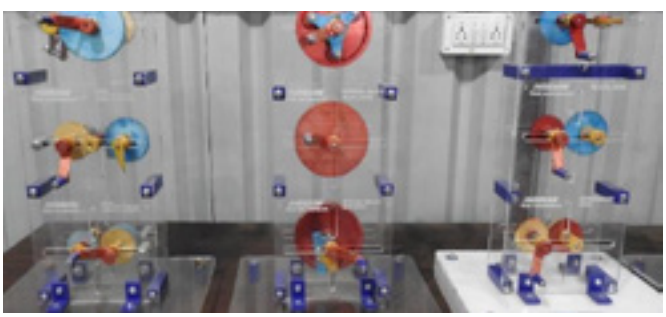
Shaping Machine

14. Kinematics and Dynamics of Machinery Laboratory

The objective of this course is to understand the basic knowledge of governor, gyroscope, moment balance, cams, epicyclic gear train and whirling of shaft. This laboratory helps in performingthe experiments using various setups to prove various principles of mechanics.







Gear Models

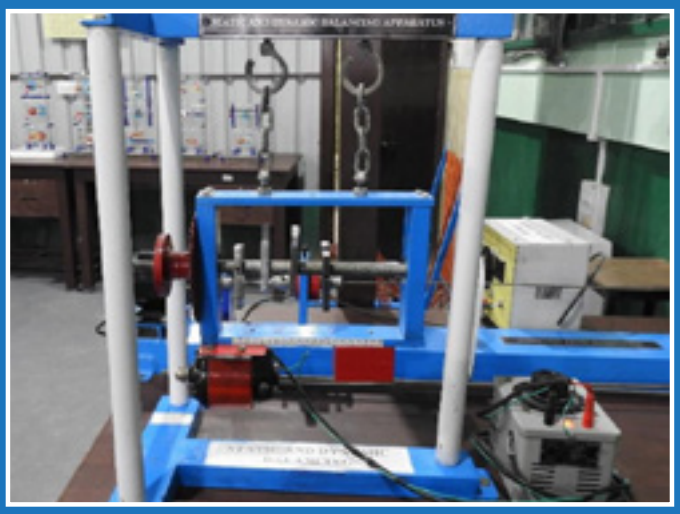
Cam Analysis Apparatus

Governor Apparatus

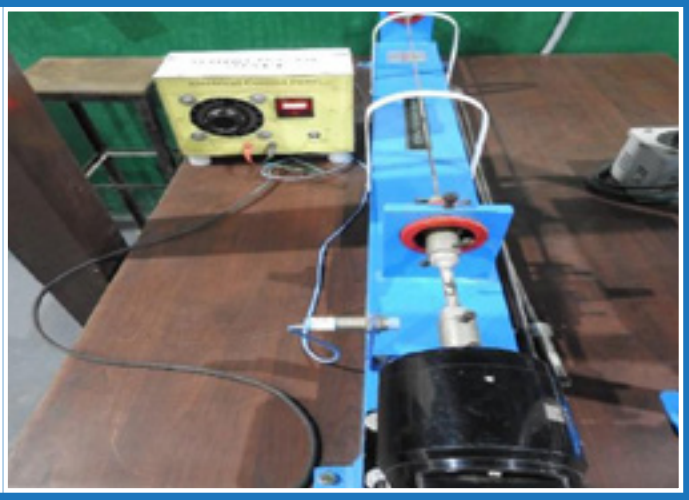
Epicyclic Gear Train

Journal Bearing Apparatus

Gyroscope Apparatus



Statics and Dynamics Balancing Apparatus

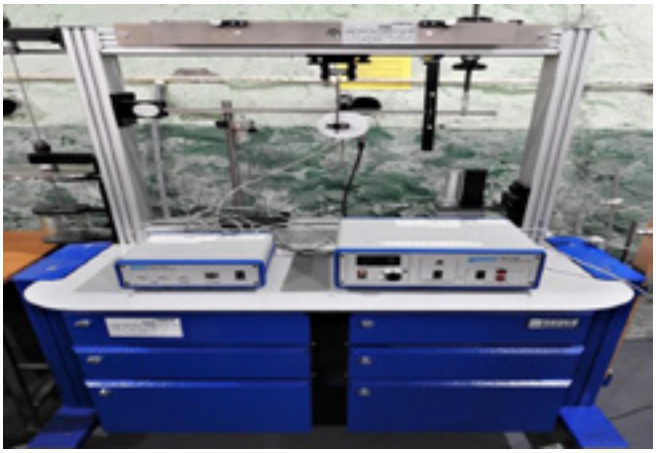


Whirling Shaft Apparatus

15. Vibration & Rotor Dynamics Laboratory

Objectives of the Vibration and Rotor Dynamics Laboratory are to impart practical knowledge on free and forced vibrations analysis for various types of mechanical components. This Laboratory demonstrates the experiments on damping, resonance and absorber effects in forced vibrations, determination of the oscillation period depending on torsion wire length, diameter and rotating mass. This Laboratory also provides hands-on knowledge on free and damped torsional vibrations. Various experiments with governors, elastic shafts, cam mechanisms are available to understand machine dynamics. Pictorial views of some of the instruments are depicted below:

Free and Forced Vibration Apparatus



Universal Vibration Apparatus

HPC and Software

- Undergraduate project works are being carried out through HPC platform as well as Institutional ANSYS software.
- Ph.D. Students and Faculty members of the Department are availing the HPC facility as well as ANSYS and open-source software for conducting their research works.
- Online Integrative Learning / program tool is also being used by the Department for different laboratories, such as; Basic Workshop, Metrology and Measurement, Production Engineering to teach the students in a more effective way.

Workshop/Faculty Development Program Organized

The National Institute of Technology Sikkim, under the sponsorship of the Ministry of Micro, Small and Medium Enterprises (MSME), organized a week-long Advanced Entrepreneurship and Skill Development Program titled "Robotics for Domestic and Industrial Applications" from March 8th to March 12th, 2024 at its Ravangla Campus. Aligned with the draft "National Strategy" on Robotics to position India as a global leader by 2030, the program featured 12 distinguished guest speakers and drew 29 participants from across the country. Led by workshop coordinators Dr. Anil Lal S, Dr. Ranjan Basak, Dr. Jai Gopal Gupta, and Nodal Officer Dr. Pratyay Kuila, the event provided deep insights into robotics.

Over the five days, the workshop welcomed experts from leading universities like Prof. S K Shah from IIT Delhi, Prof. Nayan M Kakotay from Tezpur University, Dr. Rajeevlochana, and Mr. Ivan Daniels from Amrita Vishwa Vidyapeetham Bangalore, Dr. Atul Thakur and Dr. Saurabh Kumar Pandey from IIT Patna, and renowned Dr. Vadakkepat Prahlad from the National University of Singapore, along with Mr. Srikrishna S, founder of Sei Anmai Technology. Their presence, coupled with that of Dr. Anil Lal S, Dr. Anjan Kumar Ray, Dr. Pratyay Kuila, and Dr. Jai Gopal Gupta assisted by Mr. Mannu Yadav, contributed to a transformative learning experience for the students and participants, captivated by the kinematics, mechanics, programming, simulation and hands-on practices in robotics development.

Throughout the workshop, attendees were immersed in hands-on activities such as exploring software tools like GeoGebra and RoboAnalyzer that helped in igniting their imaginations. Demonstrations and presentations showcased their newfound knowledge and enthusiasm. This collective effort sparked discussions on establishing a Tinkering Lab at the National Institute of Technology Sikkim, aimed at fostering a deeper understanding of the societal impact of robotics such as to train the future of this country with the vision to contribute to India's journey towards becoming VIKAS BHARAT by 2047.

Professional Practice

The Department is conducting Professional Practice classes regularly in order to strengthen the soft skills of the students from Second Year onwards. This is substantially improving the performance of the students in placement as well as in competitive examinations.

Involvement in Community Development

The students of near-by schools visit the Departmental Laboratories, Workshops to get exposure to Mechanical Engineering. Furthermore, Faculty members regularly visit neighboring / native places to interact with the local inhabitants.

Departmental Faculty members and Staff have participated in "SWACHH BHARAT ABHIYAN" and participated in the Community Development Program. Glimpses of Community Development Program is shown below:

List of Publication from the department

Journal

1. S Barman, SK Guha, S Some. Evaluation of the steady-state performance characteristics of a two-layered porous journal bearing under turbulent regimes. Journal of the Brazilian Society of Mechanical Sciences and Engineering, October 2023, 45:597, 1-13

2. Yadav, Mannu, and Anil Lal S. "Taylor series solutions for area ratio and Prandtl–Meyer inverses using differential transform method." International Journal of Advances in Engineering Sciences and Applied Mathematics 15.2 (2023): 110-114.

3. Nageswaran, G., Mahadev Prabhu, Anil Lal S and R. Ajith Kumar. "Analytical models for critical heights of vortexing in flat and spherical bottom tanks with siphon and bottom drains." Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering 237.16 (2023): 3743-3752.

4. Das D, Singh AK. Interactions between work-related factors, perceived fatigue and musculoskeletal disorders among handicraft artisans: structural equation model analysis. *Ergonomics*. 2024.

5. Titarmare, V., Banerjee, S., & Sahoo, P. (2024). Abrasive Wear Behavior of AZ31– B 4 C Composites. Tribology International, 109455.

6. Pramanik, D., Panja, B., Banerjee, S. (2023). Parametric study of WEDM of titanium grade 12 using RSM and desirability approach. Emerging Materials Research, 40, 1-11.

7. Titarmare, V. P., Banerjee, S. Sahoo, P. (2023). Corrosion Characteristics of AZ31-B 4 C Composites. Transactions of the Indian Institute of Metals, 76(9), 2445- 2461.

8. Joydip Paul, Debajit Saha, Abhjit Majumder, Hiranmoy Samanta, "Thermal Convection in porous Cavity with Heated Block" Journal of MInes and Fuels, Vol 71, 2023, pp. 390-395.

9. Naeem S., Patil A.V., Shaikh A.V, Shinde U.P., Hussain D., Alam. T., Sharma M., Tewari K., Ahmad A, 2023, "A Review of Cobalt-Based Metal Hydroxide Electrode for Applications in Supercapacitors", Advances in Materials Science and Engineering, vol. 2023, Article ID 1133559, 15 pages, 2023.

Conference

1. S. Roy, S. Banerjee, & P. Sahoo, (2024). Improvement of Machinability in Dry Turning of EN8 Steel Using Taguchi Technique. Proceedings of INCOM 2024, Jan 5- Kolkata. pp. 373-376.
2. Titarmare, V., Banerjee, S., Sahoo, P. (2024). Ultrasonic Assisted Stir Casting Synthesis and Characterisation of Magnesium Metal Matrix Composites. Proceedings of INCOM 2024, Jan 5-6, Kolkata. pp. 507-510.
3. Ghosh, H., Mukhopadhyay, S., Saha, M., Banerjee, S., Panja, B. (2023). Study of machining characteristics of 45C8 carbon steel alloy in CNC turner. Materials Today: Proceedings.
4. A Review on Emerging Trends in Exhaust After-Treatment Technologies for Diesel Engines, Md Shadab Reza, Jai Gopal Gupta, and Anil Lal S, Proceedings of the VIII International Conference on Sustainable Energy and Environmental Challenges (VIII SEEC), 04 –06 December 2023, MNIT, Jaipur, India.
5. Classification of Emission Control Technologies for Diesel Engines, Md Shadab Reza, Jai Gopal Gupta, and Anil Lal S, Proceedings of the VIII International Conference on Sustainable Energy and Environmental Challenges (VIII SEEC), 04 –06 December 2023, MNIT, Jaipur, India.
6. Development of Methanol Fuelled Automobile Vehicles, Jai Gopal Gupta, 4th Baskent International Conference on Multidisciplinary Studies held online and in-person on August 4-6, 2023, Ankara, Türkiye.
7. Design and Modeling of an Archimedes Spiral Wind Turbine and Flow Characteristics, Debajit Saha and Hiranmoy Samanta, International Conference on Renewable Energy Technologies and Bio Sustainability, 21st-2rd February 2024.
8. Experimental Investigation of Flow over Rectangular and Triangular Notches, Debajit Saha and Hiranmoy Samanta, International conference on Advances in Mechanical Engineering & Material Science, 8-10 August 2024.
9. Experimental Investigation and the CFD Modelling of a Invelox Type Wind Turbine, Hiranmoy Samanta, Debajit Saha, Kamal Golui, Rajesh Dey, INternational Conference of Fluid, Thermal and Energy Systems, January, 2024.
10. Flow Analysis of a convergent-Divergent nozzle, Debajit Saha, 5th International Conference on Recent Innovations in Science & Technology (RIST 2023), April 2023.
11. Experimental Investigation of the Effect of Geometric Parameters on Discharge Coefficient of Trapezoidal Notch, Debajit Saha, 5th International Conference on Recent Innovations in Science & Technology (RIST 2023), April 2023.
12. Preliminary Design of a Centrifugal Compressor for a Turbocharger, Debajit Saha, 5th International Conference on Recent Innovations in Science & Technology (RIST 2023), April 2023.

Book Chapter

1. Banerjee, Sudip, Panja, Bikash and Sahoo, Prasanta. Parametric optimization of machining characteristics of titanium alloy in WEDM;. Non Conventional Machining, edited by J. Paulo Davim, Berlin, Boston: De Gruyter, 2023, pp. 171-188.
2. Sahoo, P.; Banerjee, S. Magnesium Matrix Hybrid Composites: A Case Study with WC and Graphite Reinforcements. In Advances in Corrosion Control of Magnesium and its Alloys (pp. 117-134). CRC Press.
3. Hiranmoy Samanta, Kamal Golui, Debajit Saha, Numerical Study of the Unsteady Flow in Simplified and Realistic Bifurcation Arterial Models, Evolutionary Manufacturing, Design and Operational Practices for Resource and Environmental Sustainability, Scrivener Publishing , April 2023, pp. 481-493.
4. Kirti Tewari, Recent Advances in Mechanical Engineering (2023); The Environmental, Enviro-Economic, Economic, Exergo-Economic, Analysis PVT Nonmetallic Solar Water Heater, Publisher: Springer Nature, ISBN No: 978-981-19-2187-2
5. Kirti Tewari, Renewable Energy: Accelerating the Energy Transition (2023); Chapter name: Solar Distillation and Water Heating Systems Integration with Photovoltaic Technology, Publisher: Springer Singapore, ISBN No: Print ISBN 978-981-99-6115-3; Online ISBN 978-981-99-6116-0

Details of Ph.D. Scholars

Name of the Student	Thesis Title / Research area	Supervisor (s)	Status
Mr. Prasan Ralph Dewan	Experimental Investigation on EDM of NIMONIC C-263	Dr. Pranab Kumar Kundu Dr. Ranjan Basak	Awarded
Mr. Aditya Kumar Singh	Experimental Investigation to Find the Effects of Blending of Biodiesel and Alcohol with Diesel on VCR Diesel Engine	Dr. Shambhunath Barman	Thesis Submitted
Mr. Debayan Mandal	Tribological Analysis of Composite Materials	Dr. Ranjan Basak	Pursuing
Mr. Ved Prakash Mishra	Biofuels, IC engine, Thermal Analysis and Waste Heat Recovery	Dr. Shambhunath Barman Dr. Pradip Mondal, IIEST Shibpur	Pursuing
Mr. Mannu Yadav	Investigation on Flow Over Protruding Objects	Dr. Anil Lal S	Pursuing
Ms. Moumita Roy	Alternative Fuels	Dr. Shambhunath Barman Dr. Prokash Ch. Roy (JU, Kolkata)	Pursuing
Mr. Md Shadab Reza	IC Engine, Exhaust Emission & Control	Dr. Jai Gopal Gupta , Dr. Anil Lal S	Pursuing
Mr. Debojit Roy	Metal-Matrix Composites, Tribology, Optimization Techniques	Dr. Ranjan Basak	Pursuing

Undergraduate Students Internship Details

UG-4th Year Students

Roll No	Name	Details
B200131ME	Amit Prasad	Foxaisr, NHPC
B200132ME	Sangey Tsomu	IOCL ,Johns Electriv Pvt LTD.
B200133ME	Jitendra Kumar	BHEL , ONGC
B200134ME	Akhil	Asquare Infotech
B200135ME	Abhijeet Keshari	ONGC
B200136ME	Himanshu Kumar	IOCL, Foxaisr
B200137ME	Anugrah Singh	Johns Electric Pvt Ltd.
B200138ME	Durgesh Verma	Foxaisr, ONGC
B200139ME	Yogesh Kumar Meena	INDIAN RAILWAYS
B200141ME	Sujal Raj	ONGC
B200142ME	Shaurav Chettri	VS Informatics
B200143ME	Sourabh Kumar	Johns Electric Pvt Ltd.
B200144ME	Shivendra Pratap Singh	Nanobiz India Private Limited, ONGC
B200145ME	Tushar Kumar Roy	BHEL
B200146ME	Manav Mani Tripathi	BHEL
B200147ME	Diwakar Singh	Varun Beverages Ltd
B200148ME	Sakshi	IOCL
B200150ME	Saugam Deshmukh	IOCL ONGC Foxaisr
B200151ME	Gajjelamma Gari Madhu	Johns Electric Pvt Ltd.
B200152ME	Rishi Raj Tiwari	Dharaksha Ecosolutions Private Limited
B200153ME	Bhawana Sankhawar	Microzensys private limited
B200154ME	Navraj Thakuri	Johns Electric Pvt Ltd.

Roll No	Name	Details
B200155ME	Vishnu Kumar	Foxaisr
B200156ME	Priya Jain	Foxaisr
B200158ME	Swetha Patel	Foxaisr
B200159ME	Yadla Tejesh	Microzensys private limited
B190135ME	Nunavath Sona Jayasree	BHEL

UG-3rd Year Students

Roll No	Name	Details
B210128ME	Ayush Maity	IOCL
B210147ME	Vaibhav Bagrodia	SDSC(SHAR)-ISRO
B210131ME	Debajit Chatterjee	NHPC LTD
B210144ME	Swastik Chakraborty	SDSC(SHAR)-ISRO
B210125ME	Ankit Kumar	TATA MOTORS
B210139ME	Mayank Shukla	TATA MOTORS
B210141ME	Om Tripathi	TATA MOTORS
B210142ME	Sakshi Verma	SDSC(SHAR)-ISRO
B210130ME	Chandni Bhoi	OHPC LTD
B210132ME	DHIRAJ KUMAR	IOCL
B210140ME	Nand kishore anand	Midhani
B210124ME	Abhishek Jaluthriya	Midhani
B210145ME	Tejash Gupta	MIDHANI
B210127ME	Arvind Kumar	Motorama EV

UG-2nd Year Students

Roll No	Name	Details
B210128ME	Ayush Maity	IOCL
B210147ME	Vaibhav Bagrodia	JSW Steel Plant, Chandi Steel Plant
B210131ME	Debajit Chatterjee	NHPC LTD

Projects of Final Year Students

Roll No	Name	Project Title
B200131ME	Amit Prasad	Experimental study of drilling of Al-Si3N4 nano Composites
B200132ME	Sangey Tsomu	Numerical and experimental study of biodiesel blend fuel in CI engine.
B200133ME	Jitendra Kumar	Theoretical and Experimental Analysis of the Cantilever Beam Vibration
B200134ME	Akhil	A Hybrid SEM-ANN investigation on User Satisfaction and Continuance Usage intention of e-payment systems in India.
B200135ME	Abhijeet Keshari	Vortex Induced Vibration Energy Harvestation

Roll No	Name	Project Title
B200136ME	Himanshu Kumar	Experimental Analysis on Performance Enhancement of a Hybrid Electric Vehicle Recovering Waste Energy and Harvesting Green Energy
B200137ME	Anugrah Singh	Effects of incorporation of alloying elements on Machinability of Aluminium alloy
B200138ME	Durgesh Verma	Performance and emission analysis of CI Engine using Methanol Diesel Blend
B200139ME	Yogesh Kumar Meena	Performance analysis of solar still with stepped absorber
B200141ME	Sujal Raj	Modification and Performance study of Hybrid Solar Dryer
B200142ME	Shaurav Chettri	Designing several modules having artificial gravity on a space station
B200143ME	Sourabh Kumar	Preliminary design of axial flow turbine used in turbojet engine
B200144ME	Shivendra Pratap Singh	Experimental Analysis on Performance Enhancement of a Hybrid Electric Vehicle Recovering Waste Energy and Harvesting Green Energy
B200145ME	Tushar Kumar Roy	Fabrication of gradient density components using FDM process
B200146ME	Manav Mani Tripathi	Vortex Induced Vibration Energy Harvestation
B200147ME	Diwakar Singh	Performance Analysis Of a Hydrodynamically Lubricated Bearing Under SAE40 Lubricant
B200148ME	Sakshi	Experimental study of drilling of Al-Si3N4 nano Composites
B200150ME	Saugam Deshmukh	Theoretical and Experimental Analysis of the Cantilever Beam Vibration
B200151ME	Gajjelamma Gari Madhu	Modification and Performance study of Hybrid Solar Dryer
B200152ME	Rishi Raj Tiwari	Performance and emission analysis of CI Engine using Methanol Diesel Blend
B200153ME	Bhawana Sankhwar	Study of Thermal Performance of the Traditional “Bhattis” For drying of Large Cardamom.
B200154ME	Navraj Thakuri	Experimental Analysis on Performance Enhancement of a Hybrid Electric Vehicle Recovering Waste Energy and Harvesting Green Energy
B200155ME	Vishnu Kumar	A Hybrid SEM-ANN investigation on User Satisfaction and Continuance Usage intention of e-payment systems in India.
B200156ME	Priya Jain	Modification and Performance study of Hybrid Solar Dryer
B200158ME	Swetha Patel	Fabrication of gradient density components using FDM process

Roll No	Name	Project Title
B200159ME	Yadla Tejesh	Preliminary design of axial flow turbine used in turbojet engine
B190135ME	Nunavath Sona Jayasree	Effects of incorporation of alloying elements on Machinability of Aluminium alloy
B190124ME	Anurag Kumar Pandey	Designing several modules having artificial gravity on a space station

Undergraduate Students Achievements

Campus Placement Status

S. NO.	NAME	ROLL NO.	COMPANY NAME
1	Amit Prasad	B200131ME	Vedanta
2	Sangey Tsomu	B200132ME	Vedanta
3	Jitendra Kumar	B200133ME	Fleet Management
4	Sevak Akhil Shantilal	B200134ME	L&T
5	Abhijeet Keshari	B200135ME	Ducom Instruments
6	Himanshu Kumar	B200136ME	Techture
7	Anugrah Singh	B200137ME	SPS
8	Durgesh Verma	B200138ME	SPS
9	Sujal Raj	B200141ME	Vedanta
10	Shaurav Chettri	B200142ME	SPS
11	Sourabh Kumar	B200143ME	Vedanta
12	Shivendra Pratap Singh	B200144ME	Deloitte
13	Tushar Kumar Roy	B200145ME	KEC International
14	Manav Mani Tripathi	B200146ME	Cummins India
15	Sakshi	B200148ME	KEC International
16	Saugam Deshmukh	B200150ME	Anglo Eastern
18	Rishi Raj Tiwari	B200152ME	Technip FMC
20	Vishnu Kumar	B200155ME	L&T
21	Priya Jain	B200156ME	SPS
22	Swetha Patel	B200158ME	L&T

The following students of Mechanical Engineering Department have qualified in GATE 2023.

- Abhijeet Kesari,
- Sujal Raj,
- Sourabh Kumar,
- Shivendra Pratap Singh,
- Saugam Deshmukh,
- Gajalama Gari Madhu,
- Rishi Raj Tiwari

Student Events

Yantrika: The Departmental Club

Faculty In-Charge: Dr. Dipayan Das

Student Conveners: Mr. Akhil and Mr. Shivendra Pratap Singh, 4th Year, ME Dept.

Yantrika was established in 2015 as the Departmental Club of Mechanical Engineering Department. Its primary objective is to foster the development of essential skills among students while recognizing the need to equip them with the necessary tools and software for thriving in this technology-driven era. The society hosts various activities aimed at enhancing the core and technical competencies of participants. Yantrika firmly believes that a brilliant idea remains futile unless it can be conveyed successfully. Thus, the society emphasizes the significance of communication skills, enabling individuals to transform their ideas into practical possibilities. By acknowledging the value of such skills, Yantrika ensures the holistic growth of participants, encompassing their core, technical, and soft skill sets. Since its establishment, Yantrika has been dedicated to creating a positive learning environment for students. The society encourages active participation and engagement, fostering a sense of camaraderie among its members. Students are provided with opportunities to collaborate, share ideas, and learn from one another. Yantrika also serves as a platform for networking and connecting with industry professionals, creating avenues for future career prospects

The students of the Mechanical Engineering Department organized a Program to celebrate Teachers' Day. Dr. Shambhunath Barman (HoD), Dr. Ranjan Basak (Dean Academics), and all the faculties and staff of ME Dept. graced the occasion. The HoD, Dr. Shambhunath Barman gave a speech with a motive to spread a message about the significance of scientific applications in the daily life of Mechanical Engineering students. He also spoke briefly on Dr Sarvepalli Radhakrishnan and his contributions. B.Tech students of second, third and fourth years participated actively in the event. This was followed by a Cultural Event. The programme included singing, recitation, story-telling, beat boxing and instrument-play. This event provided a platform to the students to demonstrate their talent and acted as a stepping-stone to connect with each other in their academic life

Program organized by Departmental Club "Yantrika"

Departmental Faculties with 2020-24 Batch Students

Teacher Day Celebration in the Dept. of Mechanical Engineering

Departmental Committees

S. No	Name of Faculty Members	Name of the Committee
1	1. Convener (DUGC): Dr. Jai Gopal Gupta 2. HoD: Dr. Anil Lal S 3. Convener (DPGC): Dr. Shambhunath Barman 4. Faculty Members (ME Dept.): a) Dr. Ranjan Basak b) Dr. Debajit Saha	Departmental Undergraduate Committee (DUGC)
2	1. Convener DPGC: Dr. Shambhunath Barman 2. HoD: Dr. Anil Lal S 3. Convener DUGC: Dr. Jai Gopal Gupta 4. Faculty Members (ME Dept.): a) Dr. Ranjan Basak b) Dr. Debajit Saha c) Dr. Biswajit Roy 5. Faculty Member (Nominated by Chairperson Senate): Dr. Aurobinda Panda, Assistant Professor, EEE Dept.	Departmental Postgraduate Committee (DPGC)
3	1. HoD: Dr. Anil Lal S 2. DUGC Convener: Dr. Jai Gopal Gupta 3. Faculty Advisors 2023-27 Batch: Dr. Dipayan Das 2022-26 Batch: Dr. Sudip Banerjee 2021-25 Batch: Dr. Uttam Kumar Mohanty 2020-24 Batch: Dr. Bibhuti Bhusan Nayak 4. Faculty Member, ME Dept. (nominated by HoD): Dr. Shambhunath Barman 5. Faculty Member, (nominated by Dean, Academic): Dr. Anindya Biswas, Associate Professor, Department of Physics	Academic Performance Evaluation Committee (APEC)
4	1. Dr. Anil Lal S (HoD, ME Dept.) 2. Dr. Shambhunath Barman (Convener, DPGC) 3. Dr. Ranjan Basak (Faculty, ME Dept.) 4. Dr, Jai Gopal Gupta (Faculty, ME Dept.) 5. Dr. Debajit Saha (Faculty, ME Dept.) 6. Dr. Biswajit Roy (Faculty, ME Dept.) 7. Dr. Kirti Tewari (Faculty ME Dept.) 8. Dr. Molay Roy (Faculty, EEE Dept.)	Departmental Admission Committee (DAC)
5	i) Dr. Anil Lal S, HoD ii) Dr. Jai Gopal Gupta, Convener, DUGC iii) Faculty Advisor (s) 1st Year Advisor: Dr. Dipayan Das 2nd Year Advisor: Dr. Sudip Banerjee 3rd Year Advisor: Dr. Uttam Kumar Mohanty 4th Year Advisor: Dr. Bibhuti Bhusan Nayak iv). Faculty Member from Examination Cell: Dr. Shitendu Some	Departmental Students Grievance Cell (DSGC)
6	Faculty Advisor, 2023-27 Batch: Dr. Dipayan Das Faculty Advisor, 2022-26 Batch: Dr. Sudip Banerjee Faculty Advisor, 2021-25 Batch: Dr. Uttam Kumar Mohanty Faculty Advisor, 2020-24 Batch: Dr. Bibhuti Bhusan Nayak Research Scholars: Dr. Kirti Tewari	Faculty Advisor

S. No	Name of Faculty Members	Name of the Committee
7	i) Dr. Ranjan Basak, Convener ii) Members: a) Dr. Joy Pal, Assistant Professor, CE Dept. NIT Sikkim b) Dr. Sudip Banerjee, Assistant Professor, NIT Sikkim c) Dr. Uttam Kumar Mohanty, Assistant Professor NIT Sikkim	Doctoral Guidance Committee (DGC) (Research Scholar: Mr. Debojit Roy)
8	i) Dr. Jai Gopal Gupta, Convener ii) Members: a) Dr. Anil Lal S, Associate Professor (Co-Supervisor) b) Dr. Shambhunatn Barman, Associate Professor, NIT Sikkim c) Dr. Sumit Saha, Associate Professor, NIT Sikkim	Doctoral Guidance Committee (DGC) (Research Scholar: Mr. Sahadab Reza)
12	1. Dr. Shitendu Some (Convener) 2. Members a. Dr. Dipayan Das (Faculty Advisor, 2023-27 Batch) b. Dr. Sudip Banerjee (Faculty Advisor, 2022-26 Batch) c. Dr. Uttam Kumar Mohanty (Faculty Advisor, 2021-25 Batch) d. Dr. Bibhuti Bhusan Nayak (Faculty Advisor, 2020-24 Batch) e. Dr. Kirti Tewari (Research Scholars Faculty Advisor)	Departmental Examination and Result Committee
13	1. Dr. Biswajit Roy (Convener) 2. Members a. Dr. Sudip Banerjee (Faculty Advisor, 2022-26 Batch) b. Dr. Uttam Kumar Mohanty (Faculty Advisor, 2021-25 Batch) c. Dr. Bibhuti Bhusan Nayak (Faculty Advisor, 2020-24 Batch) d. Mr. Amit Maity (Senior Technician, ME Dept.)	Time Table/Class Rooms/Load Distribution
14	Dr. Bibhuti Bhusan Nayak (Convener) 2. Members a) Dr. Dipayan Das (Faculty Advisor, 2023-27 Batch) b) Dr. Sudip Banerjee (Faculty Advisor, 2022-26 Batch) c) Dr. Uttam Kumar Mohanty (Faculty Advisor, 2021-25 Batch)	Departmental Library Committee
15	1. Dr. Diapyan Das (Convener) 2. Members a. Dr. Sudip Banerjee (Faculty Advisor, 2022-26 Batch) b. Dr. Uttam Kumar Mohanty (Faculty Advisor, 2021-25 Batch) c. Dr. Bibhuti Bhusan Nayak (Faculty Advisor, 2020-24 Batch)	Training and Placement, GATE, Professional Practice
16	1. Dr. Debajit Saha (Convener) 2. Members a) Dr. Anil Lal S b) Dr. Ranjan Basak c) Dr. Shambhunath Barman d) Dr. Jai Gopal Gupta e) Dr. Biswajit Roy f) Dr. Dipayan Das g) Dr. Sudip Banerjee h) Dr. Uttam Kumar Mohanty i) Dr. Bibhuti Bhusan Nayak j) Dr. Shitendu Some	Departmental Disciplinary Committee (DDC)

Workshop / STC / FDP Attended/Conducted by the Faculty Members

Dr. Jai Gopal Gupta

- Successfully completed the Karmayogi Prarambh conducted by the Department of Personnel and Training (DoPT) on the date June 26, 2023.
- Attended workshop on India@2047 Challenges, Opportunities and Roadmap on June 13, 2023.
- Attended workshop on N-LEAP NITs – Leadership for Academicians Programme on June 14, 2023.
- Conducted One-week Advanced Entrepreneurship and Skill Development Program (AESDP) on "Robotics for Domestic and Industrial Applications" from March 8-12, 2024.

Dr. Anil Lal S

- Attended on-line presentation of the paper titled "Inverse gas dynamic tables for the isentropic expansion of a gas due to area change and flow deflection" at the international anatolian congress on muti-disciplinary scientific research held at Hakkari during July 21-23.
- Attended the 10th international and 50th National Conference on Fluid Mechanics and Fluid Power (FMFP) held during December 20-22 at IIT Jodhpur, India for presenting a paper titled "Evolution and interaction with a rod surface of a vortex ring in a cylindrical enclosure"

Dr. Bibhuti Bhusan Nayak

- Robotics for Domestic and Industrial Applications, NIT Sikkim, 08-12 March, 2024.
- Cyber-Attacks and Defense, Centre for Development of Advanced Computing, Noida, 02-06 January, 2024.
- Ansys Multiphysics Event, NIT Puducherry, 12-16 June, 2023.
- Drone technology and Application, Skyy Rider Institutions, 9th June, 2023.

Dr. Debajit Saha

- Cyber-Attacks and Defense, Centre for Development of Advanced Computing, Noida, 02-06 January, 2024.

DEPARTMENT OF CIVIL ENGINEERING

Civil engineering is the art of directing the great sources of power in nature for the use and convenience of man

~Thomas Tredgold

A country's development is intrinsically linked to its infrastructure, whose growth is fuelled by the collective acumen of its engineers. Innovative, sustainable technological innovations are key to the growth of an emerging economy like India which is on the cusp of witnessing a socio-economic revolution. With its burgeoning population and its ever increasing basic needs, it is imperative for the country to build a robust infrastructural framework capable of balancing and fulfilling the immediate as well as its longterm goals of progress. In this context the field of Civil Engineering through its diverse domains like Structural Engineering, Surveying, Environmental Engineering, Earthquake Engineering, Geotechnical Engineering, Water Resources Engineering and Transportation Engineering will be an important stakeholder in shaping the future of this country.

Aligning itself with the requirements of the country NIT Sikkim established this department in the year 2013, offering B.Tech. and Ph.D. programs. The B.Tech. program has an intake of 30 students. Civil Engineers with a penchant for applying theoretical concepts in order to find constructive practical solutions with ease of implementation are highly sought after by various industrial sectors. The curriculum of the Civil Engineering Department is designed to produce good practicing engineers as well as inculcate an aptitude for research in the students as it will help them flourish in various industrial as well as in research organizations. The department offers a wide range of electives with special emphasis on sustainable and green technologies. The Department currently has eight laboratories namely Surveying Laboratory, Material Testing Laboratory, Geotechnical Engineering Laboratory, Structural Design Laboratory, Transportation Engineering Laboratory, Software Analysis Laboratory, Environmental Engineering Laboratory and Water Resource Engineering Laboratory. The Department is planning to offer M. Tech program in different fields of Civil Engineering very soon. The Department is elated to share that our Alumnis are working in various government and reputed private sectors. Along with that, significant numbers of students are also pursuing higher education in various fields of Civil Engineering. Faculty members of the Department are actively associated with the construction and maintenance activities of the NIT Sikkim campus.

Vision of the Civil Engineering Department

The Department of Civil Engineering aspires to provide students in all specializations with top-notch, cutting-edge engineering knowledge so they may enhance civil infrastructure in response to the nation's growing economic and social demands, all while meeting worldwide standards.

Mission of the Civil Engineering Department

To provide students a technical sense, honesty, timeliness, and ethical values to produce outstanding engineers, inventors, businesspeople, and scholars who will advance industry and society.

To take on creative joint initiatives with businesses, governmental bodies, and other groups to address societal issues and provide practical solutions.

To fully utilize research and teaching capabilities on a worldwide scale, with an emphasis on India's hilly regions.

Programs / Courses offered by the Department

- B. Tech. in Civil Engineering
- Ph.D. in Civil Engineering

Faculty Details

Dr. Joy Pal
Assistant Professor, Head of Department
Research Interest: Structural Engineering

Dr. Ankit Bhardwaj
Assistant Professor
Research Interest: Long-term behaviour of concrete under tension for flexural members,Adhesive bonded steel-concrete composite flexural members,Time dependent (creep and shrinkage) analysis,Stability of cold form steel structures,Finite element modelling using commercial software,Analytical solutions,Development of design practice

Dr. Anirban Banik
Assistant Professor
Research Interest: Hydro-Informatics, Open Channel Hydrodynamics

Dr. Krishna Kumar Maurya
Assistant Professor
Research Interest: Structural Engineering, Structural Health Monitoring, Sensor System, NDE Techniques, Advanced Concrete Technology, Bacterial Concrete

Temporary Faculty

Dr. Neelanjan Dutta
Assistant Professor
Research Interest: Ground Water and wastewater treatment Solid Waste Management

Dr. Dooradarshi Chatterjee
Assistant Professor
Research Interest: Slope stability, unsaturated soil mechanics, dynamic analysis

Dr. Souvik Patra
Assistant Professor
Research Interest: Geotechnical Engineering, Transportation Geotechnique, Application of natural fibers, Soil Reinforcement

Dr. Narayan
Assistant Professor
Research Interest: NL - inelastic analysis of braces and braced frames, NCBFs, BRBs, Upgrade of Truss Bridges, Steel-Timber Structure, Dynamic yield Strength of metals.

Dr. Sandip Karmakar
Assistant Professor
Research Interest: Pavement Material Characterization, Optimization, Reliability, NDT Techniques

Sri Raj Kumar Mittal
Professor in Practice

Staff Details

Mrs. Chanda Moktan
Laboratory Technician

Mr. Sumit Kumar
Technical Assistant

Mr. Shonu Sharma

Ms. Pranisha Chhetri

Membership of Technical Association / Society

S. No.	Technical Societies	Type of Membership	Name of Faculty
1	Institute of Public Health Engineering (Membership No. AM-786)	Associate Member	Mr. Neelanjan Dutta
	The Institution of Engineers (India) (Membership No.: M1801295)	Member	
2	The Institution of Engineers (India) (Membership No.: AM1743964)	Associate Member	Dr. Anirban Banik
	International Water Resources Association (Membership No.: M-09950)	Member	

S. No.	Technical Societies	Type of Membership	Name of Faculty
	International Association of Engineers (IAENG) (Membership No.: 193407)	Member	
	Universal Association of civil, Structural and Environmental Engineers (UACSE) (Membership No.: AM2020081978) (Valid from 03/09/2020 and Valid Till 31/08/2023)	Associate Member	
3	Indian Geotechnical Society, IGS Member Code: LM4497	Life Member	Dr. Souvik Patra

Laboratory Facilities

S. No.	Name of Laboratory	Faculty In-Charge
1	Concrete Technology Laboratory	Dr. Krishna Kumar Maurya
2	Transportation Engineering	Dr. Sandip Karmakar
3	Geotechnical Engineering Laboratory	Dr. Souvik Patra
4	Surveying Laboratory	Dr. Anirban Banik
5	Computer Application Laboratory	Dr. Ankit Bhardwaj
6	Environmental Engineering Laboratory	Dr. Neelanjan Dutta
7	Water Resource Engineering Laboratory	Dr. Anirban Banik
8	Structural Engineering Laboratory	Dr. Joy Pal

1. Surveying Laboratory

Surveying is the means of determining the relative position of points and the relative distance. It is an integral part of Civil Engineering education and training. Surveying of an area is essential for the design of all Civil Engineering projects such as highways, bridges, railways, water supply, sewage disposal, reservoirs and dams, building constructions, transmission tower, irrigation canal etc. The objectives of surveying may vary depending upon the type of projects and requirements. The economic feasibility of the Engineering Projects cannot be properly ascertained without undertaking a survey work. The objective of surveying laboratory is to make students familiar and competent enough to draw map in suitable scale by using different surveying instruments like total station, theodolite, auto level, global positioning system (GPS), plane table, compass, etc. Students learn to survey from the conventional as well as contemporary methods and technology. The Surveying Laboratory provides students with hands-on experience of using sophisticated surveying equipment which will attune them to the technologies currently being used in the industry. In addition to standard minor equipments, the following major equipments are available in the laboratory:

S. No.	Name of the Equipment	Experiments performed
1	Dumpy level, Auto level	Finding out the elevations of given points with respect to a given datum.
2	Transit Theodolite, Digital Theodolite	Measurement of horizontal angle by method of repetition and reiteration and by establishing control points, their position being determined by measuring the distance between the traverse stations and the angles subtended at the various stations by their adjacent stations.
3	Total Station	The instrument can be used to measure horizontal and vertical angles as well as sloping distance of object to the instrument.
4	GPS	GPS is rapidly adapted for surveying, as it can give a position (Latitude, Longitude and Height) directly, without the need to measure angles and distance between intermediate points.

Determination of Tacheometry Constant

Determination of 90 angel set out by using Open Cross Staff

2. Material Testing Laboratory

The Material Testing Laboratory introduces students to the various characteristics of construction materials and helps them understand the short term as well as long term mechanical and durability characteristics. Importance is also given to non-destructive tests to ensure the durability of built up structures. Emphasis is also given on the concept of sustainability and the impact of materials with respect to it. The laboratory course is designed with the aim of acquainting the students with the prevalent testing standards of the construction industry as well as introducing them to the enormous possibilities related to the field of material science. In addition to standard minor equipments, the following major equipments are available in the laboratory:

S. No.	Name of the Equipment	Experiments performed
1	Aggregate Impact Tester	Determination of Aggregate Impact Value (AIV) of aggregates which provides a relative measure of the resistance of an aggregate to sudden shock or impact.
2	Air Permeability Apparatus	Determination of fineness of Portland Cement by measuring the specific surface area of fine materials in square centimetres per gram of test sample.
3	Concrete Mixer (Motorised)	It is used for mixing cement, aggregate and water in order to manufacture concrete.
4	Compaction Factor Apparatus	Determines the compaction factor of concrete with low, medium and high workability.
5	Vee Bee Consistometer	Determination of workability of the freshly mixed concrete. The Vee-Bee test gives an indication about the mobility and the compatibility aspect of the freshly mixed concrete.
6	Rebound Hammer	It is a non-destructive method for determining the compressive strength of concrete.
7	Ultra-Sonic Pulse Velocity Testing Machine	Performs an in-situ, non-destructive test to check the quality of concrete Here, the quality of concrete is assessed by measuring the velocity of an ultrasonic pulse passing through the concerned concrete sample.
8	Digital Compression Testing Machine	Determination of compressive strength of cube and cylinder (i.e. hardened concrete).
9	Flow Table Apparatus	It is used primarily for assessing concrete that is too fluid (workable) to be measured using the slump test.

Consistency of Cement

3. Geotechnical Engineering Laboratory

The Geotechnical Engineering Laboratory is a space for undergraduate students to learn the fundamentals of soil mechanics, standard soil testing, and to build a foundation for further understanding. The laboratory also provides state-of-the-art facilities for excellent research for the students. The laboratory is well equipped with facilities for research on the characterization of granular materials, expansive soils, shallow foundations, and ground improvement techniques. The Geotechnical Engineering Laboratory is able to perform the following experiments:

S. No.	Name of the Equipment	Experiments performed
1	Indian Standard Sieves	Determination of grain size distribution for soils by mechanical sieve analysis.
2	Soil Hydrometer	Determination of grain size distribution for soils passing through 75μ IS Sieve.
3	Casagrande's Liquid Limit Device	Determination of Liquid Limit for fine-grained soils
4	Plastic Limit Test Apparatus	Determination of Plastic Limit for fine-grained soils
5	Shrinkage Limit Test Kit	Determination of Shrinkage Factors for fine-grained soils
6	Core-cutter & Sand Pouring Cylinder	Determination of In-situ density of soil.
7	Indian Standard Rammer and Mould for Light and Heavy Compaction	Determination Water Content Dry Density Relationship
8	Relative Density Apparatus	Determination of the relative density for coarse-grained soil
9	Permeability Apparatus	Determination of permeability by direct laboratory method.
10	Direct Shear Apparatus, Motorised 12 speeds with data acquisition system	Measurement of the shear strength properties of soil or rock material, or of discontinuities in soil or rock masses.
11	Unconfined Compressive Strength Testing Machine - (Motorised)	Estimation of unconfined compressive strength for cohesive soil.

S. No.	Name of the Equipment	Experiments performed
12	Triaxial Shear Test Apparatus with data acquisition system	Determination of stress-strain characteristics of soil and shear strength parameter of soils i.e. Cohesion (c) and Angle of Internal Friction ().
13	Laboratory Vane Shear Test Apparatus, motorised	Measurement of shear strength of cohesive soils, is useful for soils of low shear strength of less than about 0.5 kgf/cm^2. This test gives the undrained strength of the soil, in undisturbed as well as remolded conditions both.
14	Consolidation Apparatus	Determination of the settlements due to primary consolidation of soil by conducting one dimensional oedometer test.
15	California Bearing Ratio Test Apparatus	Evaluation of the subgrade strength for roads and pavements by conducting the penetration test using 50mm diameter plunger.
16	Universal Soil Sample Extruder (Electronic cum Hand Operated)	It is widely used for extracting specimen of soil, asphalt and concrete.
17	Swelling Pressure Test Apparatus (with Proving Ring and Dial Gauge)	Estimation of swelling pressure of expansive soils by Constant Volume Method.
18	Standard Penetration Test Apparatus	Determination SPT value (N) of soils (especially for granular soils)

Hydrometer Analysis

Standard Penetration Test

4. Environmental Engineering Laboratory

The purpose of the Environmental Engineering Laboratory is to make the students aware of the dangerous effects of environmental pollution that happen from water and air. The instruments like pH meter, TDS meter, DO meter, UV Spectrophotometer, BOD incubator, COD measuring instruments, water bath, autoclave, microbial analysis assembly, arsenic tester machine, electrodes for fluoride, nitrate and ammonia, titration test kit, shaker, filtration assembly and jar test apparatus help the students to understand the fundamental concepts of Environmental Engineering. The Laboratory also comprises cutting-edge research equipment such as the dual-beam UV Spectrophotometer which is used for quantitative determination of different analytics such as metal ions, highly conjugated organic compound and biological macro molecules. In addition to standard minor equipments, the following major equipments are available in the laboratory:

Sl No	Name of the Equipment	Experiment Performed
1	BOD Incubators	To determine the BOD of given water sample. It has also versatile application in different environmental analysis.
2	Microbiological Bacteria Dictator	This instrument used to automatically count the number of cells or colonies present in a sample. They are capable of determining the number of cells, whether they are viable.
3	COD Digester	It used to determine the amount of chemical oxygen demand (COD) in the sample of wastewater or any other liquid.
4	Turbidity Apparatus	Turbidity is measured as a function of intensity of light scattered as it passes through the water sample.
5	Jar Test Apparatus	Jar Test Apparatus, commonly known as flocculators or flocculation testers, are used primarily in the water treatment and testing industry. Jar Test Apparatus allows efficient and economical flocculation, jar Test Flocculator are used for a uniform stirring of samples in a water testing laboratory.
6	Conductivity Meter	Conductivity meter allows us to measure the level of conductivity in solutions. Conductivity is an ability of materials (solutions, metals or gases) to pass an electric current.
7	pH Meter	A pH meter is an instrument used to measure hydrogen ion activity in solutions-in other word this instrument measures acidity/alkalinity of a solution.
8	TDS Meter	To determine the total dissolved solids of a given water sample.

BOD Incubator

Turbidity Test

5. Structural Engineering Laboratory

The Structural Engineering Laboratory through instruments such as Bulking Behaviour of Bars, Line of Influence on the Gerber Beam, Three Hinged Arch, Parabolic Arch, Beam on two support Shear Force & Bending Moment and Single Plane Trusses enable the students to visualise, appreciate and validate the fundamental concepts of structural analysis and design.

S. No.	Name of the Equipment	Experiments performed
1	Buckling Behaviour of Bars	It is used to observe the effects of different factors like material specification, effective length on the buckling behaviour of bars.
2	Line of Influence on the Gerber Beam	It is used to observe the effect of the moving loads on the internal reactions of a Gerber Beam.
3	Three Hinged Arch	It is used to observe the effects of static and moving load on the support reactions of a three hinged arch.
4	Parabolic Arch	It is used to observe the effects of static and moving load on the support reactions of a parabolic arch.
5	Beam on two support Shear Force & Bending Moment	It is used to observe the effects of point loads on the bending moment and shear forces of a beam.
6	Single Plane Trusses	The objective of the experiment is to measure the bar forces in a single plane truss subjected to a single external force.

Buckling Behaviour of Bars

Shear Force and Bending Moment

6. Water Resources Engineering Laboratory

The water resources engineering laboratory is well equipped with experimental flume by which discharge between two section, head loss, velocity of water, influence in water height due to present of sediment in water etc can be measured.

S. No.	Name of the Equipment	Experiments performed
1	Bernoulli's Principle Demonstrator	• Demonstration of Bernoulli's law • Pressure measurements along Venturi nozzle • Determination of flow rate factor K
2	6-Tube Manometer Panel	• Comparison of different flow meters • Investigation of relationships between flow and pressure in flow measurement • Determination of flow coefficients • Calibration of flow meters

S. No.	Name of the Equipment	Experiments performed
3	Osborne Reynolds Demonstrator	• To demonstrate laminar and turbulent flow.
4	Turbine Supply Unit	• Comparison between Pelton and Francis Turbine
5	Venturi Flume	• Functional Principle of Venturi Flume • Determination of discharge coefficient • Difference between subcritical and supercritical flow states • Determination of the flow states in the venturi flue by calculating the Froude number • Application of Bernoulli's equation in open channel
6	Experimental Flume	• Uniform and non-uniform outflow • Flow transition • Transient flow • Energy dissipation in a stilling basin • Discharge under sluice gate, radial gate • Types of outflow at a culvert • Different river bed roughness • Simulation of different beaches • Sediment transport
7	Open Channel	• Demonstrate different flow conditions with the channel and the inserts • Explain the process of the hydraulic jump • Calculate the two conjugating heights of the hydraulic jump • Explain the differences in the discharge of Ogee-crested weir versus ogee-crested weir with ski jump.
8	Radial Gate	• Demonstrate free and submerged flow and jet contraction in a radial gate • Calculate flow under radial gate • To observe hydraulic jump
9	Sluice Gate	• Demonstrate free and submerged flow and jet contraction in a sluice gate • Calculate flow under sluice gate • To observe hydraulic jump
10	Crump Weir	• Free and submerged overfall at the crump weir • Discharge at a sill
11	Broad-crested weir	• Free and submerged overfall at the Broad-crested weir • Comparing flow over broad-crested weirs with different rounded edges
12	Ogee-crested weir	• Hydrodynamic overflow at the ogee-crested weir • Pressure distribution along the downstream side of the weir with different flows, nappe separation

7. Transportation Engineering Laboratory

The Transportation Engineering laboratory has equipments required to conduct all standardized tests to assess quality of highway materials, and pavement evaluation. The laboratory mainly deals with the identification of properties and behaviour of highway materials subjected to different loading patterns such as crushing, abrasion and impact loads, measure the elongation and flakiness properties of coarse aggregates, water absorption and specific gravity of fine and coarse aggregates, Ductility and softening point of bitumen. In addition to standard minor equipments, the following major equipments are available in the laboratory:

Los Angeles Abrasion Testing Machine

S. No	Name of The Equipment	Experiments performed
1	Asphalt Content Tester	This equipment is used to determine the percentage of asphalt in a mixture. It typically consists of a heating unit and a centrifuge to separate the asphalt from the mixture.
2	Asphalt Mixer	The asphalt plants or asphalt mixing plant is one plant that is used for mixing the dry warm aggregate, padding and asphalt for homogenous mixture at the required temperature.
3	Electric oven	An electric oven produces heat electrically using a heating element in the form of coils and tubes. The heating element converts electrical energy into heat through the process of resistance.
4	Asphalt Mixture Density meter	This equipment is used for determination of theoretical density of asphalt mixer by vacuum method for application such as asphalt mixer design, road condition investigation ,calculation of porosity and compactness in road construction quality management.
5	Centrifuge Extractor	It is used to determine bitumen percentage in asphalt paving mixtures by extracting bitumen, using specified solvents.
6	Marshall Apparatus	It is used to measure the resistance of cylindrical bituminous mix specimens to plastic flow under loading on the lateral surface.
7	Film Stripping Device	is used to measure the resistance of bituminous mixtures to stripping of asphalt from aggregate particles. It is generally used to evaluate mineral aggregates & to judge the adhesion of the bituminous materials.
8	Viscometer Bath	It is used to determine both the Dynamic and Kinematic viscosity of liquid asphalts, keeping the capillary type viscometers at a uniform temperature.
9	Skid Resistance Tester	This apparatus measures the skid resistance between a rubber slider (mounted on the end of a pendulum arm) and the test surface.
10	Ductility Testing Machine	It is used to determine the ductility of bituminous materials in a briquette mould by measuring the breaking elongation at a constant speed of 50 mm/min. It is designed for testing 3 specimens simultaneously.
11	Saybolt Viscometer	A type of instrument used to determine the viscosity of petroleum oils. It is based on the time in seconds for a given volume of oil to pass through an aperture at a controlled temperature and collect in a container with a volume of 60 millilitres.
12	Mastic Asphalt Test machine	It is used to determine the hardness of asphalt material the design features direct vertical loading with loading weight that rest on thrust bearings therefore load is applied to the specimen without transmitting shock to the loading column.

S. No	Name of The Equipment	Experiments performed
13	Ring and Ball Apparatus	This equipment is used to determine the temperature at which a sample of bituminous material loaded by a 9.5mm diameter steel ball drops a specified distance when heated under specified conditions.
14	Standard Penetrometer	It consist of a calibrated rod with a cone or needle-shaped tip. The device is pressed vertically into the soil, and the depth and resistance encountered are measured. This type of penetrometer is widely used for general soil compaction testing
15	Los Angeles Testing machine	It measures the degradation of standard gradings of aggregates when subjected to abrasion and impact in a rotating steel drum with an abrasive charge of steel balls.
16	Rotary high vacuum pump	During operation gas molecules entering the inlet of the pump pass into the volume created by the eccentric mounting of the rotor in the stator. The semi-circular shaped gas volume is then compressed, forcing the exhaust valve to open and permitting gas discharge.

Consultancy and Testing

The Civil Engineering Department also offers consultancy work for construction material testing, Geotechnical Investigation, Structural Audit, etc.. The notable Consultancy and Testing in the financial year 2023-2024 are depicted in the table below:

Sl. No.	Consultancy Details	Client Details	Principal Investigator (s)	Consultancy Cost (Rs)
1	Assessment of cracks developed at a house adjacent to 132/66/11kV Dikchupool Sub Station at Samdong, East Sikkim.	Power Grid	Dr. Joy Pal, Dr. Dooradarshi Chatterjee, Dr. Souvik Patra	1,000,00/-
2	Technical vetting of the Gyan Mandir Project at Gangtok, Sikkim	Archtech Consultants PVT Ltd.	Dr. Joy Pal	4,000,00/-
3	Vetting of Structural Design and Drawing of the Medical College Project at Sochakgang, Sikkim	Civil Engineers Enterprises Pvt. Ltd.	Dr. Joy Pal, Dr. Krishna Kumar Maurya, Dr. Anirban Banik	11,000,00/-
4	Vetting of DPR of Medical College Project at Sochakgang at Gangtok, Sikkim.	Civil Engineers Enterprises Pvt. Ltd.	Dr. Joy Pal	1,000,00/-

Keynote Speaker / Expert Lectures

To enhance the technical skill and awareness of the students on the recent developments in the field of Civil Engineering, the Department organized the following workshop and guest lectures by industry experts:

Name of the Workshop	Date
Presentation on Concrete Technology & Construction Chemicals	9th September 2023
Webinar on Building Information Modelling	30th September 2023

List of Resource Persons for the Workshop
Bishal Guha, Assistant Manager Sales-Saint-Gobain Construction Chemicals
Smt. Ajanya Ashok, BIMLABS Engineering Service Pvt Ltd.

Departmental Committees / Cells

S. No	Name of the Faculty Members	Name of the Committee / Cells
1	1. HoD, Departmental of Civil Engineering 2. Dr. Ankit Bhardwaj (Convenor, DUGC) 3. Dr. Neelanjan Dutta (Faculty advisor, 4th Year) 4. Dr. Souvik Patra (Faculty advisor, 3rd Year) 5. Dr. Doordarshi Chatterjee (Faculty advisor, 2nd Year) 6. Dr. Anirban Banik (Faculty member nominated by HoD) 7. Dr. Sumit Saha (Faculty member nominated by Dean Academic)	Academic Performance Evaluation Committee (APEC)
2	1. Dr. Ankit Bhardwaj (Convenor, DUGC) 2. Dr. Joy Pal (HoD) 3. Dr. Krishna Kumar Maurya (Convenor, DPGC) 4. Dr. Anirban Banik (Faculty member nominated by HoD) 5. Dr. Neelanjan Dutta (Faculty member nominated by HoD)	Departmental Undergraduate Committee (DUGC)
3	1. Dr. Joy Pal, HoD, Department of Civil Engineering 2. Dr. Krishna Kumar Maurya (Member) 3. Dr. Ankit Bhardwaj (Member) 4. Dr. Anirban Banik (Member) 5. Prof. R K Mittal (Member) 6. Dr. Neelanjan Dutta (Member) 7. Dr. Souvik Patra (Member) 8. Dr. Doordarshi Chatterjee (Member) 9. Dr. Sandip Karmakar (Member) 10. Dr. Narayan (Member)	Departmental Faculty Board (DFB)
4	1. HoD (Convener) 2. Dr. Anirban Banik (Coordinator) 3. Dr. Neelanjan Dutta (Member) 4. Dr. Souvik Patra (Member) 5. Dr. Doordarshi Chatterjee (Member) 6. Mr. Sumit Kumar (Member)	Examination Cell
5	1. Dr. Joy Pal, HoD, CE & Convener DAC) 2. Dr. Anirban Banik (Member) 3. Dr. Krishna Kumar Maurya (Convener, DPGC) 4. Dr. Ankit Bhardwaj (Convenor, DUGC) 5. Dr. Ranjan Basak (Member from other Department)	Departmental Admission Committee (DAC)

S. No	Name of the Faculty Members	Name of the Committee / Cells
6	1. Dr. Krishna Kumar Maurya (Convener, DPGC) 2. Dr. Joy Pal (HoD) 3. Dr. Ankit Bhardwaj (Convener, DUGC) 4. Dr. Anirban Banik (Faculty member nominated by HoD) 5. Dr. Ranjan Basak (Member from other Department)	Departmental Postgraduate Committee (DPGC)
7	1. Dr. Doordarshi Chatterjee 2. Mr. Sumit Kumar	Departmental Annual Report Preparation Committee
8	1. Dr. Krishna Kumar Maurya (Coordinator) 2. Dr. Souvik Patra (Member)	Training and Placement Cell
9	1. Dr. Ankit Bhardwaj (Coordinator) 2. Dr. Sandip Karmakar (Member)	Competitive Exam
10	1. Dr. Anirban Banik (Coordinator) 2. Dr. Neelanjan Dutta (Member)	Time Table

Faculty Advisors of the Department

S. No	Year	Name of the Faculty Advisor
1.	Second Year	Dr. Doordarshi Chatterjee
2.	Third Year	Dr. Souvik Patra
3.	Fourth Year	Dr. Neelanjan Dutta

Research and Publication

Journal

1. Naresh, M., Kumar, V., & Pal, J. (2024). A convolution neural network-based technique for health monitoring of connections of a multi-story 3D steel frame structure. Multiscale and Multidisciplinary Modeling, Experiments and Design, 1-17.

2. Palsara, C., Kumar, V., Pal, J., & Naresh, M. (2024). Structural health monitoring of ASCE benchmark building using machine learning algorithms. Asian Journal of Civil Engineering, 25(1), 303-316.

3. Naresh, M., Kumar, V., & Pal, J. (2024). A convolutional neural network-based architecture for health monitoring of joint damages in a steel plane frame structure under temperature variability. Asian Journal of Civil Engineering, 25(2), 2077-2089.

4. Saharan, N., Kumar, P., & Pal, J. (2023). Convolutional neural network-based structural health monitoring framework for wind turbine blade. Journal of Vibration and Control, 10775463231213423.

5. Saharan, N., Kumar, P., & Pal, J. (2023). Convolutional neural network-based structural health monitoring framework for wind turbine blade. Journal of Vibration and Control, 10775463231213423.

6. Naresh, M., Sikdar, S., & Pal, J. (2023). Vibration data driven machine learning architecture for structural health monitoring of steel frame structures. Strain, 59(5), e12439.

7. Malik, R., Setia, B., Banik, A., (2023) "Mechanism of scouring around group of bridge piers in tandem arrangement", Journal of The Institution of Engineers (India): Series A, Springer, 104, 633-642.

8. Garhwal, S., Garhwal, A., Sharma, S., Sharma, S. K., Banik, A., (2024) "Monitoring and Re-strengthening of Real Sized Corroded RC Beams with Acoustic Emission Technique and GFRP Sheets", Transactions of the Indian Institute of Metals, Springer, 77, 1443-1454.

9. Maurya, K. K., Rawat, A. and Shanker, R. (2023), "Performance Evaluation Concept for Crack Healing in Bacterial Concrete using Electro Mechanical Impedance Technique with PZT Patch", Developments in the Built Environment, ISSN: 2666-1659, 100169, Elsevier. https://doi.org/10.1016/j.dibe.2023.100196.

10. Dutta, N., & Gupta, A. (2023). Characterization and use of waste plastic char for removal of arsenic and COD from aqueous solution. International Journal of Environmental Science and Technology, 20(7), 7735-7748.

Conference

1. Banik, A., Biswal, S.K., Bandyopadhyay, T.K., Panchenko, V., Garhwal, S., Garhwal, A., (2023) "Investigation of hydrodynamic behavior in rectangular sheet shaped membrane using Computational fluid dynamics (CFD)", 6th International Conference on Intelligent Computing & Optimization 2023 (ICO 2023), (Published in: Lecture Notes in Networks and Systems, Springer, Vol. 855, pp. 170-180), DOI: doi.org/10.1007/978-3-031-50158-6_18.

2. Dutta, N., Haldar, A., & Gupta, A. (2024). Impacting Groundwater by Climate Change, Mining, Urban Mining, and Chemical Contamination- Successful Mitigation Solutions. Centre for Ground Water Studies, Kolkata, India.

3. Dutta, N., & Dey, P. (2023).Removal of Fluoride Using Activated Alumina: Optimization and Modelling. International Conference on Environmental Sustainability and Climate Change (ICESCC 2023) 21st -22nd December 2023, NIT Meghalaya, Shillong, India.

4. Ghosh A., Roy T.K., Karmakar S., (2023), " Evaluation of Jute Fiber as a reinforcing material in Stone Mastic Asphalt used for Rural Roads ", Proceeding on 7th Conference of Transportation Research Group of India (7th CTRG), Abstract id: 142, pp: 61, Surat (India).

5. Ghosh A., Karmakar S., Roy T.K., (2024), "Effect of Rice Husk Ash as a filler material in construction stone mastic asphalt wearing course", Proceeding on International Conference on Geomatics in Civil Engineering ICGCE, pp: 58-60, Roorkee (India).

Dr. Neelanjan Dutta has received the best paper award at the "International Conference on Environmental Sustainability and Climate Change 2023 (ICESCC 2023)" organized by NIT Meghalaya.

Extra-Curricular Activities/Student Societies

Apart from academic responsibility, the Department of Civil Engineering is also aware of its social responsibility. The department keeps doing work related to social issues from time to time.

The Civil Engineering department organised a campaign "Jal Shakti Abhiyan: Catch the Rain" (JSA:CTR) focusing on saving and conserving rainwater with the theme "Source sustainability for drinking water" from 04 March 2023 to 30 November 2023 as per the guidelines by Ministry of Jal Shakti. The nearby schools were invited to participate in a drawing competition based on the theme of Jal Shakti Abhiyan. Honourable Director Prof. Mahesh Chandra Govil interacted with the students and told everyone about the importance of water and its conservation. A debate and quiz competition among the students of National institute of Technology Sikkim were also organized at the Multipurpose Hall on 19 August 2023.

The department has also done remarkable work in promoting mission life in the institute and surrounding villages. The concept of "Lifestyle for the Environment (LiFE)" was introduced by Prime Minister Narendra Modi at COP26 at Glasgow on 1st November 2021, calling upon the global community of individuals and institutions to drive LiFE as an international mass movement towards "mindful and deliberate utilisation, instead of mindless and destructive consumption" to protect and preserve the environment. An expert lecture was organized on 23rd May 2023. The faculties, staffs and students learnt about the various aspects of Mission LiFE. Prof. Sanjay Mathur, professor in the department of Civil Engineering, MNIT Jaipur enlightened the audience about the various aspects of environmental friendly advancement in the recent days. An awareness program was conducted in Deythang School on 02-06-2023. In this regard, a seminar was also conducted in ITI Kewzing. A group of faculty and staffs visited a village in the Namchi District, Sikkim on 4th June 2023. They interacted with the villagers and aware them about Mission LiFE.

On 5th June 2023, the department celebrated World Environment Day with full enthusiasm. The Honourable Director National Institute of Technology Sikkim and the chief guest Dr. D.N. Vyas, Associate Professor at MLVTEC, Bhilwara, planted sapling to create a green corner. Students from various schools exhibited various still models on the theme "Eco-friendly environment". The objective of this program was to spread awareness among people about saving our environment from various types of pollution and to plant more and more trees to make our mother earth full of greenery.

The Department of Civil Engineering runs a non-profit organization "NIRMAAN". The Society comprises Undergraduate Students, Faculty Members and Alumni of the Civil Engineering Department. The Society works to help and facilitate the overall development of students pursuing Civil Engineering. NIRMAAN provides a platform to showcase and sharpen students' talents through a variety of events and activities planned throughout the year. The platform is also extended to the students of other departments, whenever possible.

NIRMAAN, the departmental club of the civil engineering department established in 2016, focuses on bringing together the undergraduates of NIT Sikkim under one roof to exchange ideas, thoughts, and experiences. NIRMAAN is more than just a club; it is a family, a community, and a source of endless fun and inspiration. NIRMAAN hopes that it will continue its journey with immense contribution to the institute and as well to the society. The activities of NIRMAAN are presented as follows;

Webinar on the Power of AI and ChatGPT

NIRMAAN began its activities in the academic session 2023-2024 by conducting a webinar on the theme of "Power of AI and CHAT GPT" in association with Infrastructure Society of NIT Kurukshetra on 9th July, 2023. In this webinar students from all the departments of NIT Sikkim actively participated and the students gained useful insights on the application AI and ChatGPT. The Poster of the event can be found below;

Ludo and Arm-Wrestling Competition

To balance academics with fun and to foster a more enjoyable environment, NIRMAAN organized a "Ludo and Arm-Wrestling Competition" among the students of NIT Sikkim on 2nd of August, 2023. The students actively participated with great enthusiasm. Glimpse of the event has been presented in the following Figure;

Quiz Competition

To enhance and asses the capability of the student of NIT Sikkim on informed citizenship, global awareness, and their ability to critical thinking NIRMAAN organized an event on general knowledge, current affairs and sustainable development on 5th November, 2023. Glimpses of the event has been presented below;

Architectural Artistry

Planning and architecture play integral roles in shaping the built environment and enhancing the quality of life for individuals and communities. In this context NIRMAAN conducted "Architectural Artistry", a competition on the planning and design of the sustainable green building among the student of first year civil engineering on 13th April, 2024. The students participated with great enthusiasm and presented building plans with the application of renewable energy resources such passive solar home. Few glimpses of the event have been presented below;

Present Research Scholars

Sl No.	Students Name and Roll No.	Research Area	Supervisor
1	Ms. Neha Thakur (phce230032@nitsikkim.ac.in)	Utilization of Waste materials to Manufacture Brick(s)	Dr. Joy Pal
2	Priyanka Sharma (phce230033@nitsikkim.ac.in)	Geopolymer Concrete	Dr. Joy Pal

B.Tech. Degree Awarded to the 2019-2023 Batch

Sl No.	Students Name and Roll No.	Title of Project	Supervisor
1	Duryodhan Adhikari	A Performance Study on Road Subgrade Soil by using Waste Plastic and Human Hair Fibre	Dr. Vishnu T B
2	Amarjeet Kumar	A Performance Study on Road Subgrade Soil by using Waste Plastic and Human Hair Fibre	Dr. Vishnu T B
3	Choden Tamang (B190099CE)	Seismic Performances of Diagrid and Hexagrid Systems	Dr. Joy Pal and Dr. Krishna Kumar Maurya
4	Chultin Sangmo Sherpa (B190100CE)	A Study to Strengthen the Road Subgrade Soil by Bamboo Fibre	Dr. Neelanjan Dutta
5	Darshi Sarthi (B190101CE)	Prediction of Energy Dissipation of Hydraulic Jump using soft computing techniques	Dr. Anirban Banik
6	Dhiraj Sharma	A Performance Study on Road Subgrade Soil by using Waste Plastic and Human Hair Fibre	Dr. Vishnu T B
7	Diwas Chandra Rai (B190103CE)	Prediction of Energy Dissipation of Hydraulic Jump using soft computing techniques	Dr. Anirban Banik

Sl No.	Students Name and Roll No.	Title of Project	Supervisor
8	Hans Ismieal Gurung (B190104CE)	Assessment of Water Quality of the Natural Water Resources in West Sikkim area using GIS And WQI	Dr. Neelanjan Dutta and Dr. Pankaj Dey
9	Namuna Kumar (B190107CE)	Seismic Performances of Diagrid and Hexagrid Systems	Dr. Joy Pal and Dr. Krishna Kumar Maurya
10	Nidhi Singh (B190108CE)	A Kinetic and Optimization Study for Arsenic Removal Using Activated Alumina	Dr. Neelanjan Dutta
11	Nitish Verma (B190109CE)	Prediction of Energy Dissipation of Hydraulic Jump using soft computing techniques	Dr. Anirban Banik
12	Pujan Gurung (B190110CE)	Assessment of Water Quality of the Natural Water Resources in West Sikkim area using GIS And WQI	Dr. Neelanjan Dutta and Dr. Pankaj Dey
13	Sahil Kumar (B190111CE)	Seismic Performances of Diagrid and Hexagrid Systems	Dr. Joy Pal and Dr. Krishna Kumar Maurya
14	Satyam Saurabh	A Study to Strengthen the Road Subgrade Soil by Bamboo Fibre	Dr. Souvik Patra
15	Shambhavi Kumari (B190114CE)	Assessment of Water Quality of the Natural Water Resources in West Sikkim area using GIS And WQI	Dr. Neelanjan Dutta and Dr. Pankaj Dey
16	Shravan Kumar	A Study to Strengthen the Road Subgrade Soil by Bamboo Fibre	Dr. Souvik Patra
17	Shyam Narayan Maurya	A Study to Strengthen the Road Subgrade Soil by Bamboo Fibre	Dr. Souvik Patra
18	Silubou Thiumai (B190117CE)	Prediction of Energy Dissipation of Hydraulic Jump using soft computing techniques	Dr. Anirban Banik
19	Sonam Chedup Bhutia (B190118CE)	Climate Change impacts on Sikkim's Hydroclimatology	Dr. Pankaj Dey
20	Swati	The evaluation of effectiveness of headway on driving performance using ADAS	Dr. Digvijay Pawar (IIT Hyderabad)
21	Umang Prakash Mishra (B190120CE)	Climate Change impacts on Sikkim's Hydroclimatology	Dr. Pankaj Dey
22	Vikram Singh Meena (B190121CE)	Climate Change impacts on Sikkim's Hydroclimatology	Dr. Pankaj Dey
23	Pankaj Kumar Verma	A Study to Strengthen the Road Subgrade Soil by Bamboo Fibre	Dr. Souvik Patra
24	Shanti Sinha	Seismic Performances of Diagrid and Hexagrid Systems	Dr. Joy Pal and Dr. Krishna Kumar Maurya

Ongoing Final Year UG Projects (2020-2024 Batch)

S. No	Supervisor	Title of Project	Students Name and Roll No.	Area
1	Dr. Joy Pal	Capacity Based Earthquake Resistant Design of Hostel Building at NIT Sikkim	Rakesh Ranjan Prabhat (B200020CE)	Structural Engineering
			Ratnesh Singh (B200002CE)	
		Analysis and Design of an Industrial Steel Structure	Suraj Kumar (B200017CE)	
			Ashutosh Prakash (B2000029CE)	

S. No	Supervisor	Title of Project	Students Name and Roll No.	Area
2	Dr. Neelanjan Dutta	Study of Aerobic Fluidized Bed Reactor for Wastewater Treatment Using Granular Activated Carbon	Nikila Bhutia (B200001CE)	Environmental Engineering
			Priyadarshika Adhikari (B200010CE)	
		Water Quality Modelling of Namchi Smart City	Mukesh Kumar Dhakar (B200025CE)	
			Nitish Kumar (B200024CE)	
3	Dr. Sandip Karmakar	Detail estimation of 280m stretched hilly water bound macadam pavement	Ashish Sharma (B200005CE)	Transportation Engineering
			Rohini Subba (B200006CE)	
		Detail estimate for constructing wearing course of 280m stretched flexible pavement using conventional hot mix asphalt and plastic modified hot mix asphalt for hilly road	Md. Tausif Jamal (B200015CE)	
			M K Aman (B200007CE)	
4	Dr. Krishna Kumar Maurya	Health Monitoring of Silica Fume Based Concrete Structures	Prashant Kumar (B200013CE)	Structural Engineering
			Fanindra Kumar (B200011CE)	
			Prahlad Kumar (B200012CE)	
5	Dr. Souvik Patra	Study on the use of stone dust as a subgrade stabilized material	Mamata Chettri (B200004CE)	Geotechnical Engineering
		Analysis of flexible pavement with various subgrade stabilized material	Rohit Ranjan (B200028CE)	
			Ved Prakash Meena (B200021CE)	
6	Dr. Dooradarshi Chatterjee	Design of Strap Foundation on a Slope: From Site Investigation to Structural Detailing	Tajo Rijia (B200026CE)	Geotechnical Engineering
			Sigiri Ramu (B200008CE)	
			Hemmat Dahal (B200009CE)	
7	Dr. Anirban Banik	Experimental and numerical simulation of hydraulic jump	Suraj Verma (B200003CE)	Water Resource Engineering
			Ravi Shankar Kumar (B200027CE)	
			Madala Manoj Kumar (B180152CE)	

Student of the 2020-2024 Batch with faculties and staff of the Civil Engineering Department

Department of Mathematics

"Mathematics is the science which uses easy words for hard ideas.

~Edward Kasner

"The only way to learn mathematics is to do mathematics."

~Paul R. Halmos

Mathematics has been an active ingredient in the world's scientific revolution, and India has played a vital role in this endeavour. Ancient India is famous for its mathematical geniuses and their revolutionary ideas. Aryabhatta, Varahimihira, Brahmagupta, and Bhaskara II were the leading trailblazers of their times. From Indus Valley Civilization to the Vedic period, India has pioneered 'practical mathematics', which consists of mathematical tools with a significant impact on real life.

Mathematics is an integral and fundamental part of Sciences, Engineering, and Technology disciplines. The Department of Mathematics has been an integral part of the Institute since its inception in 2010. Right from the beginning, the Department has been on a strenuous journey to provide students a platform for building their essential background of the subject. A solid foundation in this subject enables students to tackle academic problems, real-life problems, and research problems. Overall a student with an excellent mathematical skill-set, in general, tends to make a better and well-informed decision. The Department actively participates in the teaching of all students from the Undergraduate level to Ph.D students. The Department currently offers two compulsory courses for the UG students of all branches – namely Mathematics-I and Mathematics-II. It also offers two more compulsory courses, namely Mathematics-III (for the UG students of Civil Engineering) and Computation Mathematics (for the UG students of CSE, EEE, and ECE). For Ph.D students, the Department offers several elective courses tailored according to their research and professional requirements.

The Department also offers a Ph.D program in Operation Research, and Spectral Graph Theory. Operations Research consists of analytical methods to make a better decision; thus, it is considered one of the most important subjects for practical purposes. Spectral Graph Theory studies the properties of graphs through the eigenvalues and eigenvectors of matrices associated with graphs.

Vision

The vision of the Department is to become one of the best places to nurture mathematical skills in the North-East region of the country. The Department wishes to admit more Ph.D. students to pave the path for excellent research and collaboration. As we advance, we will be keen on taking up projects based on Applied Mathematics and Statistics for the growth and benefit of the country and the state of Sikkim.

Mission

The Department strives for excellence in the field of mathematics for faculty members and students alike. Our mission is to spark enough interest in young learners to explore the world of mathematics independently. Moreover, the Department gives equal priority to teaching, research, and real-life applications of mathematics. All courses of the department are periodically reviewed and updated by renowned institutes and industry experts.

Values

We believe in the philosophy of inclusive learning and open discussions while imparting good ethical and moral values to our students. From teaching a class to publishing research and developing an algorithm, our department believes in inclusivity and equal opportunity for all sections of society. Besides, we also try to nurture a holistic point of view towards education.

Faculty Details

Dr. Ravi Srivastava
Assistant Professor & HoD
Ph.D (IIT Guwahati-2012), NET-JRF, GATE, M. Sc (BHU, Varanasi),
B. Sc (Udai Pratap Autonomous College, Varanasi)
Area of Interest: *Spectral Graph Theory.*

Dr. Om Prakash
Assistant Professor
Ph.D (IIT Kharagpur-2013), NET-JRF, M. Sc (BHU, Varanasi),
B. Sc (V.B.S Purvanchal University Jaunpur)
Area of Interest: *Production Planning and Inventory Control, Operational Research, Mathematical Finance.*

Dr. Suresh Kumar Choubey
Temporary Faculty
Ph.D (IIT BHU-2013), NET-JRF, GATE, M.Sc (V.B.S *Purvanchal University Jaunpur****), B.Sc*** *(V.B.S Purvanchal University Jaunpur)*
Area of Interest: *Theory of Rings and Modules(Algebra).*

Departmental Committees

S. No.	Name of the Faculty Members	Name of the committee
1.	1. Dr. Om Prakash (Convenor) 2. Dr. Ravi Srivastava (Member and HoD) 3. Dr.Anindya Biswas(Member) 4. Dr. Pradeep Kumar (Member)	Departmental Post Graduate Committee (DPGC)

Research Scholar Details

S. No.	Scholar	Guide(s)	Research Area
1.	Ms. Nipa Biswas	Dr. Om Prakash	Inventory Models
2.	Mr. Satyam Gurgain	Dr. Ravi Srivastava	Spectral Graph Theory
3.	Mr. Shubham Priyadarshi	Dr. Om Prakash	Operational Research
4.	Mr. Bishal Sonar	Dr. Ravi Srivastava	Spectral Graph Theory

Workshop / Conference Attended by the Faculty Members and PhD Students

1. Dr. Ravi Srivastava has delivered an invited lecture entitled "Signed Graphs and Its Application" in the "International Conference on Advances in Mathematical Sciences" organized by MGCU, Motihari (East Champaran), Bihar, India, during March 19-20, 2024.

2. Dr. Ravi Srivastava has chaired the technical session in the "International Conference on Advances in Mathematical Sciences" organized by MGCU, Motihari (East Champaran), Bihar, India, during March 19-20, 2024.

3. Mr. Satyam Guragain has presented a paper titled "r-Orientation of Signed Graph and Its Application on Edge Corona" during March 12-14, 2024 in the "International Seminar on Topology, Algebra and Applications (ISTAA-2024)" organised by Department of Mathematics, University of North Bengal, West Bengal, India.

4. Mr. Bishal Sonar has presented a paper titled "Spectra of Signed Graph Products And Its Application" during March 12-14, 2024 in the "International Seminar on Topology, Algebra and Applications (ISTAA-2024)" organised by Department of Mathematics, University of North Bengal, West Bengal, India.

Department of Physics

> *"Not only is the Universe stranger than we think, it is stranger than we can think."*
>
> **~ Werner Heisenberg**

The Department of Physics has been an integral part of the National Institute of Technology Sikkim since its establishment in the year 2010. The faculty members of the Department are actively engaged in the Institute's teaching, research and administration. The Department is engaged in the following areas of research – quantitative finance, time series analysis of the stock market, nonlinear dynamics, low-temperature physics, quantum information and its interface with many-body physics.

At present, the Department presently offers a Ph.D. program and aspires to offer an M.Sc. program very soon. Following the National Education Policy 2020, the department also aims to offer a B.Sc. program in Physics. The proposed expansion program of the Department requires the induction of quality faculty members capable of strengthening teaching and research faculties. The department, which has expertise in new-age research areas such as quantum information, computation, and dynamical systems, plans to seek expertise in diverse cutting-edge research areas in the near future. The objective of the department is to ignite the curiosity of students, equip them with in-depth knowledge in their subject area, prepare them to thrive in a rapidly evolving world, and empower them to live fulfilling and prosperous lives.

As of now, the Department offers Engineering Physics course to different engineering branches of the B. Tech. program. Over the past few years, the department has provided courses such as Electromagnetic Field Theory, Introduction to Electronics Engineering Profession, Mathematics, Solid State Devices, and more to B.Tech. students across various engineering disciplines. The Department has used high-quality NPTEL and other MOOCs courses to aid in the teaching-learning process. Despite the limitations of the temporary campus, the department provides essential laboratory experiments to facilitate an understanding of the fundamental laws of physics, using high-quality equipment.

Faculty Details

Dr. Anindya Biswas
Associate Professor
Postdoc at HRI Allahabad (Prayagraj), IMSc Chennai, IACS Kolkata, Ph.D (University of Calcutta)
M.Sc (University of Calcutta)
Area of Interest: Low temperature physics, BEC, Quantum information and its interface with many-body physics

Dr. Md. Nurujjaman
Associate Professor
Postdoc at Tata Institute of Fundamental Research Centre for Applicable Mathematics Bangalore, Ph.D (Homi Bhabha National Institute, BARC),M.Sc (Jadavpur University)
Area of Interest: Experimental nonlinear dynamics, quantitative finance, stock market dynamics

Staff Details

Mr. Happy Mondal
Senior Technician

Laboratory Facilities

Engineering Physics Laboratory: The Engineering Physics Laboratory of the Department is equipped with the necessary instruments to facilitate the freshmen to experience the wide scope of the subject. There are experimental facilities to investigate the properties of semiconductors, laser diode, Hall effect, magnetic field due to current carrying coils, magnetic susceptibility of liquids, etc. The students are also exposed to some optical phenomena like the total internal reflection of light and interference of light through experiments involving optical fibers, Newton's ring apparatus and the Michelson interferometer. The fiber optics apparatus is used to measure the numerical aperture of optical fiber while the Michelson Interferometer apparatus can be used to determine the wavelength of the light source.

Members of the Department of Physics

Research and publications:

1. Rabindrajit Luwang, Salam, Anish Rai, Md Nurujjaman, Om Prakash, and Chittaranjan Hens. "High-frequency stock market order transitions during the US–China trade war 2018: A discrete-time Markov chain analysis." Chaos: An Interdisciplinary Journal of Nonlinear Science 34, no. 1 (2024).
2. Rai, Anish, Salam Rabindrajit Luwang, Md Nurujjaman, Chittaranjan Hens, Pratyay Kuila, and Kanish Debnath. "Detection and forecasting of extreme events in stock price triggered by fundamental, technical, and external factors." Chaos, Solitons & Fractals 173 (2023): 113716.
3. Thakur, Barun Kumar, Debi Prasad Bal, Md Nurujjaman, and Kanish Debnath. "Developing a model for residential water demand in the Indian Himalayan Region of Ravangla, South Sikkim, India." Groundwater for Sustainable Development 21 (2023): 100923.
4. Biswas, George, Anindya Biswas, and Ujjwal Sen. "Shared purity and concurrence of a mixture of ground and low-lying excited states as indicators of quantum phase transitions." Physica Scripta 99.2 (2024): 025116.
5. Mondal, Sayan, George Biswas, Ahana Ghoshal, Anindya Biswas, and Ujjwal Sen. "Estimating phase transition of perturbed Heisenberg quantum chain in mixtures of ground and first excited states." New Journal of Physics 25, no. 12 (2023): 123020.
6. Biswas, George, Santanu Sarkar, Anindya Biswas, and Ujjwal Sen. "Spread and asymmetry of typical quantum coherence and their inhibition in response to glassy disorder." New Journal of Physics 25, no. 8 (2023): 083030.

Departmental Committees

S. No.	Name of the committee	Name of Faculty members
1	Head of the Department	Dr. Md. Nurujjaman
2	Departmental Faculty Board (DFB)	1. Dr. Md. Nurujjaman, HoD 2. Dr. Anindya Biswas, Member
3	Departmental Post Graduate Committee (DPGC)	1. Dr. Anindya Biswas, Convener 2. Dr. Md. Nurujjaman, Member 3. Dr. Om Prakash, Member
4	Laboratory In-Charge	Dr. Md. Nurujjaman

Collaboration with other Departments / Institutes

The Department has active research collaborations with Saha Institute of Nuclear Physics, Kolkata, Jadavpur University, Presidency University and Harish-Chandra Research Institute, Prayagraj. Radon gas monitoring system, a possible avenue for early earthquake detection, has been installed at NIT Sikkim in collaboration with Jadavpur University.

Research Scholars Details

S. No.	Research Scholars	Guide(s)	Area of Research	Remarks
1	George Biswas	Dr. Anindya Biswas	Entanglement and Other Quantum Correlations in Many-Body Systems	PhD Degree awarded
2	Anish Rai	Dr. Md. Nurujjaman	Nonlinear Time-series Analysis, Characterization of Stock Market	Ongoing
3	Santanu Sarkar	Dr. Anindya Biswas	Quantum Information and Computation	Ongoing
4	Salam Rabindrajit Luwang	Dr. Md. Nurujjaman	Nonlinear Time-series Analysis, Characterization of Stock Market	Ongoing
5	Sayan Sengupta	Dr. Anindya Biswas	Quantum Information and Computation	Ongoing
6	Ritwija Roy	Dr. Anindya Biswas	Quantum Information and Quantum Computation.	Ongoing
7	Kundan Mukhia	Dr. Md. Nurujjaman	Machine learning and Non-linear time series analysis.	Ongoing
8	Anish Sharma	Dr. Anindya Biswas	Quantum Thermodynamics	Ongoing
9	Buddha Nath Sharma	Dr. Md. Nurujjaman	Topological Data Analysis, Nonlinear Dynamics	Ongoing

Department of Chemistry

"We think there is color, we think there is sweet, we think there is bitter, but in reality, there are atoms and a void."

~Democritus

The Department of Chemistry is an integral part of National Institute of Technology Sikkim (NIT Sikkim) since its inception. The department has always endeavoured hard to attain academic excellence by imparting quality education and research exposure to the students. The Department of Chemistry at NIT Sikkim is now a comprehensive department granting Masters Degree (two-year M. Sc. program in Chemistry) and Ph.D. degrees with specialization in synthetic organic chemistry, inorganic chemistry, catalysis, renewable energy, etc.

The young, dynamic, motivated, extremely well qualified faculty members of the department are keen to impart high standard education to the students and carry out cutting edge research to solve problems having social importance as well as contemporary Scientific problems. Their commitment is well reflected in the quality of publications, research projects funded by the Department of Science & Technology (DST), Council of Scientific & Industrial Research (CSIR), Department of Biotechnology (DBT), etc.

Thanks to the generous supports from the Institute and other funding agencies, the department is now equipped with several state-of-the-art instrumental and computational facilities. The instruments available with the department include (but are not limited to), Gas Chromatography (GC) System, Electrochemical Workstation, Potentiostat with Spectroelectrochemistry set up, Rotary Evaporators, Diode-array UV-Vis Spectrophotometers, FT-IR spectrophotometers, Low-temperature (-80°C) baths, Autoclaves, etc. The Computational Chemistry Laboratory has access to

high-end servers and software packages (Gaussian 16, Amsterdam Density Functional (ADF), Turbomole, etc).

The admission to the 2-year M.Sc. (Chemistry) is pursued centrally via Centralized Counselling for M.Sc./M. Tech. (CCMN) platform, based on the JAM score of the candidates and the remaining vacancies are filled through the Institute Admission Test (IAT) conducted by Institute. Our curriculum, meticulously crafted to encompass fundamental principles and advanced concepts across diverse areas of chemistry, is augmented by immersive hands-on research training. This equips our students to emerge as adept technical professionals, poised for success in both industry and academia. we ensure stringent adherence to proper safety protocols in all chemical laboratories. Also the Department of Chemistry is fully committed to cultivate a safe, inclusive, gender-neutral and a fair environment to foster innovation in the field of chemical science.

VISION

Our *vision* is to enhance our reputation as a nationally acclaimed teaching and research institution which is recognized for its innovation, excellence, discovery, and attracts the best students, faculty and staff nationwide. The curriculum is designed for holistic development of the students and imparts practical trainings to make them industry ready. The Department aspires to be regarded as the best in North-East NITs, and in the Top 10 amongst the NITs in India and in the Top 50 Chemical Sciences teaching institutions in India in the upcoming years.

MISSION

Our *mission* is to maintain a department that stands equal to any in terms of its relevance of teaching and research, facilities as well as the learning opportunities and working experience. The Department endeavors to advance the society through chemistry education, research, and service via interdisciplinary and international collaborative discovery, mentoring and leadership, and economic impact through technology transfer and entrepreneurship. The Department enables Student / Faculty team achievement, professional service, recognition, and global engagement via unique Molecular Science & Technology Centers of Excellence leveraging NIT Sikkim's core strength. The Department defines and delivers exemplary contributions to the mission, goals, and research focus areas of NIT Sikkim.

VALUES

We aspire to *values* which are based on the highest professional and academic standards in terms of personal growth and satisfaction offered to our Students, Faculties and Staffs, excellence in what we do, teamwork that is based on respect, trust, integrity, and moral ethics.

GOALS

The goal of the department is to train our M.Sc. and Ph.D. students to become globally competent in both Academic Research and Development as well as in Industry. Also, we intend to train the 1st Year B. Tech. students to understand the connection of chemistry with various engineering courses.

Programs offered by the Department.

Master of Science (M.Sc. in Chemistry)

- Department of Chemistry at NIT Sikkim is now a comprehensive department granting Master's degree (two-year M. Sc. program in Chemistry). The admission to the 2-year M.Sc. (Chemistry) is managed centrally by Centralized Counselling for M.Sc./M. Tech. (CCMN) platform, based on the JAM score of the candidates. After completion of the admission process via CCMN, the Institute also conducts Institute Admission Test (IAT) to fill the remaining vacancies. The department offers classical and advanced courses to cover a wide area of chemistry with cutting-edge research ideas and closely related areas and provides comprehensive hands-on research and industrial training to the students to help them to succeed in academic, industrial and research areas.

Doctoral program (Ph. D.)

- Department of Chemistry at NIT Sikkim offers opportunity to carry out graduate research work in various areas of chemistry and related disciplines. Students completing their M.Sc. in Chemistry can apply to this program. The fellowship options available include (a) Institute funded Ph.D., (b) funding by other funding agencies, SERB (DST), CSIR, INSPIRE, Junior Research Fellowship, GATE etc.

Research Areas

- **Inorganic Chemistry:** Bioinspired Catalysis, Dioxygen activation/reduction, Artificial Photosynthesis, High-valent metal oxo, Electrocatalysis, Degradation of Micropollutants, C-H activation by transition metal complexes, etc.
- **Synthetic Organic Chemistry:** Photoredox Catalysis, Synthesis of Natural Products, Macrolides, Synthetic Methodologies, C-H activation, Heterocycles, Carbohydrate Chemistry, Green Organic Synthesis, Electrosynthesis, etc.
- **Physical Chemistry:** Development of highly accurate theoretical methods to study the properties of molecules in their low-lying excited state. Application of quantum chemical methods to study the harvesting of the photo chemical properties of molecules, Homogeneous and Heterogeneous reaction modelling. Synthesis of novel organic molecules for biological applications. Designing and setting up jet cooled setup in combination different types of laser instruments for measuring photo physical properties of molecules in gas phase. Photo-physical study of different types of fluorophore molecules in different biologically relevant environments. Theoretical investigation of excited state phenomenon that is observed in the experimental studies.

Courses offered by the Department to B. Tech Students

- Engineering Chemistry, Engineering Chemistry Laboratory.

Current Students' Strength

PG students (M.Sc.)	Ph.D. Scholars
16	13

Faculty & Staff details

Faculty

Dr. Achintesh N. Biswas
Associate Professor & Head of the Department.
Postdoc (University of Minnesota, USA 2012-13), Ph.D. (University of North Bengal, 2011), M. Sc. (University of North Bengal, 2003).
Area of Interest: Water Remediation, Artificial Photosynthesis, Small Molecule Activation, Bio-inspired Catalysis.

Dr. Taraknath Kundu
Associate Professor
Postdoc (Bose Institute, 2008-09, IISc. Bangalore, 2009-12),
Ph.D. (Bose Institute/Jadavpur University, 2008) M. Sc. (University of Calcutta, 2001).
Area of Interest: Synthetic Organic Chemistry; Medicinal Chemistry

Dr. Sumit Saha
Associate Professor
Ph.D. (IACS/Jadavpur University, 2012), M. Sc. (IIT Kharagpur, 2007).
Area of Interest: Synthetic organic chemistry, Total synthesis of natural products

Dr. Nidhi Govil,
Temporary Faculty
Ph. D. (MNIT Jaipur), M. Sc. (IIT Roorkee)
Area of Interest: Analytical Chemistry, Electroanalytical methods

Dr. Sumantra Bhattacharya,
Temporary Faculty
Postdoc (UNITS, South Korea 2014-15),
Ph. D (NCL Pune/Savitribai Phule Pune University 2013), M. Sc. (BHU, 2005)
Area of Interest: Theoretical and Computational Quantum Chemistry. Excited State structure and properties of molecules, Homogeneous and heterogeneous catalysis. Development of Highly Accurate Quantum Chemical method for Calculation of Low-lying Excited States of molecules using Fock Space Multi-Reference Coupled Cluster (FSMRCC) Method.

Dr. Dipmalya Basak, Temporary Faculty
Ph. D. (IIT Kharagpur, 2021), M. Sc. (NIT Durgapur, 2013)
Area of Interest: Heterometallic 3d-4f complexes with aesthetically pleasing topologies to investigate their magnetic properties (Single Molecular Magnets, Magnetocaloric effect, etc.) along with other properties like Photoluminescence, catalytic properties.

Dr. Subhash C. Makhal, Temporary Faculty
Ph.D. (University of Calcutta, 2021), M. Sc. (Univ. of Calcutta, 2013)
Area of Interest: Synthesis of novel organic molecules for biological applications. Designing and setting up jet cooled setup in combination different types of laser instruments for measuring photo physical properties of molecules in gas phase. Photo-physical study of different types of fluorophore molecules in different biologically relevant environments.

Staff

Mr. Suman Pathak
M.Sc.
Designation: Senior Technician

Ms. Chandrama Majumdar
M.Sc.
Designation: Senior Technician

Ph.D. Scholars

Sl.	Name of the Ph. D Scholar	Topic	Supervisor
1	Dr. Srijan Narayan Chowdhury (Thesis Submitted)	Dioxygen Reduction	Dr. Achintesh N. Biswas
2	Dr. Panjo Lepcha (Thesis Submitted)	Catalytic Water Oxidation	Dr. Achintesh N. Biswas
3.	Mr. Ramanand Das	Synthesis of *C*-glycosides	Dr. Taraknath Kundu
4	Mr. Ravan Kumar	Total Synthesis of Natural Products	Dr. Sumit Saha
5	Mr. Saikat Das	Water Remediation	Dr. Achintesh N. Biswas
6	Mr. Dip Raj Rai	Synthesis of *C*-glycosides	Dr. Taraknath Kundu
7	Mr. Arpan Bera	Organic Synthesis	Dr. Sumit Saha
8	Ms. Rachel Anjous	Organic Synthesis	Dr. Sumit Saha
9	Mr. Suman Joardar (Part-time)	Transition Metal Catalysed C-H Activation	Dr. Taraknath Kundu
10	Mr. Gunturu Prabhakar Rao (Part-time)	Directed C-H Activation	Dr. Taraknath Kundu
11	Mr. Kanchan Chakraborty (Part-time)	Organic synthesis	Dr. Sumit Saha
12	Mr. Aniket Mukherjee	Catalytic Small Molecule Activation	Dr. Achintesh N. Biswas
13	Ms. Subhalaxami Das	Water Splitting	Dr. Achintesh N. Biswas

Ph.D. Awarded in 2023-24

S/N	Name	Research Area	Supervisor	Present Designation
1	Dr. Srijana Subba	Total Synthesis of Natural Products	Dr. Sumit Saha	Assistant Professor

Laboratories and Research Facilities

S/N	Name of the Laboratory	Objectives	Available Instruments	Faculty In-charge
1	Engineering Chemistry	To equip all first-year students of B. Tech. program with the knowledge of material science, qualitative and quantitative estimations, and environmental impacts.	Microbalance, Microcentrifuge, pH meters, Conductometers, Hot air oven, vacuum pumps, fridges, etc.	Dr. Taraknath Kundu

S/N	Name of the Laboratory	Objectives	Available Instruments	Faculty In-charge
2	M.Sc. Organic Chemistry	To teach M.Sc. students about organic qualitative & quantitative estimations, functionalization of organic molecules, isolation and characterization of natural products, multistep syntheses, and biochemistry experiments.	Eyela Rotary Evaporator with -20°C chiller, Eyela PSL1810 (-) 80°C reaction chamber, Metler-Toledo 0.01mg microbalance, Glove box, etc.	Dr. Sumit Saha
3	M.Sc. Inorganic Chemistry	To teach M.Sc. students about identification of salts, qualitative & quantitative estimations, catalytic activities, bioinorganic chemistry.	Diode-array UV-visible Spectrophotometer with Peltier, Electrochemical Workstation, Hansatech Oxygraph, Spectro Electrochemical Workstation	Dr. Achintesh N. Biswas
4	M.Sc. Physical Chemistry	Quantitative estimations of physical constants, biophysical experiments.	Potentiometers, Polarimeter, Colorimeter, Electrode assembly, Water purification set up, Spectrophotometer, etc.	Dr. Subhash C. Makhal and Dr. Sumantra Bhattacharya
5	M.Sc. Analytical and Environmental Chemistry	Qualitative and quantitative analysis of environmental pollutants	BOD incubator, COD digester, As/F detectors, Muffle furnace, Dissolved oxygen (DO) sensor, Microbalance, etc.	Dr. Nidhi Govil
5	Computational Chemistry Laboratory	Molecular simulations, quantum chemical energy calculation, prediction of reaction pathways.	Gaussian, Amsterdam Density Functional (ADF), Turbomole, etc	Dr. Sumantra Bhattacharya
6	Instrument Laboratory	Analysis of synthesized and natural compounds.	Gas chromatography system, UV-visible Spectrophotometer, FT-IR Spectrometer, Gel electrophoresis system, Biosafety cabinet, etc.	Dr. Taraknath Kundu
7	Research Laboratory	For PhD research	Three fume hoods, IKA Rotary evaporator, other experimental set-ups.	Dr. Sumit Saha

Ongoing Projects in the Department

1. Electrochemically generated oxometal complexes for water remediation (CRG/2021/002064)' funded by Science & Engineering Research Board (SERB), New Delhi of . 43 lakhs; P.I.: Dr. Achintesh N. Biswas.
2. Design of Smart, Self-Breathable Bandage for Surface Wound Care (BIRAC/KIIT01800/BIG-SP/02/22) Funded by: DBT-BIRAC North-East Region (2 Yrs.). 5o Lakhs. P. I.: Dr. Taraknath Kundu.

Collaborations with other Institutes

To pursue cutting edge research the Department has collaborated with the following Institutes:

- University of York, UK – Dr. Achintesh Narayan Biswas
- University of North Bengal, Siliguri – Dr. Achintesh Narayan Biswas / Dr. Sumit Saha
- Central University of Sikkim, Sikkim – All Faculty of the Department
- IIP Dehradun – Dr. Sumantra Bhattacharya
- Indian Association for the Cultivation of Science, Kolkata – Dr. Achintesh Narayan Biswas /
- Dr. Sumit Saha
- National Chemical Laboratory, Pune – Dr. Sumantra Bhattacharya
- CSIR- Indian Institute of Petroleum, Dehradun – Dr. Sumantra Bhattacharya
- University of Calcutta, Kolkata - Dr. Taraknath Kundu
- Sister Nivedita University, Kolkata - Dr. Taraknath Kundu
- IIT Kharagpur- Dr. Taraknath Kundu and Dr. Dipmalya Basak

Publication

Peer-reviewed SCI journals (2023-24)

1. Mallik, A.; Ali, M. S.; Karmkar, S; Dutta, K; Gangopadhyay, B; Ali, M. S.; Das, T. D.; Panda, S; Bhattacharya, S.; Chamuah, A.; Chakraborty, A.; Chakraborty, A. K.; Chattopadhyay, D.; Single step synthesis of amine functionalized graphene oxide/ Cu-Ni bimetallic nanocomposite and tuning its electrical properties *Mat. Sci. Eng.: B* 2023, *296*, 116627-116635.

2. Das, R.; Das, M.; Mukherjee, D.; Kundu, T.; Recent Advances on the Synthesis of C-Glycosides from 1,2-Glycals, *Synthesis* 2024, 56, 1070-1096.

3. Electrochemical generation of high-valent oxo-manganese complexes featuring an anionic N5 ligand and their role in O–O bond formation, Sachidulal Biswas, Srijan Narayan Chowdhury, Panjo Lepcha, Subhankar Sutradhar, Abhishek Das, Tapan K. Paine, Satadal Paul and Achintesh N. Biswas*, *Dalton Trans.*, 2023, *52*, 16616-16630. (featured as **Dalton Transactions HOT Article**).

4. Kinetic and mechanistic investigation on dioxygen reduction by a molecular Cu(II) catalyst bearing a pentadentate amidate Ligand; Srijan Narayan Chowdhury, Sachidulal Biswas, Saikat Das and Achintesh N. Biswas*, *Dalton Trans.*, 2023, *52*, 11581-11590.

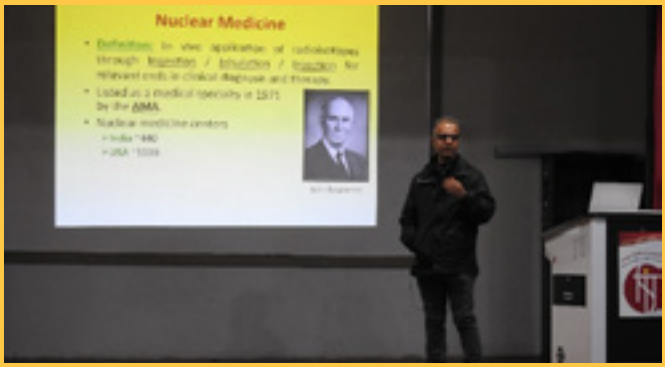
International/National Conference (2023 -24)

1. Dr. Achintesh N. Biswas delivered an invited lecture at the 20th International Conference on Modern Trends in Inorganic Chemistry (MTIC-XX) at IISc Bangalore during December 14-17, 2023.

2. Dr. Achintesh N. Biswas delivered an invited lecture at the International Conference on Catalysis (IC^2) at IACS Kolkata during March 11-13, 2024.

Conference/Workshop Organized

108th DAE BRNS-IANCAS National Workshop on Radiochemistry & Applications of Radioisotopes was organized jointly by BRNS-IANCAS and Department of Chemistry, NIT Sikkim between 5th February and 9th February 2024. This workshop encompassed a diverse array of components, including scientific lectures covering Chemistry, Physics, and Medical and Engineering aspects of nuclear science. It also delved into the utilization of nuclear energy as a potent alternative energy source. Moreover, there were hands-on sessions designed to train postgraduate and Ph.D. students in various instrumentation tools. The workshop played a pivotal role in inspiring young researchers and motivating them to embrace the fields of radiochemistry and radioisotope applications. The department has been further enriched by the acquisition of a Geiger-Müller counter, a scintillation counter, and select samples from BARC. Attached herewith are representative photos encapsulating the essence of the workshop.



Student Achievements

- Utkarsh Verma (M.Sc. 2021-2023) qualified the Joint CSIR-UGC NET in June 2023 with All India Rank of 70.
- Amrit Das (M.Sc. 2022-2024) qualified the Joint CSIR-UGC NET in June 2023.
- Ayusie Goyel (M.Sc. 2021-2023) qualified GATE in 2023 and has also received the INSPIRE fellowship for doctoral studies.
- Nandani Kumari and Shatarupa Mishra (M.Sc. 2022-24) got selected for INSA Fellowship, SRFP, 2023 under Dr. Manisha Tiwari at the Dr. BR Ambedkar Centre for Biomedical Research, New Delhi.
- Amrit Das and Deepika Kindo (M.Sc. 2022-24) qualified GATE 2023, 2024

Departmental Responsibilities

Sl.	Responsibility	Faculty In-charge
01.	Head of the Department	Dr. Achintesh N. Biswas
02.	M. Sc. Admission (Dy. In-charge, Centralized Counseling for M.Sc. in NITs 2022)	Dr. Taraknath Kundu
03.	Convener, Institute Admission Test 2022 for admission in M.Tech / M.Sc. programs	Dr. Taraknath Kundu
04.	Department Post-Graduate Committee (DPGC)	Dr. Sumit Saha (Convener) Dr. Achintesh N. Biswas (HoD) Dr. Taraknath Kundu (Member) Dr. Nidhi Govil (Member) Dr. Sumantra Bhattacharya (Member) Dr. Dhananjay Tripathi (Nominated Member by Chairperson Senate)

Sl.	Responsibility	Faculty In-charge
05.	Academic Performance Evaluation Committee	Dr. Taraknath Kundu (Convener) Dr. Achintesh Narayan Biswas (Member) Dr. Sumit Saha (Member) Dr. Nidhi Govil (Member)
06.	M.Sc. Physical Chemistry Laboratory	Dr. Subhash C. Makhal and Dr. Sumantra Bhattacharya
07.	M.Sc. Inorganic Chemistry Laboratory	Dr. Achintesh N. Biswas
08.	M.Sc. Organic Chemistry Laboratory	Dr. Sumit Saha
09.	M.Sc. Analytical and Environmental Chemistry Laboratory	Dr. Nidhi Govil
10.	M.Sc. Computational Chemistry Laboratory	Dr. Sumantra Bhattacharya
11.	B.Tech Engineering Chemistry Laboratory	Dr. Taraknath Kundu
12.	Departmental Member in Examination Cell	Dr. Achintesh N. Biswas
13.	Departmental Member in Institute Research Committee	Dr. Sumit Saha
14.	Departmental Record Keeping	Dr. Achintesh N. Biswas
15.	Faculty Advisors	Dr. Achintesh N. Biswas Dr. Taraknath Kundu Dr. Sumit Saha

Students with faculty and staff members during Convocation

M.Sc. students at the Convocation venue (Buddha Park, Ravangla)

M.Sc. 2022-24 batch during industrial visit at Alkem Health Science, Samardung, Sikkim

M.Sc. 1st and 2nd Year Students

Department of Humanities and Social Sciences

"We go to poetry, we go to literature in general, to be forwarded within ourselves."

Seamus Heaney

The Institute's Department of Humanities and Social Sciences provides students with an interdisciplinary approach alongside their technical education. Undergraduate courses in English, Economics, and Management are offered to engineering students, emphasizing their holistic development to become engineers who prioritize sustainability. Since its inception in 2014, the department has also introduced a research program with plans to introduce postgraduate courses in the future. Currently, the Ph.D. program focuses on research areas such as *Modern Indian Fiction, Cinematic Adaptations of Shakespeare, North-Eastern Literature, Gender Studies, The Question of the Human, Spatio-Temporal Representations and English Literature*, as well as *Industrial Economics & Entrepreneurship*. The faculty and research scholars are actively engaged in publishing research in national and international journals, as well as presenting papers at esteemed global conferences.

Departmental Literary Club, Regnant Ink:

The Department's Literary Club, "Regnant Ink," hosts various events including Quiz Competitions, Movie Hours, Writing Competitions, Poster Designing Competitions, Photography Competitions, Hindi Pakhwada and Talk Sessions by distinguished guests. Notably, the club played a significant role in recapitulating and promoting the Government of India's National Education Policy within the Institute.

OBJECTIVES

- The Department's long-term plans include courses covering Communicative Skills, Phonetics, Linguistics, as well as Certificate Courses in foreign and regional languages.
- The Department actively promotes an integrative approach by fostering collaborations with other leading educational institutions nationwide.
- Additionally, the Department is committed towards preparing undergraduate students to thrive in the global industrial landscape.
- Regular updates to the curriculum are implemented to meet the evolving demands of students in navigating the national and global industrial markets.
- The Ph.D. program aims to generate substantial research across interdisciplinary fields, thereby expanding its research scope.

Upgradations in the Course Syllabus of the Department

Following the endorsement by the Institute's Senate, the Department revised the two theory courses: English Language and Literature, Human Values and Effective Communication and introduced two new laboratory courses: Language Laboratory – I and Language Laboratory – II, aligning with the outcomes of the 2023 Curriculum Development Workshop. Existing courses in Economics and Management underwent revision, now offered as Engineering Economics and Principles of Management.

The Curriculum Development Workshop convened, drawing upon the expertise of esteemed academicians to refine and modernize the existing curriculum according to student requirements. Moreover, the Department established a Language Lab aimed at refining students' pronunciation, stress patterns, intonation, and accent,

thereby enhancing their oral communication skills and confidence for future career placements.

Courses offered by the Department to B. Tech students:

- English Language and Literature (HS11101) - B. Tech 1st Year
- Human Values and Effective Communication (HS12101) - B. Tech 1st Year
- Language Laboratory – I (HS11201) - B. Tech 1st Year
- Language Laboratory – II (HS12201) - B. Tech 1st Year
- Engineering Economics (HS15101) – B. Tech 3rd Year
- Principles of Management (HS16101) – B. Tech 3rd Year

Courses offered by the Department to PhD students:

- Research Methodology (HS31101)
- Literary Theory – I (HS31102)
- Literary Theory – II (HS31103)
- Gender and Literature (HS31104)
- Doing Gender and Why Does It Matter? (HS31105)
- Health Across Gender Spectrum (HS31106)
- Environment and Development (HS31107)
- Narrative Mode and Fiction (HS31108)
- Postmodernism in Literature (HS31109)
- Effective writing (HS31110)
- Hinduism Through Its Scriptures (HS31111)

Research Areas

Subjects	Major Thrust Area of Research
English	▪ Modern Indian Fiction ▪ Film Studies in Shakespearean Drama ▪ North-Eastern Literature ▪ Gender Studies and Literature ▪ Literary Criticism ▪ Myth and its Retelling ▪ Indian English Writing ▪ Spatio-temporality of Cultural Representations in Literature ▪ Human Condition ▪ Vulnerability Studies
Economics	▪ Industrial Economics & Entrepreneurship ▪ Financial Management ▪ Big Data Analytics ▪ Managerial Economics

Research Scholars

Degree Awarded:

S. No.	Name	Supervisor	Title of Thesis
1	Mrs. Laxmi Rai	Dr. Dhananjay Tripathi	Cinematic Adaptations of the Select Shakespearean Tragedies in Bollywood
2	Mr. Bhaskar Chettri	Dr. Dhananjay Tripathi	Multiculturalism in the Select Raj Novels
3	Ms. Ankita Sarmah	Dr. Dhananjay Tripathi & Dr. Bedabrat Saikia (Co-supervisor)	An Exploration on the Opportunities and Challenges of the Micro Small and Medium Enterprises (MSMEs) in Assam

Ongoing Research:

S. No.	Name	Supervisor	Area of Research
1	Ms. Sanjana Chakraborty	Dr. Dhananjay Tripathi	Male Body & Identity Politics in South Asian Literature
2	Ms. Ankita Barik	Dr. Dhananjay Tripathi	Spatio-temporality of Cultural Representations in Literature
3	Ms. Ankita Das	Dr. Dhananjay Tripathi	The Human Condition, Vulnerability Studies in Literature

Research Projects

S. No.	Project Title	Principal Investigator	Funding Agency	Status
1	*The Occult Tradition of Shamanism in Sikkim: A study of its core belief and Tribal Nature.*	*Dr. Dhananjay Tripathi*	ICSSR	*Completed*
2	*Covid-19 and its impact on Sikkim: A study of how and why Sikkim became an exception.*	*Dr. Dhananjay Tripathi*	ICSSR	*Completed*

Faculty Details

Dr. Dhananjay Tripathi
Associate Professor
D. Phil (University of Allahabad, 2013), M.A. (University of Allahabad, 2006)
Area of Interest: Literary Criticism, Myth and its Retelling, Indian English Writing.

Dr. Richa Mishra
Assistant Professor (Temporary)
D. Phil (University of Allahabad, 2016), M.A. (University of Allahabad, 2011)
Area of Interest: Indian Writing in English, Mythological Retelling.

Dr. Marxia Oli. Sigo
Assistant Professor (Temporary)
Ph.D (Bharathidasan University, Tiruchirappalli, 2019), MBA (BSMED - Bharathiar University, Coimbatore, 2006)
Area of Interest: Financial Management, Big Data Analytics, Managerial Economics.

Language Laboratory for Undergraduate students

To meet the students' requirements and enhance their language acquisition abilities, an Orell Talk Digital Language Laboratory, equipped with cutting-edge facilities, was established in December 2019.

Since September 2023, the lab has seamlessly integrated into the first-year B. Tech curriculum. This sophisticated software is engineered to yield tangible outcomes, enriching language proficiency and fostering holistic personality development with specialized modules in grooming and self-improvement. Through these invaluable courses, students can refine their character and cultivate self-assurance. The software encompasses the following components:

- ASL: A tool designed for assigning speaking and listening tasks to students.
- Intercom: Facilitates two-way communication between teachers and students.
- Live Classroom: Conducts real-time classes and enables assessment of students' learning engagements.
- Lesson Studio: Empowers teachers to craft study materials in video, audio, and text formats.
- E-Writer: Utilized for assigning writing tasks to students.
- E-Reader: Distributes reading assignments to individual students or groups.
- E-Exam: Administers exams to individual students or groups.
- Screen Viewer: Allow teachers to capture students' screens and monitor their activities discreetly.
- Alert: A feature enabling students to request assistance from the teacher.
- The department additionally seeks to create engaging and interactive lessons by incorporating PowerPoint presentations in the language lab curriculum on variegated subjects ranging from movie and book reviews to philosophical discussions. These multimodal presentations enhance language learning by providing visual reinforcement, integrating multimedia elements, facilitating structured content delivery, offering interactive activities, supporting versatile learning, and providing opportunities for speaking practice.

Recent Publications of the Departmental Faculties

- Vishwakarma, V., Singhal, P., Sigo, M. O., & Sharma, G. (2024). Digitizing the Logistics Business in India – A Leadership Case Study, *European Economic Letters,* 14(2), 2019-2013.
- Mishra, R., & Tripathi, D. (2023). Decoding Gerard Genette's Narrative Quotes in Mythical Retellings of Arun Kolatkar's Sarpa Satra and Girish Karnad's Yayati. *Jordan Journal of Modern Languages*, 15(3A), 903-918.
- Chakraborty, S., & Tripathi, D. (2023). Influenced Gender Identities: The Study ofMasculinity and its intersectionality through The Carpet Weaver. *Boyhood Studies Journal,* 16(1), 75-89.
- Sigo, M. O., Selvam, M., Venkateswar, S., Lingaraja, K., Amirdhavasani, S., & Dhanasekar, D. (2024). Agile Entrepreneurship: Evolution and Growth of Corporate India, Journal of Computational Analysis and Applications, 32(5), 23-28.

Departmental Committees

S. No.	Name of Faculty Member	Name of the Committee
1	Dr. Dhananjay Tripathi	Head of the Department
2	Dr. Dhananjay Tripathi	Dean Faculty Welfare
3	Dr. Dhananjay Tripathi Dr. Richa Mishra Dr. Marxia Oli. Sigo	Departmental Faculty Board
4	Dr. Dhananjay Tripathi (Convener) Dr. Richa Mishra Dr. Marxia Oli. Sigo Dr. Achintesh N Biswas (External) Dr. Rajiv Ranjan Dwivedi (External) Dr. Sangram Ray (External)	Departmental Post Graduate Committee
5	Dr. Richa Mishra	Girls Hostel Warden
6	Dr. Dhananjay Tripathi Dr. Richa Mishra Dr. Marxia Oli. Sigo	Committee for Promotion of Indian Language and Culture under NEP 2020
7	Dr. Dhananjay Tripathi	Faculty In-Charge - Training and Placement Cell
8	Dr. Richa Mishra	Department Annual Report Committee
9	Dr. Marxia Oli. Sigo	Central Library Committee
10	Dr. Dhananjay Tripathi Dr. Richa Mishra Dr. Marxia Oli. Sigo	Department Grade Moderation Committee
11	Dr. Dhananjay Tripathi	Public Information Officer
12	Dr. Dhananjay Tripathi	Faculty In-charge - Publication and Web Information System

Audit Report and Annual Accounts

भारतीय लेखापरीक्षा एवं लेखा विभाग
कार्यालय महालेखाकार (लेखापरीक्षा) सिक्किम
लेखापरीक्षा भवन, देवराली,
गंगटोक– 737102

सत्यमेव जयते

India Audit & Accounts Department
O/o the Accountant General (Audit), Sikkim,
Lekhapariksha Bhawan, Deorali,
Gangtok- 737102

पत्र संख्या: Comm/SAR/NIT/24-25/95
दिनांक: 29.10.2024

To,
The Director,
National Institute of Technology.
Ravangla Campus,
Ravangla, Barfung Block,
South Sikkim – 737139.

Subject : Forwarding of Separate Audit Report on the Financial Statements of National Institute of Technology (NIT), Sikkim, for the year ended 31st March, 2024

Sir,

I am to forward herewith the Separate Audit Report on the Financial Statements of National Institute of Technology (NIT), Sikkim for the year ended 31st March 2024.

Yours faithfully,

Deputy Accountant General

DRAFT SEPARATE AUDIT REPORT ON THE ACCOUNTS OF NATIONAL INSTITUTE OF TECHNOLOGY, SIKKIM, RAVANGLA FOR THE YEAR ENDED 31 MARCH 2024

(Vide Section 22(4) of the National Institute of Technology Act, 2007)

DRAFT SEPARATE AUDIT REPORT OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA ON THE ACCOUNTS OF NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM, RAVANGLAFOR THE YEAR ENDED 31 MARCH, 2024

We have audited the attached Balance Sheet of National Institute of Technology Sikkim, Ravangla, as on 31 March 2024, the Income & 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, Power & Conditions of Service) Act, 1971 read with Section 22(2) of the National Institute of Technology Act, 2007. Preparation of these financial statements is the responsibility of the Institute's Management. Our responsibility is to express an opinion on these Financial Statements based on our audit.

2. This Draft 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 (Propriety and Regularity) 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, evidences supporting the amounts and disclosure 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, Income and Expenditure Account and Receipts and Payments Account dealt with by this report have been drawn up in the format prescribed by the Ministry of Human Resource Development, Government of India.

iii. In our opinion, proper books of accounts and other relevant records have been maintained by the National Institute of Technology Sikkim as required under Section 22(1) of the National Institute of Technology Act, 2007 in so far as it appears from our examination of such books;

iv. We further report that:

Grants received during the year from the Government

The Institute has received ₹ 107.28 crore during the year as grant and pervious year unspent grant was Nil. Out of the total available grant of ₹ 107.28 crore, the Institute had utilized ₹ 27.10 crore and refunded ₹ 0.31 crore leaving an unspent grant of ₹ 79.87 crore.

Revision of Accounts

The accounts of the institute were revised at the instance of audit. The impact of revision of accounts is that the Assets and Liabilities have increased by ₹ 0.08 crore and ₹ 0.06 crore respectively and surplus has increased by ₹ 0.01 crore.

i. Subject to our observation in the preceding paragraphs, we report that the Balance Sheet, Statement of Income & Expenditure Account and Receipt & Payment Account dealt with by this report are in agreement with the books of accounts

ii. 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 **Annexure-I** to this Audit Report, give a true and fair view in conformity with accounting principles generally accepted in India:

(a) in so far as it relates to the Balance Sheet of the state of affairs of the National Institute of Technology as at 31 March 2024; and

(b) in so far as it relates to the Income & Expenditure Account of the surplus for the year ended 31 March 2024.

20/9/24

Accountant General (Audit) , Sikkim

Place: Gangtok

Date:

ANNEXURE -I

1. Adequacy of Internal Audit System:

The Internal Audit System commensurate with the size and nature of the Institute

2. Adequacy of Internal Control System:

The Internal Control System commensurate with the size and nature of the Institute

3. Regularity in payment of statutory dues

The Management is regular in payment of statutory dues with appropriate authorities.

4.System of Physical verification of fixed assets/inventories

The Physical verification of fixed assets/inventories for the year 2023-24 was not conducted.

20/9/24

Accountant General (Audit), Sikkim

Place : Gangtok
Date:

NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM

BALANCE SHEET AS AT 31st MARCH 2024

Amount in Rupees

SOURCES OF FUNDS	Sch No	Current Year 31.03.2024	Previous Year 31.03.2023
Corpus/ Capital Fund	1	42,61,21,376.00	42,51,15,379.00
Designated/ Earmarked/ Endowment Fund	2	94,11,134.00	94,24,289.00
Current Liabilities & Provisions	3	92,17,68,177.00	7,09,45,088.00
Total		**1,35,73,00,687.00**	**50,54,84,756.00**
APPLICATION OF FUNDS			
Fixed Assets	4		
Tangible Assets		32,21,46,447.00	37,04,14,239.00
Intangible Assets		44,16,276.00	2.00
Capital Work in Progress (New Campus)		52,37,275.00	38,66,000.00
Investments from Earmarked / Endowment Fund	5		
Long Term		-	-
Short Term		-	-
Investments-Others	6	-	-
Current Assets	7	21,40,76,006.00	12,75,84,844.00
Loans, Advances and Deposits	8	81,14,24,683.00	36,19,671.00
Total		**1,35,73,00,687.00**	**50,54,84,756.00**

-

Significant Accounting Policies	23	-
Contingent Liabilities and Notes to Accounts	24	

For and on behalf of National Institute of Technology Sikkim

Director | Registrar | Assistant Registrar

Date: 28.08.2024

Place: Ravangla, South Sikkim

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31st MARCH 2024

Amount in Rupees

Particulars	Sch No	Current Year 31.03.2024	Previous Year 31.03.2023
INCOME			
Academic Receipts	9	3,75,38,085.00	4,53,21,653.00
Grants/ Subsidies	10	24,87,96,136.00	20,11,95,608.00
Income from Investments	11	65,28,913.00	29,47,130.00
Interest Earned	12	2,39,655.00	3,06,250.00
Other Income	13	16,64,000.00	14,57,801.00
Prior Period Income	14	27,81,887.00	7,88,168.00
Total (A)		**29,75,48,676.00**	**25,20,16,610.00**
EXPENDITURE			
Staff Payments and Benefits			
(Establishment Expenses)	15	15,17,64,617.84	12,67,83,555.00
Academic Expenses	16	3,78,66,278.00	2,23,00,496.00
Administrative and General Expenses	17	5,78,47,464.00	5,38,44,232.00
Transportation Expenses	18	14,69,625.00	15,84,132.00
Repairs and Maintainence	19	1,02,85,182.00	72,87,632.00
Finance Costs	20	27,118.00	62,788.00
Depreciation	4	5,91,29,238.00	6,81,58,202.00
Other Expenses	21	-	-
Prior Period Expenses	22	4,00,244.00	91,06,000.00
Total (B)		31,87,89,766.84	28,91,27,037.00
Balance being excess of Income			
over Expenditure (A-B)		-2,12,41,090.84	-3,71,10,427.00
Transfer to/ from Designated Fund		-	-
Building Fund		-	-
Deffered Revenue Income - Deprecation		5,91,29,238.00	-
Balance being surplus/deficit carried over to			
Capital Fund		3,78,88,147.16	-3,71,10,427.00
Significant Accounting Policies	23		
Contingent Liabilities and Notes to Accounts	24		

For and on behalf of National Institute of Technology Sikkim

Director | Registrar | Assistant Registrar

Date: 28.08.2024

Place: Ravangla, South Sikkim

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

RECEIPT AND PAYMENTS ACCOUNT

FOR THE YEAR ENDED 31st MARCH 2024

RECEIPTS	Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)	PAYMENTS	Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
1. Opening Balance			1. Expenses		
a) Cash Balances	50,000.00	53,000.00	a) Establishment Expenses	13,36,53,119.84	11,59,25,754.00
b) Bank Balances-Project	24,277.00	33,85,614.00	b) Academic Expenses	3,51,32,738.00	2,05,93,893.00
c) Bank Balances			c) Administrative Expenses	5,53,45,965.00	5,35,50,137.00
i) Current Accounts	83,63,129.00	56,89,760.00	d) Transportation Expenses	14,69,625.00	13,94,894.00
ii) in Deposit Accounts	9,73,82,622.00	6,24,63,082.00	e) Repiars and Maintainence	97,75,852.00	72,87,632.00
iii) Savings Accounts	2,13,84,308.00	2,55,58,978.00	f) Prior period expenses	4,00,244.00	91,06,000.00
iv) Project a/c	-	-	g) Finance Cost	27,118.00	62,788.00
iv) Grant in Transit	-	-			
2. Grants received			2. Payments against earmarked/		
a) From Government of India	1,07,28,00,000.00	26,17,00,000.00	Endowment fund	56,61,583.00	29,09,403.00
b) From Other Sources (Details)	-	-			
(Grants for capital & revenue expenditure to be shown seperately if available)			3. Payments against sponsored projects/ Schemes	91,65,158.00	70,39,183.00
3. Academic Receipts	3,99,01,830.00	4,67,27,985.00	4.Payments against sponsored fellowship/ Scholarships	-	4,24,922.00
4. Receipts against Earmarked / Endowment fund	56,58,428.00	28,59,403.00			
Balance c/f to previous page..	1,24,55,64,594.00	40,84,37,822.00	Balance c/f to previous page..	25,06,31,402.84	21,82,94,606.00
Balance b/f from previous page..	1,24,55,64,594.00	40,84,37,822.00	Balance b/f from previous page..	25,06,31,402.84	21,82,94,606.00
5.Receipts against Sponsored projects/ Schemes	1,90,62,233.00	67,465.00	5. Investments and deposits made		
			a) Out of Earmarked / Endowment funds		
			b) Out of own funds		
6. Receipt against sponsored fellowship and scholarship	-	58,117.00	6. Term Deposits with scheduled banks	-	-
			7. Refund of Grants	30,73,131.00	-
7. Income on Investments from			8. Expenditure on Fixed Assets and		
a) Earmarked funds	-	-	Intangiable Fixed Assets		
			Computer Software	-	-
			Capital work in progress	13,71,275.00	38,66,000.00
			Tangible Fixed Assets		
8. Interest received on			a) Computer and peripherals	3,39,499.00	59,19,136.00
a) Bank Deposits	65,28,913.00	29,47,130.00	b) Office Equipments	1,25,383.00	10,09,528.00
b) Flexi Deposit	-	-	c) Lib Books & Scientific Journals	6,68,276.00	10,05,866.00
c) Savings bank account	2,39,655.00	94,08,610.00	d) Scientific and Lab Equipments	26,19,162.00	1,11,64,659.00
			e) Plant & Machinery	-	5,78,990.00
9. Investments encashed	-	-	f) Other Fixed Assets	19,500.00	-
			g) Furniture Fixture and Fittings	34,97,654.00	33,85,031.00

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

RECEIPT AND PAYMENTS ACCOUNT

FOR THE YEAR ENDED 31st MARCH 2024

RECEIPTS	Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)	PAYMENTS	Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
10. Term deposits with scheduled banks	1,00,00,000.00	-	h) Tubewells and Water Supply	12,000.00	-
encashed			i) Temporary Shed	-	1,66,742.00
			j) Audio Visual Equipment	38,31,118.00	1,79,991.00
			k) Electrical Installation and Equip.	8,39,170.00	29,324.00
			l) E. Journals	60,66,803.00	-
			m) Vehicle	26,74,446.00	-
			n) Sports Equipment	1,82,800.00	2,57,349.00
			9. Other payments inc. Statutory payments	2,64,57,581.00	3,42,38,667.00
	1,28,13,95,395.00	42,09,19,144.00		30,24,09,200.84	28,00,95,889.00
Balance b/f from previous page..	1,28,13,95,395.00	42,09,19,144.00	Balance b/f from previous page..	30,24,09,200.84	28,00,95,889.00
			10. Deposits and advances	80,31,05,919.00	10,72,293.00
11.Other Income (excluding prior period)	16,64,000.00	6,69,633.00			
			11. Other Payments (Grants trf. to MHRD)	-	3,29,41,776.00
12. Deposits, Debtors and Advances	45,32,237.84	7,33,471.00			
			12. Closing Balance		
13. Miscellaneous recipts including			a) Cash Balances	50,000.00	50,000.00
Statutory Receipts	2,22,71,213.00	1,78,89,202.00	b) Bank Balances		
			i) Current Accounts	1,64,67,635.00	83,63,129.00
14. Earnest Money Deposit	61,42,625.00	6,93,016.00	ii) in Deposit Accounts	13,20,39,225.00	9,73,82,622.00
			iii) Savings Accounts	6,22,26,859.00	2,13,84,308.00
15. Any other Receipts	3,18,294.00	4,09,828.00	iv) Project a/c	24,926.00	24,277.00
			iv) Grant in Transit	-	-
	1,31,63,23,764.84	44,13,14,294.00		1,31,63,23,764.84	44,13,14,294.00

For and on behalf of National Institute of Technology Sikkim

Director | Registrar | Assistant Registrar

Date: 28.08.2024

Place: Ravangla, South Sikkim

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-1: CORPUS/ CAPITAL FUND

Amount in Rupees

	Corpus Fund	Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
	Balance at the begining of the year	42,51,15,379.00	43,46,63,190.00
Add:	Contribution towards Corpus/ Capital fund	1.00	
Add:	Grants from UGC, Government of India and		
	State Government to the extent utilized for		
	Capital Expenditure	-	2,75,62,616.00
Add:	Assets purchased out of Earmarked fund	-	-
Add:	Assets purchased out of Sponsored Projects,		
	where ownership vests in the institutions	-	-
Add:	Assets donated/ gifts received	-	-
Add:	Other Additions	-	-
Less:	Assets Capatilised transfer to Capital Fund	37,42,80,241.00	
Add:	Excess of Income over Expenditure transferred		
	from Income and Expenditure Account	3,78,88,147.00	-3,71,10,427.00
	Balance at the year end (A)	8,87,23,286.00	42,51,15,379.00
	Capital Fund	**Current Year 31.03.2024 (Rs)**	**Previous Year 31.03.2023 (Rs)**
	Balance at the begining of the year	37,42,80,241.00	-
Add:	Contribution towards Corpus/ Capital fund		
Add:	Grants from UGC, Government of India and	2,22,47,087.00	
	State Government to the extent utilized for		
	Capital Expenditure		-
Add:	Assets purchased out of Earmarked fund	-	-
Add:	Assets purchased out of Sponsored Projects,		
	where ownership vests in the institutions	-	-
Add:	Assets donated/ gifts received	-	-
Less:	Deprecation on Capital Assets	5,92,70,392.00	-
Add:	Excess of Income over Expenditure transferred		
	from Income and Expenditure Account	-	-
	Balance at the year end (B)	**33,72,56,936.00**	**-**
	Total (A+B)	**42,59,80,222.00**	**42,51,15,379.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-2 : DESIGNATED / EARMARKED/ ENDOWMENT FUND

Amount in Rupees

PARTICULARS		FUNDWISE BREAKUP								Current Year	Previous Year
		Fund	Fund	Fund	Fund	Fund	Fund	Fund	ESDP	31.03.2024	31.03.2023
		CSAB	DOE & SM Workshop	DASA	CCMT	Sustabnility	CUET Project	CSTT MHRD		Funds	(Rs)
A)											
a)	Opening Balance	-	-	-	-	94,24,289.00	-	-	-	94,24,289.00	97,53,505.00
b)	Additions during the year	2,59,928.00		10,000.00	3,88,500.00	-	-	-	50,00,000.00	56,58,428.00	28,59,403.00
c)	Income from Investments made of the funds	.								-	-
d)	Accrued interest on Investments/ Advances									-	-
e)	Interest on Savings Bank A/c									-	-
f)	Other Additions (Employer contribution)							-		-	8,841.00
	Total (A)	**2,59,928.00**	**-**	**10,000.00**	**3,88,500.00**	**94,24,289.00**	**-**	**-**	**50,00,000.00**	**1,50,82,717.00**	**1,26,21,749.00**
B)											
	Utilization. Expenditure towards objective of funds									-	-
i)	Capital Expenditue	.								-	-
ii)	Revenue Expenditue	2,59,928.00	-	10,000.00	3,88,500.00	-	-	-	50,13,155.00	56,71,583.00	31,97,460.00
iii)	**Refund**						**-**			**-**	**-**
										-	**-**
	Total (B)	**2,59,928.00**	**-**	**10,000.00**	**3,88,500.00**	**-**	**-**	**-**	**50,13,155.00**	**56,71,583.00**	**31,97,460.00**
										-	-
	Closing Balances at the year end (A-B)	-	-	-	-	94,24,289.00	-	-	-13,155.00	94,11,134.00	94,24,289.00
	Represented by										
	Cash and Bank Balances	-	-	-	-	94,24,289.00	-		-13,155.00	94,11,134.00	94,24,289.00
	Investments										
	Interest accrued but not due										
	Total	**-**	**-**	**-**	**-**	**94,24,289.00**	**-**		**-13,155.00**	**94,11,134.00**	**94,24,289.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-2A: ENDOWMENT FUND

Amount in Rupees

	Name of the Endowment Fund	Opening Balance		Additions during the year		Total		Expenditure on the object during the year	Opening Balance		Total
		Endowment	Accumulated Interest	Endowment	Interest	Endowment	Accumulated Interest		Endowment	Accumulated Interest	
1	2	3	4	5	6	7	8	9	10	11	12
						(3+5)	(4+6)				(10+11)
A)											
a)		-	-	-	-	-	-	-	-	-	-
b)											
c)											
d)											
e)											
f)											

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-3: CURRENT LIABILITIES AND PROVISIONS

Amount in Rupees

		Current Year 31.03.2024	Previous Year 31.03.2023
A	**CURRENT LIABILITIES**		
1	Deposits from Suppliers	25,99,910.00	17,69,528.00
2	Deposits from Students	1,44,31,820.00	1,36,36,061.00
3	**Sundry Creditors**		
a)	For Goods and Services	45,98,730.00	25,93,629.00
b)	Others	5,99,140.00	9,92,708.00
4	Deposit-Others (including EMD, Security Deposit)	90,39,387.00	22,59,790.00
5	Statutory Liabilities		
	(GPF,TDS,WC Tax,CPF,GIS, NPS)		
a)	Overdue	2,07,46,675.00	31,30,805.00
b)	Others	2,622.00	2,622.00
6	Other Current Liabilities		
a)	Salary & Wages	94,12,703.00	61,259.00
b)	Receipts against Sponsored projects	1,16,07,544.00	11,77,184.00
c)	Receipts against Sponsored fellowship and scholarship	-	58,117.00
d)	Unutilised Grants	79,86,83,646.00	-
e)	Medical Board Fund	3,71,001.00	3,61,001.00
f)	CPF Fund	4,11,455.00	4,11,455.00
g)	Fellowship/Scholarship Payable	27,91,658.00	-
h)	Chief Warden Fund	41,51,389.00	91,72,922.00
i)	Other Liabilities	7,77,521.00	4,88,981.00
g)	Alumini Association Fees	1,25,805.00	1,25,805.00
h)	Hostel Mess & Staff Welfare Fund	11,18,055.00	11,18,055.00
i)	Society Fee	3,68,257.00	2,02,903.00
j)	Advance Fees	56,52,406.00	12,22,027.00
k)	Fees Remission Payable	26,74,768.00	9,32,093.00
l)	Project Fund	7,36,093.00	
m)	**Student Activities Fund**	**43,014.00**	
n)	**Saving Interest payable to Ministry**	**-**	**91,02,360.00**
	Total (A)	**89,09,43,599.00**	**4,88,19,305.00**
B)	**PROVISIONS**		
1	For Taxation	-	-
2	Gratuity	1,78,29,999.00	1,19,81,320.00
3	Superannuation Pension	-	-
4	Accumulated Leave Encashment	1,29,94,579.00	1,01,44,463.00
5	Trade Warranties/ Claims	-	-
6	Others (Specify)	-	-
	Total (B)	**3,08,24,578.00**	**2,21,25,783.00**
	Total (A+B)	**92,17,68,177.00**	**7,09,45,088.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-3A: SPONSORED PROJECTS

Amount in Rupees

1	2	3	4	5	6	7	8	9
Sl No	Name of Project	Opening Balance		Receipts/ Recovries during the year	Total	Expenditure during the year	Closing Balance	
		Credit	Debit				Credit	Debit
1	SERB Matrix	730.00		-	730.00	730.00	-	
2	Others	2,95,758.00		-	2,95,758.00	-	2,95,758.00	
3	SERB-T Kundu	2,00,000.00		-	2,00,000.00	-	2,00,000.00	
5	IHUB Divyasampark	-		93,92,119.00	93,92,119.00	6,18,096.00	87,74,023.00	
6	Visvesvaraya	-	5,03,535.00	1,95,113.00	-3,08,422.00	8,695.00		3,17,117.00
7	Meity - CCBT	2,013.00	-	68.00	2,081.00	2,013.00	68.00	
8	DST - Achintesh Narayan	83.00		-	83.00	83.00	-	
9	UDHD Project	73,318.00		-	73,318.00		73,318.00	
10	DST - ICPS	2,068.00		44.00	2,112.00	-	2,112.00	
11	NMHS Project	-	1,10,149.00	550.00	-1,09,599.00	1,06,582.00		2,16,181.00
12	CSSR - COVID	260.00	-	-	260.00	260.00	-	
13	NAMPET	12,51,001.00	-	-	12,51,001.00	6,39,365.00	6,11,636.00	
14	SERB Project	-	34,376.00	10,00,000.00	9,65,624.00	9,37,846.00	27,778.00	
15	CCBT - Meity (R&D)	-	-	27,75,476.00	27,75,476.00	27,75,476.00	-	
16	DRDO Project	-	-	5,80,983.00	5,80,983.00	5,61,012.00	19,971.00	
17	DST Project (Dr. Pradeed Kr.)	-	-	15,57,880.00	15,57,880.00	-	15,57,880.00	
18	ED & IC Project	-	-	45,000.00	45,000.00	-	45,000.00	
19	SMDP C2SD Project	-	-	35,15,000.00	35,15,000.00	35,15,000.00	-	
	Total	18,25,231.00	6,48,060.00	1,90,62,233.00	2,02,39,404.00	91,65,158.00	1,16,07,544.00	5,33,298.00

Schedule-3B : SPONSORED FELLOWSHIP AND SCHOLARSHIPS

Amount in Rupees

1	2	3	4	5	6	3	4
Sl No	Name of Sponsor	Opening Balance as on 01.04.2023		Transactions during the year		Closing Balance as on 31.03.2024	
		Credit	Debit	Credit	Debit	Credit	Debit
	University Grants Commission						
	Ministry						
	Top Class Scholarship for ST	-	-	-	-	-	-
	Top Class Scholarship for SC	-	-	-	-	-	
	Others Regional states	-	-	-	-	-	
	Others (Specify)	-	-	-	-	-	
	Total	**-**		**-**	**-**	**-**	

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-3C: UNUTILISED GRANT FROM UGC, GOVERNMENT OF INDIA AND STATE GOVERNMENTS

Amount in Rupees

		Current Year	Previous Year
		31.03.2024 (Rs)	31.03.2023 (Rs)
A	**Plan Grants: Government of India**		
	Balance B/f		
	Add: Receipts during the year	1,07,28,00,000.00	26,17,00,000.00
	Less: Refund	30,73,131.00	3,29,41,776.00
	Less: Utilized for Revenue Expenditure	24,87,96,136.00	20,11,95,608.00
	Less: Utilized for Capital Expenditure	2,22,47,087.00	2,75,62,616.00
	Unutilized Carried ForwardTotal (A)	**79,86,83,646.00**	**-**
B	**UGC Grant: Plan**		
	Balance B/f		
	Add: Receipts during the year		
	Less: Refund		
	Less: Utilized for Revenue Expenditure		
	Unutilized Carried ForwardTotal (B)		
C	**UGC Grant: Non Plan**		
	Balance B/f		
	Add: Receipts during the year		
	Less: Refund		
	Less: Utilized for Revenue Expenditure		
	Unutilized Carried ForwardTotal (C)		
D	**Grants from State Govt.**		
	Balance B/f		
	Add: Receipts during the year		
	Less: Refund		
	Less: Utilized for Revenue Expenditure		
	Unutilized Carried ForwardTotal (D)		
	Total (A+B+C+D)	**79,86,83,646.00**	**-**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-4 : FIXED ASSETS

Amount in Rupees

			GROSS BLOCK				DEPRECIATION				NET BLOCK	
Sl No	Asset Heads	Rate %	Op Balance 01.04.2023	Additions/ Deletion	Deductions	Cl. Balance 31.03.2024	Op Balance 01.04.2023	Dep. For the year	Deductions/ Adjustments	Cl. Balance 31.03.2024	As On 31.03.2024	As On 31.03.2023
1	Land		-	1.00		1.00	-	-	-	-	1.00	-
2	Site Development		5,64,91,485.00	-		5,64,91,485.00	-	-		-	5,64,91,485.00	5,64,91,485.00
3	Buildings	2%	3,48,36,595.00	-		3,48,36,595.00	59,11,378.80	6,96,732.00		66,08,110.80	2,82,28,484.00	2,89,25,216.00
4	Roads & Bridges	2%	1,73,66,015.00	-		1,73,66,015.00	6,94,640.00	3,47,320.00		10,41,960.00	1,63,24,055.00	1,66,71,375.00
5	Temporary Shed	33%	1,98,05,702.00	-		1,98,05,702.00	1,96,93,985.00	1,11,717.00		1,98,05,702.00	-	1,11,717.00
6	Prefab	20%	15,46,82,947.00	-	55,98,092.00	14,90,84,855.00	8,98,02,378.00	2,98,16,971.00	33,58,855.00	11,62,60,494.00	3,28,24,361.00	6,48,80,569.00
7	Tubewells and Water Supply	2%	4,24,809.00	12,000.00		4,36,809.00	52,579.00	8,736.00		61,315.00	3,75,494.00	3,72,230.00
8	Sewerage and Drainage	2%	-	-		-	-	-		-	-	-
9	Electrical Installation and Equip.	5%	5,02,71,736.00	8,39,170.00		5,11,10,906.00	1,39,19,713.00	25,55,545.00		1,64,75,258.00	3,46,35,648.00	3,63,52,023.00
10	Plant and Machinery	5%	33,42,681.00	-		33,42,681.00	10,67,802.10	1,67,134.00		12,34,936.10	21,07,745.00	22,74,879.00
11	Scientific and Laboratory Equip.	8%	10,37,58,467.00	26,19,162.00	-	10,63,77,629.00	3,21,70,891.00	85,10,210.00	-	4,06,81,101.00	6,56,96,528.00	7,15,87,576.00
12	Office / Mess Equipment	7.50%	1,61,10,660.00	1,25,383.00		1,62,36,043.00	1,03,86,478.08	12,56,907.00	39,204.00	1,16,04,181.08	46,31,862.00	57,24,182.00
13	Audio Visual Equipment	7.50%	2,04,49,235.00	38,31,118.00		2,42,80,353.00	57,64,611.00	18,21,026.00		75,85,637.00	1,66,94,716.00	1,46,84,624.00
14	Computer and Peripherals	20%	11,39,35,395.00	3,39,499.00		11,42,74,894.00	7,44,85,459.00	79,57,887.00	-	8,24,43,346.00	3,18,31,548.00	3,94,49,936.00
15	Furniture Fixture and Fittings	7.50%	5,53,70,178.00	34,97,654.00		5,88,67,832.00	2,76,05,300.80	44,15,087.00	-	3,20,20,387.80	2,68,47,444.00	2,77,64,877.00
16	Sports Equipments	10%	25,66,028.00	1,82,800.00		27,48,828.00	18,85,662.45	2,74,883.00		21,60,545.45	5,88,283.00	6,80,366.00
17	Lib Books & Scientific Journals	10%	1,09,95,570.00	6,68,276.00	-	1,16,63,846.00	1,00,54,297.00	11,66,385.00	-	1,12,20,682.00	4,43,164.00	9,41,273.00
18	Vehicle	10%	70,70,910.00	26,74,446.00		97,45,356.00	43,45,191.00	9,74,536.00		53,19,727.00	44,25,629.00	27,25,719.00
19	Small Value Assets	100%	3,80,159.00	19,500.00		3,99,659.00	3,80,159.00	19,500.00		3,99,659.00	-	-
	Total (A)		**66,78,58,572.00**	**1,48,09,009.00**	**55,98,092.00**	**67,70,69,489.00**	**29,82,20,525.23**	**6,01,00,576.00**	**33,98,059.00**	**35,49,23,042.23**	**32,21,46,447.00**	**36,96,38,047.00**
20	Capital Work in Progress - Building		-	-		-	-	-		-	-	-
21	Capital Work in Progress- Electrical		-	-		-	-	-		-	-	-
22	Pre Construction Expenses (New Campus)		38,66,000.00	13,71,275.00		52,37,275.00					52,37,275.00	38,66,000.00
	Total (B)		**38,66,000.00**	**13,71,275.00**		**52,37,275.00**					**52,37,275.00**	**38,66,000.00**
23	Computer Software	40%	52,47,447.00	-	-	52,47,447.00	52,47,446.00	-		52,47,446.00	1.00	1.00
24	E. Journals	40%	4,03,55,142.00	60,66,803.00	-	4,64,21,945.00	3,95,78,949.00	24,26,721.00	-	4,20,05,670.00	44,16,275.00	7,76,193.00
	Total (C)		**4,56,02,589.00**	**60,66,803.00**	**-**	**5,16,69,392.00**	**4,48,26,395.00**	**24,26,721.00**	**-**	**4,72,53,116.00**	**44,16,276.00**	**7,76,194.00**
	Total (A+B+C)		**71,73,27,161.00**	**2,22,47,087.00**	**55,98,092.00**	**73,39,76,156.00**	**34,30,46,920.23**	**6,25,27,297.00**	**33,98,059.00**	**40,21,76,158.23**	**33,17,99,998.00**	**37,42,80,241.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-4A : PLAN

Amount in Rupees

Sl No	Asset Heads	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK	
			Op Balance 31.03.2023	Additions	Deductions	Cl. Balance 31.03.2024	Op Balance 31.03.2023	Dep. For the year	Deductions/ Adjustments	Cl. Balance 31.03.2024	As On 31.03.2024	As On 31.03.2023
1	Land		-	1.00		1.00	-				1.00	
2	Site Development		5,64,91,485.00	-		5,64,91,485.00	-	-		-	5,64,91,485.00	5,64,91,485.00
3	Buildings	2%	3,48,36,595.00	-		3,48,36,595.00	59,11,378.80	6,96,732.00		66,08,110.80	2,82,28,484.00	2,89,25,216.00
4	Roads & Bridges	2%	1,73,66,015.00	-		1,73,66,015.00	6,94,640.00	3,47,320.00		10,41,960.00	1,63,24,055.00	1,66,71,375.00
4	Temporary Shed	33%	1,98,05,702.00	-		1,98,05,702.00	1,96,93,985.00	1,11,717.00		1,98,05,702.00	-	1,11,717.00
5	Prefab	20%	15,46,82,947.00	-	55,98,092.00	14,90,84,855.00	8,98,02,378.00	2,98,16,971.00	33,58,855.00	11,62,60,494.00	3,28,24,361.00	6,48,80,569.00
6	Tubewells and Water Supply	2%	4,24,809.00	12,000.00		4,36,809.00	52,579.00	8,736.00		61,315.00	3,75,494.00	3,72,230.00
7	Sewerage and Drainage		-	-		-	-	-		-	-	-
8	Electrical Installation and Equip.	5%	5,02,71,736.00	8,39,170.00		5,11,10,906.00	1,39,19,713.00	25,55,545.00		1,64,75,258.00	3,46,35,648.00	3,63,52,023.00
9	Plant and Machinery	5%	33,42,681.00	-		33,42,681.00	10,67,802.10	1,67,134.00		12,34,936.10	21,07,745.00	22,74,879.00
10	Scientific and Laboratory Equip.	8%	10,37,58,467.00	26,19,162.00		10,63,77,629.00	3,21,70,891.00	85,10,210.00		4,06,81,101.00	6,56,96,528.00	7,15,87,576.00
11	Office Equipment	7.50%	1,61,10,660.00	1,25,383.00		1,62,36,043.00	1,03,86,478.08	12,56,907.00	39,204.00	1,16,04,181.08	46,31,862.00	57,24,182.00
12	Audio Visual Equipment	7.50%	2,04,49,235.00	38,31,118.00		2,42,80,353.00	57,64,611.00	18,21,026.00		75,85,637.00	1,66,94,716.00	1,46,84,624.00
13	Computer and Peripherals	20%	11,39,35,395.00	3,39,499.00		11,42,74,894.00	7,44,85,459.00	79,57,887.00	-	8,24,43,346.00	3,18,31,548.00	3,94,49,936.00
14												
15	Furniture Fixture and Fittings	7.50%	5,53,70,178.00	34,97,654.00		5,88,67,832.00	2,76,05,300.80	44,15,087.00	-	3,20,20,387.80	2,68,47,444.00	2,77,64,877.00
16	Sports Equipments	5%	25,66,028.00	1,82,800.00		27,48,828.00	18,85,662.45	2,74,883.00		21,60,545.45	5,88,283.00	6,80,366.00
17	Lib Books & Scientific Journals	10%	1,09,95,570.00	6,68,276.00		1,16,63,846.00	1,00,54,297.00	11,66,385.00		1,12,20,682.00	4,43,164.00	9,41,273.00
18	Vehicle	10%	70,70,910.00	26,74,446.00		97,45,356.00	43,45,191.00	9,74,536.00		53,19,727.00	44,25,629.00	27,25,719.00
19	Small Value Assets	100%	3,80,159.00	19,500.00		3,99,659.00	3,80,159.00	19,500.00		3,99,659.00	-	-
	Total (A)		**66,78,58,572.00**	**1,48,09,009.00**	**55,98,092.00**	**67,70,69,489.00**	**29,82,20,525.23**	**6,01,00,576.00**	**33,98,059.00**	**35,49,23,042.23**	**32,21,46,447.00**	**36,96,38,047.00**
20	Capital Work in Progress - Building		-	-		-					-	-
21	Capital Work in Progress- Electrical		-	-		-					-	-
22	Pre Construction Expenses (New Campus)		38,66,000.00	13,71,275.00		52,37,275.00					52,37,275.00	38,66,000.00
	Total (B)		**38,66,000.00**	**13,71,275.00**		**52,37,275.00**					**52,37,275.00**	**38,66,000.00**
23	Computer Software	40%	52,47,447.00	-		52,47,447.00	52,47,446.00	-	-	52,47,446.00	1.00	1.00
24	E. Journals	40%	4,03,55,142.00	60,66,803.00		4,64,21,945.00	3,95,78,949.00	24,26,721.00		4,20,05,670.00	44,16,275.00	7,76,193.00
	Total (C)		**4,56,02,589.00**	**60,66,803.00**		**5,16,69,392.00**	**4,48,26,395.00**	**24,26,721.00**		**4,72,53,116.00**	**44,16,276.00**	**7,76,194.00**
	Total (A+B+C)		**71,73,27,161.00**	**2,22,47,087.00**	**55,98,092.00**	**73,39,76,156.00**	**34,30,46,920.23**	**6,25,27,297.00**	**33,98,059.00**	**40,21,76,158.23**	**33,17,99,998.00**	**37,42,80,241.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-4B: NON PLAN

Amount in Rupees

Sl No	Asset Heads		GROSS BLOCK				DEPRECIATION				NET BLOCK	
		Rate %	Op Balance 31.03.2023	Additions	Deductions	Cl. Balance 31.03.2024	Op Balance 31.03.2023	Dep. For the year	Deductions/ Adjustments	Cl. Balance 31.03.2024	As On 31.03.2024	As On 31.03.2023
1	Land											
2	Site Development											
3	Buildings											
4	`Roads and Bridges											
5	Tubewells and Water Supply											
6	Sewerage and Drainage											
7	Electrical Installation and Equip.											
8	Plant and Machinery											
9	Scientific and Laboratory Equip.											
10	Office Equipment											
11	Audio Visual Equipment											
12	Computer and Peripherals											
13	Furniture Fixture and Fittings											
14	Vehicles											
15	Library Books & Scientific											
	Journals											
16	Small Value Assets											
	Total (A)											
17	Capital Work in Progress											
	Total (B)											
18	Computer Software											
19	E. Journals											
20	Patents											
	Total (C)											
	Total (A+B+C)											

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-4C: INTANGIBLE ASSETS

Amount in Rupees

Sl No	Asset Heads	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK	
			Op Balance 31.03.2023	Additions	Deductions	Cl. Balance 31.03.2024	Op Balance 01.04.2023	Dep. For the year	Deductions/ Adjustments	Cl. Balance 31.03.2024	As On 31.03.2024	As On 31.03.2023
1	Patents & Copyrights		-									
2	Computer Software	40%	52,47,447.00	-		52,47,447.00	52,47,446.00	-		52,47,446.00	1.00	1.00
3	E. Journals	40%	4,03,55,142.00	60,66,803.00		4,64,21,945.00	3,95,78,949.00	24,26,721.00		4,20,05,670.00	44,16,275.00	1.00
	Total (A)	**40%**	**4,56,02,589.00**	**60,66,803.00**	**-**	**5,16,69,392.00**	**4,48,26,395.00**	**24,26,721.00**	**-**	**4,72,53,116.00**	**44,16,276.00**	**2.00**

Schedule-4C (i): PATENTS AND COPYRIGHTS

Sl No	Particulars	Op Balance 31.03.2023	Additions	Gross	Amortization	Net Block 31.03.2024	Net Block 31.03.2023
À	**Patents Granted**						
1	Balance as on 31.03.2023 of patents obtained in (Original value Rs.....)						
2	Balance as on 31.03.2023 of patents obtained in (Original value Rs.....)						
3	Balance as on 31.03.2023 of patents obtained in (Original value Rs.....)						
4	Patents granted during the Current Year						
	Total (A)						

Sl No	Particulars	Op Balance 31.03.2023	Additions	Gross	Amortization	Net Block 31.03.2024	Net Block 31.03.2023
B	**Patents pending in respect of Patents applied for**						
1	Expenditure incurred during						
2	Expenditure incurred during						
3	Expenditure incurred during						
	Total (A)						
	Grand Total (A+B)						

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-4D : NON PLAN

Amount in Rupees

Sl No	Asset Heads	Rate %	GROSS BLOCK				DEPRECIATION				NET BLOCK	
			Op Balance 31.03.2023	Additions	Deductions	Cl. Balance 31.03.2024	Op Balance 31.03.2023	Dep. For the year	Deductions/ Adjustments	Cl. Balance 31.03.2024	As On 31.03.2024	As On 31.03.2023
1	Land											
2	Site Development											
3	Buildings											
4	`Roads and Bridges											
5	Tubewells and Water Supply											
6	Sewerage and Drainage											
7	Electrical Installation and Equip.											
8	Plant and Machinery											
9	Scientific and Laboratory Equip.											
10	Office Equipment											
11	Audio Visual Equipment											
12	Computer and Peripherals											
13	Furniture Fixture and Fittings											
14	Vehicles											
15	Library Books & Scientific Journals											
16	Small Value Assets											
	Total (A)											
17	Capital Work in Progress											
	Total (B)											

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-5: INVESTMENTS FROM EARMARKED ENDOWMENT FUNDS

Amount in Rupees

		Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
1	In Central Government Securities		
2	In State Government Securities		
4	Other Approved Securities		
3	Shares		
4	Debenture and Bonds		
5	Term Deposit with Banks		
6	Others (to be Specify)		
	Total (A+B+C+D)	-	-

Schedule-5A: INVESTMENTS FROM EARMARKED ENDOWMENT FUNDS (FUND WISE)

			Current Year 31.03.2024	Previous Year 31.03.2023
1				
2				
3				
4				
5				
		Endowment Fund Investments		
		Total	**-**	**-**

Schedule-6: INVESTMENTS-OTHERS

		Current Year 31.03.2024	Previous Year 31.03.2023
1	In Central Government Securities		
2	In State Government Securities		
4	Other Approved Securities		
3	Shares		
4	Debenture and Bonds		
5	Term Deposit with Banks		
6	Others (to be Specify)		
	Total	**-**	**-**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-7: CURRENT ASSETS

Amount in Rupees

			Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
1	Stock			
	a)	Stores and Spares	-	-
	b)	Loose Tools	-	-
	c)	Publications	-	-
	d)	Laboratory Chemicals, Comumables and glassware	-	-
	e)	Building Materials	9,07,985.00	5,64,813.00
	f)	Electrical Material	-	-
	g)	Stationery	-	-
	h)	Water supply Material	-	-
	i)	Medicines	2,46,963.00	
2	Sundry Debtor			
	a)	Debts outstanding for a period of six months	45,779.00	-
	b)	Others	20,66,634.00	-1,84,305.00
3	Cash and Bank Balances			
	a)	With Scheduled Banks		
		- In current account	1,64,67,635.00	83,63,129.00
		- In term deposit account	13,20,39,225.00	9,73,82,622.00
		- In savings account	6,22,51,785.00	2,14,08,585.00
		- Grant in Transit	-	-
	b)	With Non-Scheduled Banks		
		- In term deposit account	-	-
		- In savings account	-	-
	c)	Cash in hand	50,000.00	50,000.00
4	Post Office Savings Account		-	-
		Total	**21,40,76,006.00**	**12,75,84,844.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Annexure-A

Amount in Rupees

			Current Year	Previous Year
			31.03.2024 (Rs)	31.03.2023 (Rs)
	I)	**Saving Account**		
	1	Grants from MHRD A/c	-	-
	2	University receipts A/c	5,53,91,222.00	1,51,75,830.00
	3	Scholarship A/c		
	4	Academic Fee Receipt A/c	31,665.00	36,43,055.00
	5	Development (Plan) A/c		
	6	Combined Entrance Exams (CBT) A/c		
	7	UGC Plan fellowship A/c		
	8	Corpus Fund A/c (EMF)		
	9	Sponsored Projects Fund A/c	24,926.00	24,277.00
	10	Sponsored Fellowship A/c		
	11	Endowment & Chair A/c (EMF)		
	12	UGC JRF Fellowship A/c (EMF)		
	13	HBA Fund A/c (EMF)		
	14	Conveyance A/c (EMF)		
	15	UGC Rajiv Gandhi National Fellowship A/C (EMF)		
	16	Academic Development Fund A/c (EMF)		
	17	Deposit A/c (Designated fund)		
	18	Student Fund A/c	68,03,972.00	25,65,423.00
	19	Student Aid Fund A/c		
	20	CPF Account	-	-
	II)	Current Account	1,64,67,635.00	83,63,129.00
	III)	Term Deposit with Schedule Banks	13,47,94,884.00	9,73,82,622.00
			21,35,14,304.00	**12,71,54,336.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-8 : LOANS, ADVANCES AND DEPOSITS

Amount in Rupees

			Current Year 31.03.2024 (Rs)	Previous Year 31.03.2023 (Rs)
1	**Advances to Employees (Non Interest Bearing)**			
	a)	Salary		
	b)	Festival		
	c)	Medical Advance		
	d)	Leave Travel Concession		
	e)	Others (Specify)	65,707.00	3,20,400.00
2	**Long Term Advances to Employees (Interest Bearing)**			
	a)	Vehicle Loan		
	b)	Home Loan		
	c)	Others (Specify)		
3	**Advances and other amounts recoverable in cash or In kind or for value to be received**			
	a)	On Capital Account - CPWD & NBCC	80,43,73,646.00	91,908.00
	b)	To Suppliers	10,000.00	10,000.00
	c)	NIT Calicut	1,18,150.00	1,18,150.00
	c)	Tax Deducted at Sources	95,268.00	1,44,793.00
	d)	CDAC	-	-
	e)	Uncleared Cheques	6,781.00	6,781.00
4	**Prepaid Expenses**			
	a)	Insurance		
	b)	Other Expenses (Annual Maintenance Charge)	-	-
5	**Deposits**			
	a)	Telephone		
	b)	Lease Rent		
	c)	Electricity		
	d)	AICTE, if applicable		
	f)	Others (Specify)		
6	**Income Accrued**			
	a)	On investments from Earmarked/ Endowment fund		
	b)	On Investments-Others	62,21,833.00	29,27,639.00
	c)	On Loans and Advances		
	d)	Others (Includes income due unrealized)		
7	**Other-Current assets receivable from UGC /sponsored projects**			
	a)	Debit balances in sponsored Projects	5,33,298.00	
	b)	Debit balances in sponsored Fellowship and Scholarship		
	c)	Grants receivable		
	d)	Other receivable froms from UGC		
8	**Claims Receivables**			
		Total	**81,14,24,683.00**	**36,19,671.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-9: ACADEMIC RECEIPTS

Amount in Rupees

			Current Year 31.03.2024	Previous Year 31.03.2023
Fees From Students				
A)	**Academics**			
	1	Tution Fee	1,81,31,395.00	2,35,55,937.00
	2	Admission Fee	1,38,803.00	1,26,710.00
	3	Enrolment Fee	-	-
	4	Library Fee	11,88,331.00	12,98,560.00
	5	Laboratory Fee	10,86,631.00	7,85,730.00
	6	Art & Craft Fee	-	-
	7	Registration Fee	4,11,683.00	5,34,446.00
		Total (A)	**2,09,56,843.00**	**2,63,01,383.00**
B)	**Examination**			
	1	Admission Fee	-	-
	2	Annual Examination Fee	10,03,077.00	10,10,110.00
	3	Marksheet, Certificate Fee	-	13,850.00
		Total (B)	**10,03,077.00**	**10,23,960.00**
C)	**Other Fees**			
	1	Identity Card Fee	-	-
	2	Fines/ Miscellaneous fees	61,420.00	4,82,034.00
	3	Medical Fee	6,09,528.00	8,14,880.00
	4	Training & Placement Fees	4,73,168.00	4,18,830.00
	5	Hostel Fee	89,09,000.00	1,01,44,250.00
	6	Bus Fees	3,71,060.00	6,79,140.00
	7	Hostel Admission Fee	69,000.00	68,500.00
		Total (C)	**1,04,93,176.00**	**1,26,07,634.00**
D	**Other Fees**			
	1	Sale of Publication	-	
	2	Sale of Admission Form	-	
	3	Sale of syllabous, Question paper,etc	-	
	4	Sale of prospectus including admission form	-	
		Total (D)		
E	**Other Academic Receipts**			
	1	Late Fine & Verification Fees	2,57,901.00	1,27,257.00
	2	Grade Card Fee	2,05,862.00	1,71,900.00
	3	Developemnt Fee	19,62,988.00	16,77,470.00
	4	Mess Establishment Fee	1,21,500.00	7,19,409.00
	5	Student Activity Fee	11,38,769.00	12,43,670.00
	6	Convocation	2,14,266.00	2,02,650.00
	7	Insurance Charges	5,48,484.00	4,65,450.00
	8	Internet Fee	5,47,562.00	3,94,180.00
	9	Others	87,657.00	3,86,690.00
		Total (E)	**50,84,989.00**	**53,88,676.00**
		Total (A to E)	**3,75,38,085.00**	**4,53,21,653.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-10 : GRANTS/ SUBSIDIES (IRRECOVERABLE GRANT RECEIVED)

Amount in Rupees

Particulars	PLAN			Total Plan	Non Plan UGC	Current Year	Previous Year
	Govt. of India	UGC					
		Plan	Specific Schemes				
Balance B/f	-	-	-	-	-	-	-
Add: Receipts during the year	1,07,28,00,000.00	-	-	1,07,28,00,000.00		1,07,28,00,000.00	26,17,00,000.00
Total	1,07,28,00,000.00	-		1,07,28,00,000.00		1,07,28,00,000.00	26,17,00,000.00
Less: Refund to MOE	30,73,131.00			30,73,131.00		30,73,131.00	3,29,41,776.00
Balance	1,06,97,26,869.00	-	-	1,06,97,26,869.00	-	1,06,97,26,869.00	22,87,58,224.00
Less:Utilized for Capital Expenditure (A)	2,22,47,087.00			2,22,47,087.00		2,22,47,087.00	2,75,62,616.00
Balance	1,04,74,79,782.00	-	-	1,04,74,79,782.00	-	1,04,74,79,782.00	20,11,95,608.00
Less: Utilized for Revenue Expenditure (B)	24,87,96,136.00			24,87,96,136.00		24,87,96,136.00	20,11,95,608.00
Balance C/f (C)	79,86,83,646.00	-	-	79,86,83,646.00	-	79,86,83,646.00	-

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-11: INCOME FROM INVESTMENTS

Amount in Rupees

Particulars	Earmarked/Endowment Fund		Other Investments	
	Current Year	Previous Year	Current Year	Previous Year
1. Interest				
a) Government Securities				
b) Other Bonds / Debentures				
2. Interest on Term Deposits	-		2,65,216.00	4,64,726.00
3.Income accrued but not due on				
Term Deposits/ interest bearing			62,33,080.00	24,82,404.00
advance to employees				
4.Interest on Savings Bank Accounts	-		-	-
5. Others (Interest on IT Refund)			30,617.00	-
	-	-	65,28,913.00	29,47,130.00
Transferred to Earmarked/ Endowment Fund				
Balance			65,28,913.00	29,47,130.00

Schedule-12: INTEREST EARNED

Amount in Rupees

Particulars			Current Year	Previous Year
1. On Savings Account with schedule bank			2,39,655.00	3,06,250.00
2. On Loans				
a) Employees / Staff			-	-
b) Others			-	-
3.Other Debtors and Other Receivables			-	-
Balance			2,39,655.00	3,06,250.00

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-13: OTHER INCOME

Amount in Rupees

	Particulars	Current Year	Previous Year
A	Income from Land and Building		
1	Hostel Room Rent	-	-
2	License Fee	69,150.00	66,590.00
3	Hire Charges of Auditorium/ playground	-	-
	/convention centre etc.	-	-
4	Electricity Charges recovered	3,32,142.00	2,66,160.00
5	Water Charges recovered	-	-
	Total (A)	4,01,292.00	3,32,750.00
B	Sale of Institute's publications	-	-
	Total (B)		
C	Income from Holding Events	-	-
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 for Educational Tour	-	-
	Less: Direct expenditure incurred on the tours	-	-
4	Others. (Students contribution)	-	-
	Total (C)	-	-
D	Others		
1	Income from Consultancy	-	5,16,933.00
2	RTI Fees	-	-
3	Income from Royalty	-	-
4	Sale of application form (Recruitment)	3,21,025.00	8,000.00
5	Misc. Receipts (Sale of tender form, waster paper, etc)	-	35,294.00
6	Profit on sale/ disposal of Assets	-	-
	a) Owned Assets	-	-
	b) Assets received free of cost	-	-
7	Grants/ Donations from institutions, welfare bodies and	-	-
	International organizations.	-	-
8	Recovery of Salary	3,48,969.00	7,000.00
9	PHD Enrollment Fees	1,08,655.00	1,29,300.00
10	Tender Fees	1,25,000.00	-
11	Transportation Charges recovered	-	-
12	Fines & Penalties	1,51,960.00	42,806.00
13	Other Income	25,013.00	-
14	Sale of Scrap	-	4,337.00
15	Overheads from Project	1,82,086.00	3,81,381.00
	Total (D)	12,62,708.00	11,25,051.00
	Grand Total (A to D)	**16,64,000.00**	**14,57,801.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-14 ; PRIOR PERIOD INCOME

Amount in Rupees

	Particulars	Current Year	Previous Year
1	Academic Receipts	-	1,88,622.00
2	Income from Investments	-	-
3	Interest Earned	-	-
4	Other Income	27,81,887.00	5,99,546.00
5	Reversal of Cheques	-	-
6	Recovery of HRA	-	-
	Total	**27,81,887.00**	**7,88,168.00**

Schedule-15: STAFF PAYMENTS AND BENEFITS (ESTABLISHMENT EXPENSES)

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
a)	Salaries and Wages	8,43,39,479.00		8,43,39,479.00	7,46,83,392.00		7,46,83,392.00
b)	Allowances and Bonus	3,68,33,210.00		3,68,33,210.00	2,56,60,400.00		2,56,60,400.00
c)	Contribution to Provident Fund	-		-	-		-
d)	Contribution to other fund (NPS)	1,14,28,611.84		1,14,28,611.84	93,13,210.00		93,13,210.00
e)	EL Encashment	6,83,612.00		6,83,612.00	6,82,832.00		6,82,832.00
f)	Retirement and terminal benefits	86,98,795.00		86,98,795.00	99,69,020.00		99,69,020.00
g)	LTC Facility	24,12,011.00		24,12,011.00	11,05,462.00		11,05,462.00
h)	Medical Facility	12,06,216.00		12,06,216.00	8,38,907.00		8,38,907.00
i)	Children Education Allowance	6,21,000.00		6,21,000.00	5,43,857.00		5,43,857.00
j)	Honarium	2,77,400.00		2,77,400.00	2,04,700.00		2,04,700.00
k)	Transport Allowance	31,52,230.00		31,52,230.00	27,77,511.00		27,77,511.00
l)	Arrear	18,30,510.00		18,30,510.00	8,68,715.00		8,68,715.00
m)	CPDA to Faculties	2,81,543.00		2,81,543.00	1,35,549.00		1,35,549.00
	Total	**15,17,64,617.84**		**15,17,64,617.84**	**12,67,83,555.00**		**12,67,83,555.00**

Schedule-15A: EMPLOYEES RETIREMENT AND TERMINAL BENEFITS

Amount in Rupees

	Particulars	Pension	Gratuity	Leave Eacashment	Total
	Opening Balance as on 01.04.2023		1,19,81,320.00	1,01,44,463.00	2,21,25,783.00
	Add: Capitilized value of contributions received from other Organizations		-	-	-
	Total (A)		1,19,81,320.00	1,01,44,463.00	2,21,25,783.00
	Less: Payments made during the year		-	-	-
	Balance available as on 31.03.2024		1,78,29,999.00	1,29,94,579.00	3,08,24,578.00
	Provisions required on 31.03.2024 as per actrual valuation		58,48,679.00	28,50,116.00	86,98,795.00
A.	Provision to be made in the current year				
B	Contribution to New Pension Scheme	1,14,28,611.84	-	-	1,14,28,611.84
C	Medical reimbursement to retired employees	-	-	-	-
D	Travel to hometown retirement	-	-	-	
E	Deposit Link Insurance payment				
	Total (A+B+C+D+E)	**1,14,28,611.84**	**58,48,679.00**	**28,50,116.00**	**5,09,51,984.84**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-16: ACADEMIC EXPENSES

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
a)	Laboratoy Expenses	5,99,776.00		5,99,776.00	1,16,989.00		1,16,989.00
b)	Curiculum Development Workshop Expenses	1,71,010.00		1,71,010.00	49,644.00		49,644.00
c)	Expenses on Seminars/ Workshops	5,52,096.00		5,52,096.00	75,899.00		75,899.00
d)	Payment to visitng faculty	18,97,001.00		18,97,001.00	-		-
e)	Examination Cell Expenses	1,39,200.00		1,39,200.00	2,98,000.00		2,98,000.00
f)	Student Medical Insurance	6,05,399.00		6,05,399.00	6,58,185.00		6,58,185.00
g)	Admission Expenses	-		-	-		-
h)	Convocation Expenses	16,79,271.00		16,79,271.00	11,41,280.00		11,41,280.00
i)	Publications & Subscription Expenses	55,245.00		55,245.00	-		-
j)	Stipned/means-cum merit scholarship / PHD Scholarship	-		-	12,750.00		12,750.00
k)	Mixed Signal & RF Circuit Design Project			-	-		-
l)	Student hostel fees refund			-	-		-
m)	Acamedic Expenses	1,06,605.00		1,06,605.00	1,56,409.00		1,56,409.00
n)	Sporting Activities	-		-	-		-
o)	M.Tech / PHD Fellowship	3,05,13,665.00		3,05,13,665.00	1,68,50,474.00		1,68,50,474.00
p)	Library Expenses	-		-	-		-
q)	Cultural Activities	12,01,094.00		12,01,094.00	23,72,351.00		23,72,351.00
r)	Registration Charges	2,05,268.00		2,05,268.00	76,682.00		76,682.00
s)	Traning & Placement	1,01,340.00		1,01,340.00	2,29,730.00		2,29,730.00
t)	PHD Scholar Contigency Expenses	-		-	-		-
u)	Other Miscellaneous Academic Expenses	39,308.00		39,308.00	2,62,103.00		2,62,103.00
	Total	**3,78,66,278.00**		**3,78,66,278.00**	**2,23,00,496.00**		**2,23,00,496.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-17: ADMINISTRATIVE AND GENERAL EXPENSES

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
A)	Infrastructure						-
a)	Electricity and power	19,74,990.00		19,74,990.00	15,34,590.00		15,34,590.00
b)	Water charges	6,120.00		6,120.00	3,840.00		3,840.00
c)	Insurance	-		-	-		-
d)	Rent, rates and taxes (including property tax)	29,67,760.00		29,67,760.00	35,89,296.00		35,89,296.00
				-			-
B)	Communication			-	-		-
e)	Postage and stationery	7,04,810.00		7,04,810.00	-		-
f)	Telephone , fax and Internet charges	46,46,727.00		46,46,727.00	28,88,387.00		28,88,387.00
				-			-
C)	Others			-	-		-
g)	Printing and Stationery (Consumption)			-	8,33,658.00		8,33,658.00
h)	Travelling and Conveyance Expenses	29,86,442.00		29,86,442.00	26,04,642.00		26,04,642.00
i)	Hospitality	4,90,954.00		4,90,954.00	3,88,651.00		3,88,651.00
j)	Auditors Remuneration	6,10,960.00		6,10,960.00	4,05,240.00		4,05,240.00
k)	Annual Maintenance Charges	9,05,280.00		9,05,280.00	5,37,055.00		5,37,055.00
l)	Advertisement and Publicity	49,195.00		49,195.00	-		-
m)	BWC Meeting	1,15,000.00		1,15,000.00	1,10,631.00		1,10,631.00
n)	Office Expenses	1,05,67,909.00		1,05,67,909.00	1,14,64,825.00		1,14,64,825.00
o)	Honorairum to Outside Experts	-		-	20,07,123.00		20,07,123.00
p)	Campus Maintainence and House keeping	2,43,42,537.00		2,43,42,537.00	1,99,65,424.00		1,99,65,424.00
q)	Gardening & Landscape			-	-		-
r)	Security Services and Others	35,12,348.00		35,12,348.00	25,11,144.00		25,11,144.00
s)	Community Development			-	-		-
t)	Medical Centre Expenses	13,84,067.00		14,41,034.00	12,85,526.00		12,85,526.00
u)	Computer Centre Expenses			-	-		-
v)	Recuritment Expenses	19,34,070.00		19,34,070.00	25,91,838.00		25,91,838.00
w)	BOG & FC Meeting	5,91,328.00		5,91,328.00	10,34,663.00		10,34,663.00
x)	Miscellaneous Expenses	-		-	87,699.00		87,699.00
	Total	**5,77,90,497.00**		**5,78,47,464.00**	**5,38,44,232.00**		**5,38,44,232.00**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-18: TRANSPORTATION EXPENSES

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
1	Vehicles (Owned by Institutions)						
a)	Running Expenses	13,19,968.00		13,19,968.00	14,25,487.00		14,25,487.00
b)	Insurance Expenses	1,49,657.00		1,49,657.00	1,58,645.00		1,58,645.00
2	Vehicles taken on rent/ lease			-			-
a)	Rent/lease expenses	-		-	-		-
3	Vehicle (taxi) hiring expenses	-		-	-		-
	Total	**14,69,625.00**		**14,69,625.00**	**15,84,132.00**		**15,84,132.00**

Schedule-19: REPAIRS AND MAINTAINENCE

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
a)	Buildings	84,48,723.00		84,48,723.00	53,52,528.00		53,52,528.00
b)	Furniture and Fixtures	1,15,478.00		1,15,478.00	4,76,408.00		4,76,408.00
c)	Plant and Machinery			-	-		-
d)	Office / Mess Equipments	1,83,966.00		1,83,966.00	1,81,906.00		1,81,906.00
e)	Network/Internet			-	19,470.00		19,470.00
f)	Construction and Maintanance of Campus			-	-		-
g)	Audio visual equipments			-	-		-
h)	Cleaning materials and services			-	-		-
i)	Book binding charges			-	-		-
j)	Gardening			-	-		-
k)	Estate Maintainence			-	-		-
l)	Software Maintenance / Support	23,600.00		23,600.00	5,03,651.00		5,03,651.00
m)	Road & Connection repairs			-	-		-
n)	Electrical Maintenance	9,14,071.00		9,14,071.00	3,43,778.00		3,43,778.00
o)	Vehicle Maintenance	5,99,344.00		5,99,344.00	4,09,891.00		4,09,891.00
	Total	**1,02,85,182.00**		**1,02,85,182.00**	**72,87,632.00**		**72,87,632.00**

Schedule-20: FINANCE COSTS

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
a)	Bank Charges	27,118.00		27,118.00	-		-
b)	Others (specify)	-		-	-		-
	Total	**27,118.00**		**27,118.00**	**-**		**-**

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule-21: OTHER EXPENSES

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
a)	Provision for Bad and Doubtful Debts/Adv.	-		-			-
b)	Irrecoverable balances written off.	-		-			-
c)	Grants/Subsidies to other institutions						-
	organisations	-		-			-
d)	Others (specify)	-		-	-		-
	Total	**-**		**-**	**-**		**-**

Schedule-22: PRIOR PERIOD EXPENSES

Amount in Rupees

	Particulars	CURRENT YEAR			PREVIOUS YEAR		
		Plan	Non Plan	Total	Plan	Non Plan	Total
1	Establishment Expenses	-		-	-		-
2	Academic Expenses			-			-
3	Administrative Expenses			-			-
4	Caution Deposit			-			-
5	Repairs and Maintainence	-		-	-		-
6	Other Expenses	4,00,244.00		4,00,244.00	91,06,000.00		91,06,000.00
7	Reversal of Cheques	-		-	-		-
	Total	**4,00,244.00**		**4,00,244.00**	**91,06,000.00**		**91,06,000.00**

NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM

SCHEDULES FORMING PART OF FINANCIAL STATEMENTS

SCHEDULE 23

SIGNIFICANT ACCOUNTING POLICIES

1. The accounts are prepared under Historical Cost Convention unless otherwise stated and generally on the accrual method of accounting.

2. **REVENUE RECOGNITION**

2.1 Fees from students (Except tuition fee and hostel fee), sales of admission forms, royalty and interest on savings bank account are accounted for on cash basis. Tuition fees and hostel fees collected separately for each semester is accounted for on accrual basis andtuition fees and hostel fee received in advance as on 31st march 2022 has been shown under the head advances as a liability.

2.2 Interest on interest bearing advances to staff for House Building, Purchase of vehicles and computers is accounted on accrual basis every year, though the actual recovery of interest starts after the full repayment of principle.

3. **FIXED ASSETS AND DEPRECIATION**.

3.1 Fixed assets are stated at cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation and commissioning.

3.2 Gifts / donated assets are valued at the declared value where available; if not available, the value is estimated based on the present market value adjusted with reference to the physical condition of the assets. They are set up by credit to Capital Fund and merged with the Fixed Asset on the Institution. Depreciation is charged as rates applicable to the respective assets.

3.3 Fixed Assets are valued at cost less accumulated depreciation. Depreciation on fixed assets is provided on Straight line method at the following rates:-

Sl. No	TANGIBLE ASSETS	RATE
1	Land	0%
2	Site Development	0%
3	Buildings	2%
4	Roads and Bridges	2%
5	Tube wells and Water supply	2%
6	Sewerage and Drainage	2%
7	Electrical Installation and Equip.	5%
8	Plant and Machinery	5%
9	Scientific and Laboratory Equip.	8%
10	Office Equipment	7.5%
11	Audio Visual Equipment	7.5%
12	Computer and Peripherals	20%
13	Furniture Fixture and Fittings	7.5%
14	Sports Equipment's	10%
15	Library Books & Scientific Journals	10%

Sl. No	INTANGIBLE ASSETS (AMORTIZATION)	RATE
1	E. Journals	40%
2	Computer Software	40%
3	Patents	9 years

3.4 Depreciation is provided for the whole year on additions during the year.

3.5 Where an assets is fully depreciated, it will be carried at a residual value of Rs. 1 in the Balance Sheet and will not be further depreciated. Thereafter depreciation is calculated on the additions of each year separately at the rate of depreciation applicable for the asset head.

3.6 Assets created out of Earmarked fund and funds Sponsored Projects, where the ownership of such assets vests in the Institutions are setup by credit to Capital Fund and merged with Fixed Assets of the Institutions. Depreciation is charged at the rates applicable to the respective rates. Assets created out of sponsored project funds where the ownership is retained by the sponsors but held and used by the Institution are separately disclosed in the Notes on Accounts.

3.7 Assets, the individual value of each of which is Rs 2,000.00 or less (except Library Books) are treated as Small Value Assets, 100% depreciation is provided in respect of such assets at the time of their acquisition. However,the holders of such assets continue physical accounting and control.

4. **INTANGIBLE ASSETS**:-

4.1 Patents and copyrights, E Journals and Computer Software are grouped under Intangible Assets.

4.2 Electronic Journals (E-Journals) are separated from Library Books in view of the limited benefit that could be derived from the provided. E-journals are not in a tangible form, but temporarily capitalized and in view of the magnitude of expenditure and the benefit derived in terms of perpetual knowledge acquired by the Academic and Research Staff; Depreciation is provided in respect of E-journals at a higher rate of 40% as against depreciation of 10% provided in respect of Library Books.

4.3 Expenditure on acquisition of software has been separated from computers and peripherals, as apart from being intangible of obsolescence in respect of these is very high. Depreciation is provided in respect of software at a higher rate of 40% as against depreciation of 20% provided in respect of Computers & Peripherals.

5. STOCKS:

Expenditure on purchase of chemicals, glassware, publications and other stores is accounted as revenueexpenditure. The closing stock as on 31st March 2024 is Rs. 11,53,999.00

6. RETIREMENT BENEFITS

Retirement benefits i.e., New Pension Scheme has been adopted by the Institutefor all its regular employees. The director is on deputation from MNIT Jaipur, his retirement benefits are paid to MNIT Jaipur as, and when the MNIT Jaipur makes the demand.

7. EARMARKED/ENDOWMENT FUNDS

Funds received for specific purposes have been kept as Earmarked funds. The Receipt and Expenditure are accounted for on cash basis. The unspent balance is kept in the bank account.

7.1 CORPUS/ CAPITAL FUND

The Institute maintains a Corpus Fund &Capital Fund. The Capital Fund is made up of the value of grants utilized for the procurement of fixed assets during the year and reduced by deprecation charged on the assets over the period. Corpus Fund is made up of excess of income over expenditure as on 31st March i.e. it mainly represents the unutilised Internal Revenue Generation (IRG) of the Institute and other contribution towards the corpus of the Institute.

8. ENDOWMENT FUNDS

There is no endowment fund maintained by the Institute.

9 GOVERNMENT AND UGC GRANTS

9.1 Government Grants and UGC grants are accounted on realization basis. However, a sanction for release of grant pertaining to the financial year is received before 31stMarch and the grant is actually received in next financial year, the grant is accounted on Cash basis and recognised to the extent utilised during the year. The balance of unutilised grant of Rs. 30,73,131.00 in RBI account as on 31st March 2024 is lapsed and reverted to the ministry.

9.2 To the extent utilized towards capital expenditure, (on accrual basis) governmentgrants and grants from UGC are transferred to the Capital Fund.

9.3 Government and UGC grants for meeting Revenue Expenditure (on accrual basis)are treated, to the extent utilized, as income of the year in which they are realized.

Unutilized grants (including advances paid out of such grants) are carried forward and exhibited as liability in the Balance Sheet.

10 INVESTMENTS OF EARMARKED FUNDS AND INTEREST INCOME ACCRUED

To the extent not immediately required for expenditure, the amounts available againstsuch funds are deposited for fixed term with Banks, leaving the balance in the Savings Bank Accounts

Interest received, interest accrued and due and interest accrued but not due on such funds are not treated as income of the Institution.

11 SPONSORED PROJECTS

11.1 In respect of ongoing Sponsored Projects, the amounts received from sponsored are credited to the head "Current Liabilities and Provisions -Current Liabilities -Other Liabilities -Receipts againstongoing sponsored projects" As and when expenditure is incurred /advances are paid against such projects, or theconcerned project is debited with allocated overhead charges, the liability account is debited.

11.2 In addition to the Earmarked Fund for the Junior Research Fellowships funded by University Grants Commission, Fellowships and Scholarships are also sponsored by various organizations. These are accounted in the same way as Sponsored Projects except that the expenditure generally is only on disbursementof Fellowship and Scholarships, which may include allowances for contingent expenditure by the Fellows and scholars

11.3 The Institution itself also awards Fellowships and Scholarships, which are accounted as Academic expenses.

12 INCOME TAX

The income of the Institution is exempt from Income Tax under Section 10(23c) (iiiab),no provision of tax is therefore made in the accounts.

NATIONAL INSTITUTE OF TECHNOLOGY-SIKKIM

SCHEDULES FORMING PART OF FINANCIAL STATEMENTS

SCHEDULE: 24

NOTES TO ACCOUNTS

1. The 'National Institute of Technology Sikkim' was formed by way of an Act passed by Parliament titled " The National Institutes of Technology Act 2009".

   The Financial Statements has been prepared based on the 'format of financial statements for central higher educational institutions' as has been provided by the Ministry of Human Resource Development Department, Government of India.

2. TAXATION:

The University is exempt from payment of income tax as per the provision of Section 10(23C)(iiiab) of the Income Tax Act, 1961.

3. FIXED ASSETS:

3.1 Fixed assets are stated at cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation and commissioning.

3.2 Capital Expenditure incurred on renovation and construction of new building and structures has been done on land provided by the State Government for the temporary campus. The ownership of such land is with the State Government.

3.3 Minor renovation and alterations carried out in the temporary campus has been booked as repairs and maintenance and charged to the Income and Expenditure account.

3.4 The Government of Sikkim has provided approximately 100 acres of land for the establishment of permanent campus of NIT Sikkim at Khamdong, Gangtok District. The Land has been accounted for in the Fixed Assets at a nominal value of Rs 1. The Land has also been entered in the Fixed assets register of the Institute.

4. DEPRECIATION:

4.1 Depreciation on fixed assets is provided on Straight line method at the following rates:-

Sl. No	TANGIBLE ASSETS	RATE
1	Land	0%
2	Site Development	0%
3	Buildings	2%
4	Roads and Bridges	2%
5	Tube wells and Water supply	2%
6	Sewerage and Drainage	2%
7	Electrical Installation and Equip.	5%
8	Plant and Machinery	5%
9	Scientific and Laboratory Equip.	8%
10	Office Equipment	7.5%
11	Audio Visual Equipment	7.5%
12	Computer and Peripherals	20%
13	Furniture Fixture and Fittings	7.5%
14	Sports Equipment's	10%
15	Library Books & Scientific Journals	10%

Sl. No	INTANGIBLE ASSETS (AMORTIZATION)	RATE
1	E. Journals	40%
2	Computer Software	40%
3	Patents	9 years

4.2 Depreciation is provided for the whole year on additions during the year.

4.3 Assets, the individual vale of each of which is Rs 2,000.00 or less (except Library Books) are treated as Small Value Assets, 100% depreciation is provided in respect of such assets at the time of their acquisition.

4.4 The institute has fabricated Temporary Shed whose life expectancy is for three years since the institute is functioning from a temporary campus thus the assets has not been capitalised into additions of Buildings. Accordingly deprecation at rate 33% per annum is charged.

4.5 The institute has built a Prefab Hostel I & II whose life expectancy is for five years since the institute is functioning from a temporary campus thus the assets has not been capitalised into additions of Buildings. Accordingly deprecation at rate 20% per annum is charged.

4.6 A High Performance Computer setup and donated to the institute by CDAC Pune is on trial run and is being currently managed by engineers from CDAC. The asset shall be taken into the assets of the institute after the High Performance Computer is handed over to the institute fully.

4.7 Under the project Technical Education Quality Improvement Programme (TEQIP) the institute has procured assets worth Rs. 9,98,73,663.00 The asset shall be taken into the assets of the institute after the assets are handed over to the institute fully.

4.8 The value of capital assets procured out of sponsored projects is Rs 39.38 lakhs as on 31st March 2024 of which the ownership is yet to be transferred to the Institute.

5. CAPITAL COMMITMENT:

The Institute has entered into an MoU with NBCC (India) Ltd in March 2024 for Project Management Consultancy for the construction of permanent campus of NIT Sikkim at Khamdong, Gangtok District. The Preliminary Estimate for the value of woks to be executed under the MoU is Rs 560 crores.

6. CONTINGENT LIABILITY:

There is no contingent liability as on the date of Balance Sheet.

7. PROJECT ACCOUNTS:

The project accounts have been shown in the schedules to the Financial Statements and the balance as on

31st March 2024 of each project is taken into consideration under current liabilities.

8. CURRENT ASSETS, LOANS, ADVANCES AND DEPOSITS:

In the opinion of the Management, the current assets, Loans, Advances and Deposits have a value on realisation in the ordinary course, equal at least to the aggregate amount shown in the Balance Sheet.

Advance paid to NBCC Ltd. amounting to Rs. 79,86,83,646.00 is against the capital advance for construction of New Campus at Khamdong, Gangtok. Further the said amount has been kept in sweep deposit by NBCC and an interest of Rs. 13,69,024 has been accrued on the said deposit as o 31st March 2024.

9. Schedules I to 24 are annexed to and forms an integral part of the Balance Sheet at31st March 2024 and the Income and Expenditure account for the year ended on that date.

10. RE-GROUPING:

Previous years' figures have been re-grouped and re-arranged wherever necessary.

NPS TIER-I ACCOUNTS

RECEIPTS AND PAYMENTS ACCOUNT FOR THE FINANCIAL YEAR 2023-24

Amount in Rupees

Receipts	Amount	Payments	Amount
Opening Balance as on 01/04/2023 (in institute bank account)	13,02,160.00	Investment	
NPS TIER-I ACCOUNT		Withdrawal/Refund to NSDL	1,89,17,614.33
Own Subscription	80,48,645.72		
University Contribution	1,14,28,611.84		
		Closing Blance as on 31/03/2024(in institute bank account)	18,61,803.23
Interest Received on Investment			
Intrest on saving bank a/c			
Investment Encashed			
Total	**2,07,79,417.56**	**Total**	**2,07,79,417.56**

Sr. Superintendent

Assistant Registrar

Registrar

NPS TIER-I ACCOUNTS

BALANCE SHEET AS AT MARCH 31, 2024

Amount in Rupees

Liabilities	Amount	Amount	Assets	Amount
NPS Tier-I Account			NPS Tier-I Account	
Opening Balance	1,302,160.00		Subscription and Contribution due	1,861,803.23
			for 3/24 and other in institute bank Accounts	
Add: Sub+Institute Contribution	19,477,257.56		Investment	
Add: Interest Credited			Interest Accrued but not due	
			Balance at Bank	
Less: Transferred to NSDL	18,917,614.33			
Closing Balance		1,861,803.23		
Excess of Income over Expenditure				
Balance as on 1.4.2023				
Add: During the year				
Total		**1,861,803.23**	**Total**	**1,861,803.23**

Sr. Superintendent

Assistant Registrar

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NPS TIER-I ACCOUNTS

INCOME AND EXPENDITURE ACCOUNT FOR THE FINANCIAL YEAR 2023-24

Amount in Rupees

Expenditure	Amount	Amount	Income	Amount
Interest credited to Subscriber's Accounts Bank Charges	-		Interest Earned on Investment	-
Excess of Income over Expenditure	-		Less:Interest Accured 31/03/24 Intrest Accured but not due.	-
Total			**Total**	

Sr. Superintendent

Assistant Registrar

Registrar

राष्ट्रीय प्रौद्योगिकी संस्थान सिक्किम
National Institute of Technology Sikkim

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